

**SONY®**

Multi Format Switcher System

**MVS-8000X System**

**MVS-7000X System**

**(With CCP-9000 Series Center Control Panel)**

User's Guide Volume 1 English

Software Version 12.10 and Later

1st Edition (Revised 2)

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## Functions Newly Supported in Version 12.10

The functions newly supported in the MVS-8000X/7000X system version 12.10 are as follows.

### Functions relating to operability

| Classification | Functions supported | Menu No.        | See page               |            |
|----------------|---------------------|-----------------|------------------------|------------|
|                |                     |                 | Vol.1                  | Vol.2      |
| Transitions    | AUX MIX transitions | 3232<br>7333.12 | Chapter 3<br>Chapter 8 | Chapter 20 |

### Functions relating to the switcher

| Classification          | Functions supported               | Menu No.                 | See page                |                          |
|-------------------------|-----------------------------------|--------------------------|-------------------------|--------------------------|
|                         |                                   |                          | Vol.1                   | Vol.2                    |
| M/E banks               | 6M/E system support <sup>a)</sup> | 7316.11<br>82XX/<br>86XX | Chapter 2<br>Chapter 10 | Chapter 19               |
| Format converter        | Frame synchronizer                | 7313.4                   | –                       | Chapter 18               |
|                         | 720P frame delay function support | 7313.4                   | –                       | Chapter 18               |
| External device control | Odetics protocol support          | 7355.7                   | –                       | Chapter 12<br>Chapter 22 |

a) MVS-7000X only

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# Table of Contents

## Volume 1

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### Chapter 1 MVS-8000X/7000X Functions

|   |           |
|---|-----------|
| <b>Introduction .....</b>   | <b>17</b> |
| <b>Features of the MVS-8000X/7000X Multi Format Switcher System.....</b>      | <b>18</b> |
| <b>Basic Video Processing.....</b>  | <b>19</b> |
| Transitions .....   | 19        |
| Keys .....  | 21        |
| Wipes .....   | 21        |
| DME Wipes .....   | 22        |
| Frame Memory .....  | 22        |
| Color Backgrounds .....   | 22        |
| Copy and Swap .....   | 22        |
| Video Process .....   | 22        |
| Color Corrector.....  | 22        |
| Side Flags.....   | 22        |
| Multi Program 2.....  | 23        |
| 3D Support.....   | 24        |
| <b>Creation of Special Effects and Management of Data and Operations.....</b> | <b>24</b> |
| Digital Multi Effects (DME) .....   | 24        |
| External Device Control .....   | 25        |
| Keyframes.....  | 25        |
| Snapshots .....   | 25        |
| Utility .....   | 25        |
| Shotbox .....   | 25        |
| Macros .....  | 25        |
| Files.....  | 26        |
| <b>Setup .....</b>  | <b>26</b> |

---

### Chapter 2 Menus and Control Panel

|   |           |
|---|-----------|
| <b>Names and Functions of Parts of the Control Panel .....</b>                | <b>27</b> |
| Example Control Panel Configuration.....                                      | 28        |
| Cross-Point Control Block.....  | 29        |
| Transition Control Block .....  | 30        |
| Device Control Block (Joystick) .....   | 33        |
| Keyframe Control Block.....   | 34        |
| Numeric Keypad Control Block .....  | 37        |
| Auxiliary Bus Control Block .....   | 39        |
| Menu Control Block .....  | 39        |
| “Memory Stick”/USB Connections Block .....                                    | 40        |
| Key Control Block (MKS-8035 Key Control Module, Option) .....                 | 41        |
| Device Control Block (MKS-8031TB Trackball Module, Option).....               | 44        |
| Device Control Block (MKS-8036A Search Dial Module, Option) .....             | 47        |
| Utility/Shotbox Control Block (MKS-8033 Utility/Shotbox Module, Option) ..... | 49        |
| Downstream Key Control Block (MKS-8032 DSK Fader Module, Option) .....        | 50        |
| <b>Basic Menu Operations .....</b>  | <b>52</b> |
| Overview.....   | 52        |
| About the Top Menu List .....   | 52        |
| Accessing Menus .....   | 52        |
| Example of Displaying a Menu .....  | 53        |
| Interpreting the Menu Screen .....  | 54        |
| Names and Functions of Parts of the Top Menu Window .....                     | 57        |
| Names and Functions of Parts of the Numeric Keypad Window .....               | 58        |
| Names and Functions of Parts of the Keyboard Window .....                     | 58        |
| Names and Functions of Parts of the Color Pallet Window .....                 | 59        |
| <b>Menu Operations .....</b>  | <b>61</b> |
| Selecting an Item .....   | 61        |
| Selecting a Function .....  | 61        |
| Setting Parameters .....  | 61        |
| Switching Between the Main Menu Site and Subsidiary Menu Site .....           | 61        |

|  |           |  |            |
|--|-----------|--|------------|
| Going Back to the Previous Menu .....                              | 62        | Executing a Transition With the Fader Lever<br>(Manual Transition) ..... | 83         |
| Returning to Default State in Function<br>Groupings .....          | 62        | Combinations of Auto and Manual<br>Transitions .....                     | 83         |
| Returning Knob Parameters to Default<br>State .....                | 62        | Non-Sync State .....   | 83         |
| <b>Shortcut Menu .....</b>   | <b>62</b> | Fader Lever Operation in Bus Fixed<br>Mode .....                         | 84         |
| Registering a Menu To the Shortcut<br>Menu .....                   | 62        | <b>Transition Preview .....</b>  | <b>85</b>  |
| Recalling a Menu Using the Shortcut<br>Menu .....                  | 62        | <b>Independent Key Transitions .....</b>                                 | <b>86</b>  |
| Customizing the Shortcut Menu .....                                | 62        | Basic Independent Key Transition<br>Operations .....                     | 88         |
|  |           | Setting the Independent Key Transition Type<br>by a Menu Operation ..... | 89         |
|  |           | Setting the Independent Key Transition<br>Rate .....                     | 89         |
|  |           | <b>Fade to Black .....</b>   | <b>90</b>  |
|  |           | Setting the Fade to Black Transition<br>Rate .....                       | 90         |
|  |           | <b>AUX Mix Transitions .....</b>   | <b>91</b>  |
|  |           |  |            |
| <b>Chapter 3 Signal Selection and<br/>Transitions</b>              |           | <b>Chapter 4 Keys</b>  |            |
| <b>Video Processing Flow .....</b>                                 | <b>65</b> | <b>Overview .....</b>  | <b>92</b>  |
| <b>Signal Selection .....</b>                                      | <b>66</b> | Key Types .....  | 92         |
| Basics of Signal Selection .....                                   | 66        | Key Modifiers .....  | 93         |
| Bus Selection .....  | 66        | Key Memory .....   | 94         |
| Signal Assignment and Selection .....                              | 67        | Key Default .....  | 95         |
| Signal Name Display .....  | 69        | <b>Key Setting Operations Using Menus .....</b>                          | <b>95</b>  |
| <b>Transitions .....</b>   | <b>70</b> | Key Setting Menus .....  | 95         |
| Selecting the Next Transition .....                                | 70        | Key Type Setting .....   | 96         |
| Transition Types .....   | 70        | Selecting Key Fill and Key Source .....                                  | 97         |
| <b>Procedure for Basic Transition<br/>Operation .....</b>          | <b>71</b> | Chroma Key Composition and Basic<br>Settings .....                       | 99         |
| <b>Key Priority Setting .....</b>                                  | <b>73</b> | <b>Key Adjustments (Menus) .....</b>                                     | <b>100</b> |
| Setting the Key Priority in the Transition<br>Control Block .....  | 73        | Chroma Key Adjustments .....   | 100        |
| Setting the Key Priority by a Menu<br>Operation .....              | 74        | Key Edge Modifications .....   | 103        |
| Display of the Key Output Status and Key<br>Priority .....         | 75        | Masks .....  | 106        |
| <b>Selecting the Transition Type by a Menu<br/>Operation .....</b> | <b>76</b> | Applying a DME Effect to a Key .....                                     | 107        |
| <b>Super Mix Settings .....</b>                                    | <b>77</b> | Specifying the Key Output Destination ....                               | 108        |
| <b>Color Matte Settings .....</b>                                  | <b>77</b> | Key Modify Clear .....   | 109        |
| <b>Executing a Transition .....</b>                                | <b>79</b> | Blink Function .....   | 109        |
| Transition Indicator Function .....                                | 79        | Video Processing .....   | 109        |
| Setting the Transition Rate .....                                  | 79        |  |            |
| Pattern Limit .....  | 81        |  |            |
| Executing an Auto Transition .....                                 | 82        |  |            |

|  |            |
|--|------------|
| <b>Key Setting Operations with the Cross-Point Control Block .....</b> | <b>110</b> |
| Applying a DME Effect to a Key .....                                   | 110        |
| <b>Key Setting Operations with the Key Control Block .....</b>         | <b>112</b> |
| Selecting the Bank and Keyer.....                                      | 112        |
| Selecting the Key Type.....  | 112        |
| Parameter Adjustment with the Knobs .....                              | 112        |
| Selecting Key Fill .....   | 113        |
| Selecting Key Source.....  | 113        |
| <b>Key Adjustments (Key Control Block).....</b>                        | <b>114</b> |
| Key Edge Modifications .....   | 114        |
| Masks .....  | 115        |
| Applying a DME Effect to a Key .....                                   | 116        |
| Other Key Setting Operations.....                                      | 117        |
| <b>Resizer.....</b>  | <b>118</b> |
| Two-Dimensional Transformations and Rotation of Keys .....             | 118        |
| Resizer Interpolation Settings.....                                    | 121        |
| Resizer Crop/Border Settings .....                                     | 121        |
| Applying Resizer Effects.....  | 122        |
| Setting rotation of the resizer.....                                   | 125        |
| <b>Key Snapshots .....</b>   | <b>126</b> |
| Key Snapshot Operations .....  | 126        |

---

## Chapter 5 Wipes

|   |            |
|---|------------|
| <b>Overview .....</b>   | <b>127</b> |
| Types of Wipe Pattern .....                                       | 127        |
| <b>Basic Procedure for Wipe Settings .....</b>                    | <b>127</b> |
| Wipe Settings Menu .....  | 127        |
| Wipe Pattern Selection .....                                      | 127        |
| Pattern Mix .....   | 128        |
| Setting Wipe Modifiers.....                                       | 130        |
| Wipe Modify Clear .....   | 138        |
| <b>Wipe Settings for Independent Key Transitions .....</b>        | <b>139</b> |
| Basic Procedure for Independent Key Transition Wipe Settings..... | 139        |
| Setting Independent Key Transition Wipe Modifiers .....           | 139        |

|   |            |
|---|------------|
| <b>Wipe Snapshots .....</b>                   | <b>141</b> |
| Wipe Snapshot Operations With the Menus ..... | 141        |

---

## Chapter 6 DME Wipes

|  |            |
|--|------------|
| <b>Overview .....</b>  | <b>143</b> |
| Types of DME Wipe Pattern .....  | 143        |
| DME Wipe Pattern Variation and Modifiers .....                         | 145        |
| Relation Between DME Wipes and Other Effects.....                      | 146        |
| <b>Basic Procedure for DME Wipe Settings .....</b>                     | <b>147</b> |
| DME Wipe Settings Menu.....  | 147        |
| DME Wipe Pattern Selection.....  | 147        |
| Setting DME Wipe Modifiers.....  | 149        |
| DME Wipe Modify Clear .....  | 152        |
| <b>DME Wipe Settings for Independent Key Transitions .....</b>         | <b>153</b> |
| Basic Procedure for Independent Key Transition DME Wipe Settings ..... | 153        |
| Setting Independent Key Transition DME Wipe Modifiers .....            | 153        |
| <b>Resizer DME Wipe Setting.....</b>                                   | <b>155</b> |
| <b>DME Wipe Snapshots .....</b>  | <b>156</b> |
| DME Wipe Snapshot Operations With the Menus .....                      | 156        |
| <b>Creating User Programmable DME Patterns .....</b>                   | <b>156</b> |
| User Programmable DME Transition Mode.....                             | 156        |

---

## Chapter 7 Frame Memory

|   |            |
|---|------------|
| <b>Overview .....</b>                           | <b>160</b> |
| <b>Still Image Operations .....</b>             | <b>162</b> |
| Preparations .....                              | 162        |
| Interpreting the Frame Memory Menu .....        | 162        |
| Selecting an Input Image .....                  | 164        |
| Selecting Outputs and Target Frame Memory ..... | 165        |

|   |            |   |            |
|---|------------|---|------------|
| Capturing and Saving an Input Image .....                             | 165        | <b>Misc Menu Operations.....</b>                                      | <b>190</b> |
| Recalling Still Images .....  | 167        | Port Settings for Control From an External Device .....               | 190        |
| Image Output .....  | 168        | Editing Keyboard Settings .....                                       | 191        |
| Continuously Capturing Still Images (Record).....                     | 169        | Safe Title Settings .....   | 191        |
| Recalling a Continuous Sequence of Still Images (Animation).....      | 169        | Displaying a List of Transition Rates and Changing the Settings ..... | 192        |
| <b>Frame Memory Clip Function.....</b>                                | <b>171</b> | Setting the AUX Mix Transition Rate .....                             | 192        |
| <b>Frame Memory Clip Operations.....</b>                              | <b>172</b> | <b>AUX Menu Operations .....</b>                                      | <b>193</b> |
| Preparations for Operation .....                                      | 172        | AUX Bus Settings .....  | 193        |
| Recalling Clips .....   | 172        | <b>Status Menu.....</b>   | <b>194</b> |
| Clip Playback.....  | 173        | <b>Router Control Menu Operations .....</b>                           | <b>194</b> |
| Clip Creation .....   | 175        | Checking the List of Inputs for Each Destination.....                 | 194        |
| Creating and Handling Frame Memory Folders .....                      | 175        | Switching the Source for Each Destination.....                        | 194        |
| Clip Output.....  | 176        | <b>Video Process .....</b>  | <b>195</b> |
| Recording and Playback of Ancillary Data.....                         | 176        | Video Process Adjustments for Each Input Signal .....                 | 195        |
| <b>Clip Transition Operations .....</b>                               | <b>177</b> | Video Process Adjustments on a Particular Bus .....                   | 195        |
| <b>Image Data Management.....</b>                                     | <b>179</b> | Video Process Memory .....  | 196        |
| Pair File Processing.....   | 179        | Video Process Settings.....   | 196        |
| Moving Files .....  | 179        |   |            |
| Deleting Files .....  | 179        |   |            |
| Renaming Files .....  | 180        |   |            |
| <b>External Hard Disk Drive Access .....</b>                          | <b>181</b> |   |            |
| Hard Disk Formatting .....  | 181        |   |            |
| Saving Files.....   | 181        |   |            |
| Recalling Files .....   | 182        |   |            |
| <b>Managing Images Using a DDR/VTR.....</b>                           | <b>183</b> |   |            |
| Using a DDR/VTR for High-speed Backup and Restoring.....              | 183        |   |            |
| Extracting Images from Video Tape.....                                | 184        |   |            |
|   |            |   |            |
| <b>Chapter 8 Color Backgrounds, Copy and Swap, and Other Settings</b> |            | <b>Chapter 9 Color Corrector</b>                                      |            |
| <b>Color Background.....</b>  | <b>186</b> | <b>Preparations .....</b>   | <b>197</b> |
| Color Background Settings Menu.....                                   | 186        | <b>Overall Color Corrector Operations .....</b>                       | <b>198</b> |
| Basic Color Background Setting Operations.....                        | 186        | Enabling Color Corrector.....   | 198        |
| <b>Copy and Swap .....</b>  | <b>188</b> | Copy and Swap Operations.....   | 198        |
| Overview of Copy and Swap .....                                       | 188        | <b>Color Corrector Functions .....</b>                                | <b>199</b> |
| Copy and Swap Operations.....   | 189        | Input Video Processing Operations.....                                | 199        |
|   |            | Primary Color Correction Operations .....                             | 199        |
|   |            | Secondary Color Correction Operations ...                             | 201        |
|   |            | Luminance Processing Operations.....                                  | 201        |
|   |            | Spot Color Adjustment.....  | 203        |
|   |            | Output Video Processing Operations.....                               | 204        |
|   |            | YUV Clip Operations.....  | 204        |
|   |            | RGB Clip Operations .....   | 205        |

---

## Chapter 10 Special Functions

|   |            |
|---|------------|
| <b>Side Flags .....</b>   | <b>206</b> |
| Overview.....   | 206        |
| Side Flag Settings .....  | 206        |
| Wipe Action on Images with Side Flags ..  | 207        |
| DME Wipe Action for an Image with Side<br>Flags .....   | 207        |
| <b>Multi Program 2 .....</b>  | <b>209</b> |
| Overview.....   | 209        |
| Sequence of Operations in Multi<br>Program 2 .....  | 209        |
| Basic Operations (Required).....  | 210        |
| Examples of Operations in the Multi Program<br>2 Mode (When Sharing a Switcher<br>Bank) ..... | 211        |
| Optional Operations.....  | 212        |
| Functions Added in Multi Program 2<br>Mode .....  | 214        |
| Differences between Multi Program 2 Mode<br>and Standard Mode.....                            | 214        |
| Restrictions on Using Multi Program 2<br>Mode .....   | 215        |
| <b>3D Support .....</b>   | <b>216</b> |
| Overview.....   | 216        |
| Preparations .....  | 216        |
| Restrictions in 3D Mode .....   | 221        |
| Video Creation in 3D Mode .....   | 221        |
| <b>M/E Configuration Switching .....</b>  | <b>222</b> |

---

## Chapter 11 DME Operations

|   |            |
|---|------------|
| <b>DME .....</b>  | <b>224</b> |
| Three-Dimensional Transformations.....                          | 224        |
| Transformation Operation Modes.....                             | 226        |
| Graphics Display .....  | 228        |
| Three-Dimensional Parameter Display.....                        | 229        |
| Special Effects .....   | 229        |
| Global Effects .....  | 237        |
| Devices for DME Support .....                                   | 237        |
| <b>Three-Dimensional Transformation<br/>    Operations.....</b> | <b>238</b> |
| Basic Operations .....  | 238        |

|   |            |
|---|------------|
| Three-Dimensional Parameter Display.....  | 241        |
| Entering Three-Dimensional Parameter<br>Values .....                                | 241        |
| Graphics Display Operation .....  | 242        |
| Canceling Virtual Images .....  | 243        |
| <b>Applying Special Effects (Operations<br/>    Common to Special Effects).....</b> | <b>243</b> |
| <b>Applying Special Effects (Edge<br/>    Effects) .....</b>                        | <b>244</b> |
| Border Settings .....   | 244        |
| Crop Settings .....   | 245        |
| Beveled Edge Settings .....   | 246        |
| Key Border Settings.....  | 247        |
| Art Edge Settings .....   | 247        |
| Flex Shadow Settings .....  | 251        |
| Wipe Crop Settings.....   | 255        |
| Color Mix Settings.....   | 257        |
| <b>Applying Special Effects (Effects on the<br/>    Overall Video Signal) .....</b> | <b>258</b> |
| Defocus Settings .....  | 258        |
| Blur Settings .....   | 259        |
| Multi Move Settings .....   | 260        |
| Sepia Settings.....   | 261        |
| Mono Settings .....   | 261        |
| Posterization and Solarization Settings ....  | 261        |
| Nega Settings .....   | 262        |
| Contrast Settings .....   | 262        |
| Mosaic Settings.....  | 262        |
| Sketch Settings.....  | 262        |
| Metal Settings .....  | 264        |
| Dim and Fade Settings.....  | 264        |
| Glow Settings.....  | 265        |
| Mask Settings.....  | 265        |
| Freeze Settings.....  | 267        |
| <b>Applying Special Effects (Nonlinear Effect<br/>    Settings) .....</b>           | <b>268</b> |
| Wave Settings .....   | 268        |
| Mosaic Glass Settings.....  | 270        |
| Flag Settings .....   | 270        |
| Twist Settings .....  | 270        |
| Ripple Settings.....  | 271        |
| Rings Settings .....  | 274        |
| Broken Glass Settings.....  | 274        |
| Flying Bar Settings .....   | 275        |

|   |            |
|---|------------|
| Blind Settings.....   | 275        |
| Split Settings .....  | 276        |
| Split Slide Settings.....   | 276        |
| Mirror Settings .....   | 277        |
| Multi Mirror Settings .....   | 277        |
| Kaleidoscope Settings.....  | 278        |
| Lens Settings.....  | 278        |
| Circle Settings.....  | 279        |
| Panorama Settings.....  | 279        |
| Page Turn Settings .....  | 279        |
| Roll Settings.....  | 280        |
| Cylinder Settings.....  | 280        |
| Sphere Settings.....  | 281        |
| Explosion Settings .....  | 281        |
| Swirl Settings .....  | 281        |
| Melt Settings .....   | 282        |
| Character Trail Settings .....  | 283        |
| <b>Applying Special Effects (Lighting and Recursive Effects).....</b> | <b>284</b> |
| Lighting Settings.....  | 284        |
| Trail Settings.....   | 286        |
| Motion Decay Settings.....  | 288        |
| Keyframe Strobe Settings .....  | 289        |
| Wind Settings.....  | 290        |
| Spotlighting Settings.....  | 291        |
| <b>Applying Special Effects (Other Effects) .....</b>                 | <b>299</b> |
| Background Settings .....   | 299        |
| Separate Sides Settings .....   | 299        |
| Shaped Video Settings .....   | 299        |
| Invert Settings .....   | 300        |
| Key Density Settings.....   | 301        |
| Key Source Selection.....   | 301        |
| Interpolation Settings .....  | 301        |
| Corner Pinning Settings .....   | 302        |
| <b>Global Effect Operations .....</b>                                 | <b>304</b> |
| Overview.....   | 304        |
| Operations Common to All Global Effects.....                          | 304        |
| Combiner Settings.....  | 305        |
| Brick Settings.....   | 308        |
| Shadow Settings.....  | 310        |

## Appendix (Volume 1)

|  |            |
|--|------------|
| <b>Wipe Pattern List.....</b>                          | <b>312</b> |
| Standard Wipes .....                                   | 312        |
| Enhanced Wipes.....                                    | 313        |
| Rotary Wipes.....                                      | 313        |
| Mosaic Wipes.....                                      | 314        |
| Random/Diamond Dust Wipes .....                        | 315        |
| <b>DME Wipe Pattern List.....</b>                      | <b>316</b> |
| DME Wipe Patterns Available in One-Channel Mode.....   | 316        |
| DME Wipe Patterns Available in Two-Channel Mode.....   | 321        |
| DME Wipe Patterns Available in Three-Channel Mode..... | 324        |
| <b>Resizer DME Wipe Pattern List.....</b>              | <b>325</b> |
| <b>Menu Tree .....</b>                                 | <b>326</b> |
| Recalling Menus .....                                  | 326        |
| M/E-1 to M/E-5 Menus.....                              | 326        |
| PGM/PST Menu.....                                      | 329        |
| Frame Memory Menu .....                                | 331        |
| Color Bkgd Menu.....                                   | 331        |
| AUX Menu.....  | 332        |
| CCR Menu .....   | 332        |
| Copy/Swap Menu.....                                    | 333        |
| Misc Menu .....  | 333        |
| Status Menu.....                                       | 333        |
| DME Menu .....   | 334        |
| Global Effect Menu.....                                | 335        |
| Router Menu .....                                      | 335        |
| Device Menu .....                                      | 335        |
| Macro Menu .....                                       | 336        |
| Key Frame Menu .....                                   | 337        |
| Effect Menu.....                                       | 338        |
| Snapshot Menu.....                                     | 339        |
| Shotbox Menu .....                                     | 340        |
| File Menu .....  | 341        |
| Engineering Setup Menu.....                            | 342        |
| User Setup Menu.....                                   | 347        |
| Diagnostic Menu .....                                  | 347        |
| <b>Disabled Operation and Settings Menus.....</b>      | <b>348</b> |

|  |            |
|--|------------|
| <b>Using the M/E-4 or M/E-5 Bank .....</b>     | <b>351</b> |
| Assigning a Button for M/E-4 or M/E-5          |            |
| Selection in the Setup Menu .....              | 351        |
| <b>Using Keys 5 to 8 .....</b>                 | <b>352</b> |
| Assigning Buttons for Selection of Keys 5 to 8 |            |
| in the Setup Menu .....                        | 352        |
| Selecting Keys 5 to 8 for Next                 |            |
| Transition .....                               | 353        |
| <b>Menus Accessed by Pressing a Button</b>     |            |
| <b>Twice.....</b>                              | <b>354</b> |
| <b>Menus Allowing a Return to Default</b>      |            |
| <b>Settings .....</b>                          | <b>357</b> |
| <b>Spotlighting .....</b>                      | <b>361</b> |
| Texture Patterns.....                          | 361        |
| Shape Patterns.....                            | 361        |
| <b>Functional Differences With Models of</b>   |            |
| <b>DME.....</b>                                | <b>362</b> |

## Volume 2

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### Chapter 12 External Devices

|   |            |
|---|------------|
| <b>Control of External Devices .....</b>        | <b>368</b> |
| Shared Functions for External Device            |            |
| Control.....                                    | 368        |
| <b>Control of P-Bus Devices .....</b>           | <b>369</b> |
| Creating and Editing the P-Bus                  |            |
| Timeline .....                                  | 369        |
| P-Bus Trigger.....                              | 371        |
| <b>Control of GPI Devices .....</b>             | <b>371</b> |
| GPI Timeline Creation and Editing .....         | 371        |
| <b>Control of VTRs, Extended VTRs, and Disk</b> |            |
| <b>Recorders.....</b>                           | <b>373</b> |
| Manual Operation .....                          | 373        |
| Controlling the Tape/Disk Transport.....        | 373        |
| Checking VTR/Disk Recorder/Extended VTR         |            |
| Information.....                                | 376        |
| Cueup & Play.....                               | 377        |
| VTR/Disk Recorder/Extended VTR                  |            |
| Timeline .....                                  | 380        |
| Disk Recorder/Extended VTR File                 |            |
| Operations .....                                | 383        |

---

### Chapter 13 Keyframe Effects

|  |            |
|--|------------|
| <b>Regions .....</b>                       | <b>386</b> |
| <b>Registers .....</b>                     | <b>387</b> |
| <b>Keyframes .....</b>                     | <b>388</b> |
| Effects .....                              | 388        |
| Saving and Recalling Effects .....         | 388        |
| Effect Attributes.....                     | 388        |
| Effect Editing .....                       | 388        |
| Time Settings .....                        | 389        |
| Paths.....                                 | 390        |
| Effect Execution .....                     | 392        |
| Master Timelines .....                     | 393        |
| Sequence of Keyframe Operations .....      | 393        |
| <b>Displaying the Timeline Menu.....</b>   | <b>394</b> |
| Interpreting the Timeline Menu .....       | 394        |
| Settings in the Timeline Menu.....         | 395        |
| <b>Recalling a Register .....</b>          | <b>396</b> |
| <b>Specifying the Region and Edit</b>      |            |
| <b>Points .....</b>                        | <b>398</b> |
| Selecting the Region in Which Editing      |            |
| Applies .....                              | 398        |
| Setting the Edit Points .....              | 398        |
| <b>Creating and Editing Keyframes.....</b> | <b>399</b> |
| Creation.....                              | 399        |
| Insertion .....                            | 399        |
| Modification .....                         | 400        |
| Deletion.....                              | 401        |
| Movement .....                             | 401        |
| Copying.....                               | 402        |
| Pause .....                                | 402        |
| Keyframe Loop (Repeated Execution of a     |            |
| Specified Range) .....                     | 402        |
| Undoing an Edit Operation .....            | 403        |
| Duration Mode Setting .....                | 404        |
| Transition Mode Settings for User          |            |
| Programmable DME .....                     | 404        |
| <b>Time Settings.....</b>                  | <b>407</b> |
| Setting the Keyframe Duration .....        | 407        |
| Setting the Effect Duration .....          | 407        |
| Setting the Delay.....                     | 407        |
| <b>Path Settings .....</b>                 | <b>408</b> |
| Basic Procedure for Path Settings.....     | 408        |



|   |            |
|---|------------|
| <b>Executing Effects .....</b>  | <b>410</b> |
| Executing Effects in the Keyframe Control Block.....  | 410        |
| Setting the Run Mode .....  | 410        |
| <b>Saving Effects .....</b>   | <b>411</b> |
| <b>Creating and Saving a Master Timeline.....</b>   | <b>412</b> |
| Creating and Saving a Master Timeline Using the Buttons in the Numeric Keypad Control Block ..... | 412        |
| Creating and Saving a Master Timeline With the Menu.....  | 413        |
| <b>Register Operations in the Menus.....</b>  | <b>414</b> |
| Effect Attribute Settings .....   | 414        |
| Effect Status Display.....  | 415        |
| Effect Register Editing.....  | 415        |
| Displaying a List of Effect Registers for Editing .....   | 417        |

---

## Chapter 14 Snapshots

|   |            |
|---|------------|
| <b>Overview .....</b>   | <b>419</b> |
| Snapshot Types .....  | 419        |
| Snapshot Attributes.....  | 419        |
| <b>Snapshot Operations From the Numeric Keypad Control Block.....</b> | <b>421</b> |
| Saving and Recalling Snapshots .....                                  | 421        |
| <b>Snapshot Operations in the Menus.....</b>                          | <b>423</b> |
| Selecting a Region or Reference Region in a Menu.....                 | 423        |
| Setting Snapshot Attributes.....                                      | 423        |
| Snapshot Status Display.....  | 425        |
| Setting Key Snapshot Attributes.....                                  | 425        |
| Creating and Saving a Master Snapshot ...                             | 426        |
| Snapshot Register Editing.....  | 426        |
| Displaying a List of Snapshot Registers for Editing .....             | 426        |
| Operations in the Misc >Snapshot Menu..                               | 426        |

---

## Chapter 15 Utility/Shotbox

|  |            |
|--|------------|
| <b>Utility Execution.....</b>  | <b>428</b> |
| Executing a Utility With the User Preference Buttons (Menu Control Block) .....                          | 428        |
| Executing a Utility in the Utility/Shotbox Control Block (MKS-8033 Utility/Shotbox Module, Option) ..... | 428        |
| <b>Shotbox.....</b>  | <b>429</b> |
| <b>Shotbox Register Creation.....</b>  | <b>430</b> |
| Creating a Shotbox Register in the Numeric Keypad Control Block .....                                    | 430        |
| Creating a Shotbox Register Using the Menus .....  | 431        |
| <b>Shotbox Execution .....</b>   | <b>432</b> |
| Shotbox Execution From the Numeric Keypad Control Block .....  | 432        |
| Shotbox Execution in the Utility/Shotbox Control Block (MKS-8033 Utility/Shotbox Module, Option) .....   | 433        |
| <b>Shotbox Register Editing .....</b>  | <b>434</b> |

---

## Chapter 16 Macros

|  |            |
|--|------------|
| <b>Macros .....</b>  | <b>435</b> |
| Overview .....   | 435        |
| Macro Creation and Editing.....                                  | 436        |
| Macro Execution .....  | 437        |
| <b>Macro Operations in the Numeric Keypad Control Block.....</b> | <b>438</b> |
| Recalling a Macro Register and Executing a Macro.....            | 438        |
| Creating and Editing a Macro .....                               | 439        |
| Saving a Macro .....   | 442        |
| <b>Macro Editing Using Menus.....</b>                            | <b>442</b> |
| Macro Register Editing .....                                     | 442        |
| Online Editing of Macro Events .....                             | 442        |
| Offline Editing of Macro Events.....                             | 445        |
| <b>Macro Attachment Assigning .....</b>                          | <b>447</b> |
| Setting and Canceling a Macro Attachment.....                    | 448        |
| Displaying the Macro Attachment List .....                       | 450        |

|  |            |
|--|------------|
| Executing a Macro by Macro Attachment .....                      | 451        |
| <b>Menu Macros .....</b>   | <b>452</b> |
| Recalling a Menu Macro Register and Executing a Menu Macro ..... | 453        |
| Menu Macro Creation and Editing .....                            | 454        |
| Menu Macro Register Editing .....                                | 456        |
| <b>Macro Timeline .....</b>                                      | <b>457</b> |
| Creating and Editing a Macro Timeline ...                        | 457        |

---

## Chapter 17 Files

|   |            |
|---|------------|
| <b>Overview of File Operations .....</b>                                | <b>459</b> |
| <b>Operations on Individual Files .....</b>                             | <b>462</b> |
| Displaying the Individual File Operation Menus .....                    | 462        |
| Viewing Detailed File Information .....                                 | 462        |
| Selecting Regions .....   | 463        |
| Selecting a Device for Operations .....                                 | 463        |
| Saving Files .....  | 463        |
| Loading Files .....   | 464        |
| Copying Files .....   | 465        |
| Renaming Files .....  | 466        |
| Deleting Files .....  | 467        |
| Converting Between Frame Memory Clips and Extended Clips .....          | 467        |
| Saving the List of Frame Memory Files to Hard Disk or Memory Card ..... | 468        |
| <b>File Batch Operations .....</b>                                      | <b>469</b> |
| Displaying the Batch Operation Menu ....                                | 469        |
| Batch Saving Files .....  | 469        |
| Batch Loading Files .....   | 469        |
| Batch Copying Files .....   | 469        |
| <b>Importing and Exporting Files .....</b>                              | <b>470</b> |
| Displaying the Import/Export Menu .....                                 | 470        |
| Importing Frame Memory Data .....                                       | 470        |
| Exporting Frame Memory Data .....                                       | 471        |
| <b>Directory Operations .....</b>                                       | <b>472</b> |
| Displaying the Directory Menu .....                                     | 472        |
| Creating a New Directory .....  | 472        |
| Renaming a Directory .....  | 472        |
| Deleting a Directory .....  | 472        |

|   |            |
|---|------------|
| <b>Copying Files Between Different Unit IDs .....</b> | <b>473</b> |
| <b>Saving Files Recalled by Autoload .....</b>        | <b>474</b> |

---

## Chapter 18 System Setup (System)

|  |            |
|--|------------|
| <b>Setup for the Whole System .....</b>  | <b>475</b> |
| <b>Network Settings (Network Config Menu) .....</b>                              | <b>476</b> |
| Making the Network Settings .....  | 476        |
| <b>System Settings (System Config Menu) .....</b>                                | <b>477</b> |
| Selecting the System Operation Mode ....   | 477        |
| Specifying the Switcher Controlled by the Control Panel .....                    | 477        |
| Specifying the DME Connected to the Switcher .....                               | 478        |
| Enabling the FM Data Port of the Switcher .....                                  | 478        |
| <b>Setting the Signal Format (Format Menu) .....</b>                             | <b>479</b> |
| Setting the Signal Format .....  | 479        |
| Allowing 59.94(2x) Format Signals on an AUX Bus .....                            | 479        |
| Switching the Input Reference Signal for HD System .....                         | 480        |
| Setting Conversion Formats .....   | 480        |
| <b>Setting the Screen Aspect Ratio (Format Menu) .....</b>                       | <b>482</b> |
| <b>Selecting the State After Powering On (Start Up Menu) .....</b>               | <b>483</b> |
| Saving and Recalling Setup Data .....  | 483        |
| Selecting the State at Start-up .....  | 484        |
| Saving User-Defined Settings .....   | 484        |
| Setting Automatic Loading of Register Data at Power On (Autoload Function) ..... | 484        |
| <b>Reset and Initialization (Initialize Menu) .....</b>                          | <b>485</b> |
| <b>Installation and Device Setup (Install/Unit Config Menu) .....</b>            | <b>485</b> |
| Installing Software .....  | 485        |
| Making Settings Required to Use the Software .....                               | 486        |
| Adding User Texture Patterns .....   | 488        |

|   |            |   |            |
|---|------------|---|------------|
| Saving a Frame Memory Clip With Ancillary Data.....   | 491        | Assigning Keys to the DSK1 and DSK2 Buttons in the Downstream Key/Fade-to-Black Control Block.....                                  | 502        |
| Setting the DME Input/Output Signal Format.....   | 491        | Assigning Keys to the Independent Key Transition Control Block (Simple Type).....   | 503        |
| <b>System Maintenance (Maintenance Menu).....</b>   | <b>492</b> | Assigning Functions to Key Control Block Buttons.....   | 504        |
| Setting the Date and Time.....  | 492        | Assigning Preview Output to Preview Selection Buttons.....  | 504        |
| Using a Memory Card.....  | 492        | Assigning Functions to the Device Control Block.....  | 505        |
| Carrying Out the Primary Setting .....  | 492        | Inhibiting Utility 2 Bus and Key Operations.....  | 505        |
| Reloading a USB Driver .....  | 493        | Inhibiting DME Channel Selection Operations.....  | 506        |
| Initializing the Hard Disk.....   | 493        | Assigning Functions to the Menu Control Block Top Menu and User Preference Buttons.....   | 506        |
| Locking the Setup Menu Settings.....  | 493        | Assigning Keys to the Cross-Point Control Block Key Delegation Buttons .....  | 507        |
| Locking File Loading Operations .....   | 494        |   |            |
| <hr/>   |            |   |            |
| <b>Chapter 19 Control Panel Setup (Panel)</b>   |            | <b>Cross-Point Settings (Xpt Assign Menu).....</b>  | <b>507</b> |
| <b>Overall Control Panel Settings (Config Menu).....</b>  | <b>496</b> | Creating Cross-Point Assign Tables .....  | 507        |
| Panel Setup.....  | 496        | Copying Cross-Point Assign Tables .....   | 510        |
| Interchanging the Bank Order or Disabling Operation .....   | 496        | Selecting Cross-Point Assign Tables .....   | 511        |
| Assigning Two M/E Banks to One M/E Bank.....  | 497        | Exporting Source Names and Destination Names .....  | 511        |
| Assigning the Key Delegation in the Downstream Key Control Block (MKS-8032 DSK Fader Module, Option)..... | 497        | Making Settings for Audio Mixer .....   | 511        |
| Linking Switcher Bus and Router Destination.....  | 498        | Assigning a Cross-Point Button to Enable/Disable Side Flags .....   | 512        |
| Linking Transitions Between Keyers.....   | 499        | <b>Auxiliary Bus Control Block Settings (Aux Assign Menu).....</b>  | <b>513</b> |
| Linking the Next Transition Selection Buttons.....  | 500        | Assigning a Bus to an AUX Delegation Button .....   | 513        |
| Selecting the Module to Be the Reference for Device Control Block .....                                   | 500        | Using the Auxiliary Bus Control Block for Router Control .....  | 513        |
| Assigning a Region to a Region Selection Button in the Numeric Keypad Control Block.....                  | 500        | <b>Setting Button Assignments (Prefs/Utility Menu).....</b>   | <b>515</b> |
| Setting Transition Control Block Button Assignments .....   | 501        | Assigning Functions to User Preference Buttons.....   | 515        |
| Setting the Assignment of Macro Operation Buttons.....  | 502        | Assigning a Function to a Memory Recall Button in the Utility/Shotbox Control Block (MKS-8033 Utility/Shotbox Module, Option) ..... | 519        |

|  |            |
|--|------------|
| <b>Interfacing With External Devices (Device Interface Menu) .....</b>               | <b>524</b> |
| Making Control Panel GPI Input Settings .....  | 524        |
| Making Control Panel GPI Output Settings .....                                       | 525        |
| Setting the Control Mode for P-Bus Devices .....                                     | 526        |
| Setting the SCU Editor Panel Port .....  | 526        |
| Making DCU Serial Port Settings .....  | 526        |
| Sharing Disk Recorder/Extended VTR File Lists .....                                  | 527        |
| Setting the AUX Bus Override Operating Mode .....                                    | 527        |
| <b>Operation Settings (Operation Menu) ...</b>                                       | <b>528</b> |
| Setting the On-Air Tally .....   | 529        |
| Setting the Transition Rate Display Mode .....                                       | 529        |
| Making Settings Relating to Effects .....  | 529        |
| Setting the First Keyframe When a Rewind is Executed .....                           | 529        |
| Setting the Source and Destination Names .....                                       | 529        |
| Settings for the Wipe Snapshot Menu .....  | 530        |
| Setting the Button Operation Mode .....  | 530        |
| Setting the Operation Mode of the [ALL] Button in the Transition Control Block ..... | 531        |
| Setting Trackball, Joystick, Search Dial, and Double-Click Sensitivity .....         | 531        |
| Specifying Main Split Fader .....  | 532        |
| Setting the Macro Execution Mode .....   | 532        |
| <b>Screen Saver and Other Settings (Maintenance Menu) .....</b>                      | <b>533</b> |
| Screen Saver Settings .....  | 533        |
| Adjusting the Brightness .....   | 533        |
| Setting Whether or not to Sound a Beep when a Touch Operation is Carried Out ...     | 533        |
| Calibrating the Touch Panel .....  | 533        |
| Setting the Menu to be Shown When the Menus Are Started .....                        | 533        |
| Setting the Mouse Wheel Scrolling Direction for Parameter Setting .....              | 534        |
| Selecting the Mouse Button Used for Adjusting the Knob Parameters .....              | 534        |

## Chapter 20 Switcher Setup (Switcher)

|   |            |
|---|------------|
| <b>Settings for Switcher Configuration (Config Menu) .....</b>  | <b>535</b> |
| Adjusting the Reference Phase .....   | 535        |
| Specifying the Video Switching Timing .....   | 535        |
| Setting the Operation Mode .....  | 536        |
| Setting User Regions .....  | 537        |
| Assigning PGM/PST Logically to an M/E .....   | 537        |
| Setting the Assignments of DME Channels to Use on the Individual M/E Banks ...                          | 537        |
| Setting the Side Flag Video Material and Operation .....  | 538        |
| <b>Signal Input Settings (Input Menu) .....</b>   | <b>539</b> |
| Making Through Mode Settings .....  | 539        |
| Making Video Process Settings .....   | 539        |
| Enabling the Illegal Color Limiter .....  | 540        |
| Selecting the Primary Input to be Used in the Format Converter .....                                    | 540        |
| Setting the Frame Delay Function .....  | 540        |
| Selecting the Format Converter Conversion .....   | 540        |
| <b>Signal Output Settings (Output Menu) .....</b>   | <b>544</b> |
| Assigning Output Signals .....  | 544        |
| Setting the Output Signal .....   | 544        |
| Enabling AUX Mix Transitions .....  | 547        |
| <b>Settings Relating to Video Switching (Transition Menu) .....</b>                                     | <b>548</b> |
| Selecting the Bank to Make the Settings .....   | 548        |
| <b>Settings Relating to Keys, Wipes, Frame Memory and Color Correction (Key/Wipe/FM/CCR Menu) .....</b> | <b>550</b> |
| Switching Video Process Memory On or Off .....  | 550        |
| Settings for the Show Key Function .....  | 550        |
| Settings for Key Auto Drop Function .....   | 550        |
| Automatically Naming and Saving to Frame Memory .....   | 551        |
| Selecting the Bank to Make the Settings .....   | 551        |

|   |            |
|---|------------|
| <b>Settings Relating to Function Links (Link Menu).....</b>                     | <b>552</b> |
| Setting a Cross-Point Button Link .....   | 552        |
| Making Link Table Settings.....   | 553        |
| Linking Cross-Point Buttons and GPI Output Ports .....                          | 553        |
| Making a Setting for Linking Two M/E Banks .....                                | 554        |
| Making a Link Setting for Key Transition.....                                   | 555        |
| <b>Interfacing With External Devices (Device Interface Menu).....</b>           | <b>556</b> |
| Making 9-Pin Port Device Interface Settings .....                               | 556        |
| Making Switcher Processor GPI Input Settings .....                              | 557        |
| Making Switcher Processor GPI Output Settings .....                             | 558        |
| Enabling or Disabling AUX Bus Control.....                                      | 559        |
| Setting the Interface Between the DME and the Switcher .....                    | 559        |
| Setting the AUX Bus Output and Reentry Input.....                               | 560        |
| Selecting the Mode for Turning Off Keys Upon Receiving the Editor Command ..... | 560        |

---

## Chapter 21 DME Setup (DME)

|   |            |
|---|------------|
| <b>Settings Relating to Signal Inputs (Input Menu).....</b>   | <b>561</b> |
| Setting the Initial Crop.....                                 | 561        |
| Setting an Illegal Color Limit for Matte Signals .....        | 561        |
| Making DME System Phase Adjustment .....                      | 561        |
| Setting the TBC Window Center Position .....                  | 562        |
| <b>Settings Relating to Signal Outputs (Output Menu).....</b> | <b>562</b> |
| Adjusting the DME1 and DME2 Output Video Clip Levels.....     | 562        |
| Setting the Monitor Output .....                              | 562        |

|   |            |
|---|------------|
| <b>Interfacing With External Devices (Device Interface Menu).....</b> | <b>563</b> |
| Making DME GPI Input Settings.....                                    | 564        |
| Making DME GPI Output Settings .....                                  | 565        |

---

## Chapter 22 DCU Setup (DCU)

|   |            |
|---|------------|
| <b>Setup Relating to DCU.....</b>   | <b>566</b> |
| <b>Settings Relating to Parallel Inputs (Input Config Menu) .....</b>             | <b>566</b> |
| Assigning a GPI Input Port .....  | 566        |
| Releasing the Assignment of a GPI Input Port.....                                 | 567        |
| <b>GPI Input Setting (GPI Input Assign Menu).....</b>                             | <b>567</b> |
| Making DCU GPI Input Settings .....   | 567        |
| <b>Parallel Output Settings (Output Config Menu).....</b>                         | <b>569</b> |
| Assigning a GPI Output Port .....   | 569        |
| Releasing the Assignment of a GPI Output Port.....                                | 570        |
| <b>GPI Output Settings (GPI Output Assign Menu).....</b>                          | <b>570</b> |
| Making DCU GPI Output Settings .....  | 570        |
| <b>Serial Port Settings (Serial Port Assign Menu).....</b>                        | <b>571</b> |
| Making Serial Port Settings .....   | 571        |
| Making Detailed Settings on the External Device Connected to the Serial Port..... | 572        |

---

## Chapter 23 Setup Relating to Router Interface and Tally (Router/Tally)

|  |            |
|--|------------|
| <b>Router Interface Settings (Router Menu).....</b>        | <b>578</b> |
| Assigning Switcher Inputs and Outputs to S-Bus Space ..... | 578        |
| Setting External Boxes 1 to 12.....                        | 579        |
| <b>Tally Group Settings (Group Tally Menu).....</b>        | <b>580</b> |

|   |            |
|---|------------|
| <b>Wiring Settings (Wiring Menu) .....</b>                | <b>580</b> |
| Making New Wiring Settings .....                          | 580        |
| Changing the Wiring Settings.....                         | 581        |
| Deleting Wiring Settings .....                            | 581        |
| Sorting Wiring Settings .....                             | 581        |
| <b>Tally Generation Settings (Tally Enable Menu).....</b> | <b>581</b> |
| Making New Tally Generation Settings ...                  | 581        |
| Modifying Tally Generation .....                          | 582        |
| Deleting Tally Generation Settings .....                  | 582        |
| <b>Tally Copy Settings (Tally Copy Menu).....</b>         | <b>582</b> |
| Making New Tally Copy Settings .....                      | 582        |
| Modifying Tally Copy Settings .....                       | 582        |
| Deleting Tally Copy Settings.....                         | 583        |
| <b>Parallel Tally Settings (Parallel Tally Menu).....</b> | <b>583</b> |
| Making or Modifying Parallel Tally Settings .....         | 583        |
| Deleting Parallel Tally Settings .....                    | 584        |
| <b>Serial Tally Settings (Serial Tally Menu).....</b>     | <b>584</b> |
| Setting or Changing the Serial Tally Settings .....       | 584        |
| Making the Serial Tally Source Address Settings .....     | 584        |
| Clearing a Source Address Setting .....                   | 585        |

---

## Chapter 24 User Setup

|  |            |
|--|------------|
| <b>Source Patch .....</b>                                  | <b>586</b> |
| Sequence of Source Patch Operations .....                  | 586        |
| Exporting a User Source Name File to the Memory Card ..... | 586        |
| Creating a Patch Table (Conversion Table) .....            | 587        |
| Replacing Signal Pairs Using the Patch Table.....          | 588        |

---

## Chapter 25 DIAGNOSIS

### Checking the Communications

|                                     |            |
|-------------------------------------|------------|
| <b>Status .....</b>                 | <b>589</b> |
| Communications Status Display ..... | 589        |

---

## Appendix (Volume 2)

### Simple Connection of the MKS-8080/8082

|  |            |
|--|------------|
| <b>AUX Bus Remote Panel .....</b>                              | <b>590</b> |
| Procedure for Simple Connection.....                           | 590        |
| Setting Status of the MKS-8080/8082 in Simple Connection ..... | 590        |

### Macro File Editing Rules .....

|   |            |
|---|------------|
| <b>Macro File Syntax.....</b>                   | <b>591</b> |
| Syntax of Event and Continue Statements .....   | 592        |
| File Name.....                                  | 592        |
| Saving and Recalling a File .....               | 592        |
| Errors .....                                    | 592        |
| Correspondence Between Events and Symbols ..... | 593        |
| Symbols and Parameters .....                    | 594        |
| Example of File Contents .....                  | 598        |

### About the Macro Attachment List

|                             |            |
|-----------------------------|------------|
| <b>Display.....</b>         | <b>599</b> |
| M/E and PGM/PST Banks ..... | 599        |
| Other Blocks .....          | 600        |

### Menu Operations Not Recorded in a Menu

|                    |            |
|--------------------|------------|
| <b>Macro .....</b> | <b>601</b> |
|--------------------|------------|

### Data Saved by [Setup Define] and [Initial Status Define] .....

|   |            |
|---|------------|
| <b>.....</b>                                | <b>602</b> |
| Data Saved by [Setup Define] .....          | 602        |
| Data Saved by [Initial Status Define] ..... | 605        |

### Error Messages .....

|  |            |
|--|------------|
| <b>.....</b>   | <b>608</b> |
| Error Messages Displayed in the Error Status/Error Log Menu..... | 608        |
| Error Messages Appearing in a Message Box .....                  | 609        |
| Error Messages Shown in the Error Information Menu .....         | 619        |

|                    |            |
|--------------------|------------|
| <b>Index .....</b> | <b>621</b> |
|--------------------|------------|

# MVS-8000X/7000X Functions

## Chapter

# 1

## Introduction

This manual is the User's Guide for the MVS-8000X/7000X Multi Format Switcher system.

This manual describes principally the operation of the system using the CCP-9000A of center control panels. The User's Guide for this system comprises two volumes. For the contents of each volume, see the "Table of Contents" at the front of each volume.

### Devices and system nomenclature

In this manual, when discussing the principal components of the MVS-8000X/7000X system, in place of the formal product names, abbreviated names characterizing the functions and features are sometimes used. When distinctions between system configurations must be drawn, the terms in the following table are used.

#### Principal components and naming

The formal product names of the principal components of the MVS-8000X/7000X system, and the terms used in this manual are as follows.

| Formal product name                             | Term used in this manual                |
|---|---|
| MVS-8000X/7000X Multi Format Switcher Processor | Switcher or switcher processor          |
| DME Board Set MKS-7470X                         | DME or DME Board set or MKS-7470X/7471X |
| Additional DME Board MKS-7471X                  |   |
| MVE-8000A Multi Format DME Processor            | DME or DME processor or MVE-8000A       |
| MVE-9000 Multi Format DME Processor             | DME or DME processor or MVE-9000        |
| CCP-9000 Center Control Panel                   | Control panel or center control panel   |
| DCU-8000 (MKS-8700) Device Control Unit         | DCU or MKS-8700                         |
| DCU-2000 (MKS-2700) Device Control Unit         | DCU or MKS-2700                         |

### System nomenclature

The following terms are used for systems, depending on the combination of installed options, and the signal format.

| System configuration and features                                       | Term for system |
|---|-----------------|
| System with installed option boards and settings to support HDTV format | HD system       |
| System with installed option boards and settings to support SDTV format | SD system       |
| A system in which the center control panel has two M/E banks            | 2M/E system     |
| A system in which the center control panel has one M/E bank             | 1M/E system     |

### Related manuals

#### MVS-8000X-C/7000X-C Switcher Processor Pack

- MVS-8000X-C/7000X-C Operation Manual
- MVS-8000X-C/7000X-C Installation Manual

#### MVE-8000A DME Processor Pack

- MVE-8000A Operation Manual
- MVE-8000A Installation Manual

#### MVE-9000-C DME Processor Pack

- MVE-9000-C Operation Manual
- MVE-9000-C Installation Manual

#### CCP-9000A-C Center Control Panel Pack

- CCP-9000A-C Operation Manual
- CCP-9000A-C Installation Manual

#### DCU-8000 Device Control Unit Pack

- DCU-8000 Operation Manual
- DCU-8000 Installation Manual

#### DCU-2000 Device Control Unit Pack

- DCU-2000-C Operation Manual
- DCU-2000-C Installation Manual

# Features of the MVS-8000X/7000X Multi Format Switcher System

The MVS-8000X/7000X Multi Format Switcher system boasts extensible high performance and multifunctionality. The following are some of the principal features of this system.

## System configuration flexibility

### Multiformat support

This system supports both HDTV and SDTV signal formats. The format selection can be switched by a simple control panel operation.

### Extensible system configuration

By suitable combination of options, the switcher can be configured with various inputs and outputs, and different numbers of M/E banks. The system offers the flexibility to change and expand as required.

You can connect up to two MVE-8000A or MVE-9000 extensible DME processors, which provides any number from one to a maximum of eight channels of DME functionality.

When the signal format is 1080P, you can also connect up to four MVE-8000A units, which provides a maximum of eight channels of DME functionality.

For the MVS-7000X, by installing the optional MKS-7470X/7471X DME board set, you can use a maximum of four channels of DME functionality.

You can use a maximum of eight channels of DME functionality in the whole switcher system.

### Powerful external device interfaces

By connecting to a Sony routing switcher or similar, a large system can be built. From the control panel, it is also possible to operate other equipment, including VTRs and disk recorders.

### Powerful tally system

The complete system including routing switcher provides an all-inclusive tally system. The system can be adapted to different applications and settings, using multiple tally outputs, including both on-air and recording tallies.

## Comprehensive video manipulation

### M/E banks

Each mix/effects bank (M/E bank) is equipped with eight keyers, and each keyer is capable not only of chroma keying, but also independent key transitions separate from the background transitions. The eight keys can be freely combined, to carry out four different program outputs.

### Powerful frame memory functions

The frame memory can hold approximately 1000 frames in an HDTV system (approximately 2000 frames in 720P/59.94 format), or approximately 5000 frames in an SDTV system in 480i/59.94 format, or approximately 4000 frames in 576i/50 format, and allows eight frames (four frames in 1080P format) to be recalled simultaneously.

### Link operation with DME

You can use a wide range of DME functions, including DME wipes and processed key functions as though they were part of the standard switcher functions.

## Designed for use in a live broadcasting environment

### High-performance user interface

The menu control block provides a large color LCD panel, with rapid touch-panel menu selection.

The source name displays have color backlit LCD displays. The signal names, and graphical representations of the patterns associated with buttons provide intuitive feedback, and allow the immediate decisions that are required in a live operating environment.



# Basic Video Processing

This section introduces basic functions used for video processing on the switcher.

## Transitions

In the M/E banks and PGM/PST bank, the switch from the current video stream (appearing on the corresponding program monitor) to a new video stream is referred to as a transition.

In the M/E banks and PGM/PST bank, you can change one of the images, the background, and keys 1 to 8 (downstream keys 1 to 8 in the PGM/PST bank), and also vary combinations of these simultaneously.

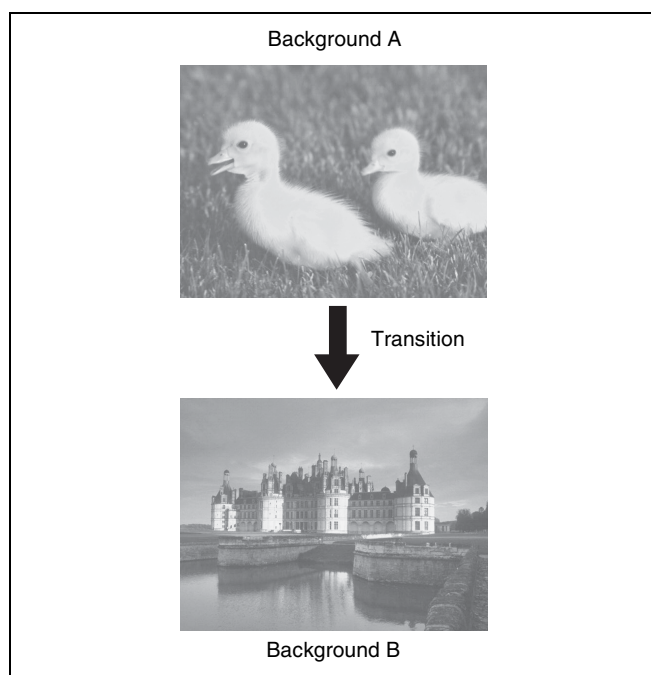
### Notes

When the signal format is 1080P, four keys can be used (keys 1 to 4).

The following are examples of transition.

## Changing the background

A background transition switches from the video currently selected on the background A bus (the current video) to the video selected on the background B bus (the new video).



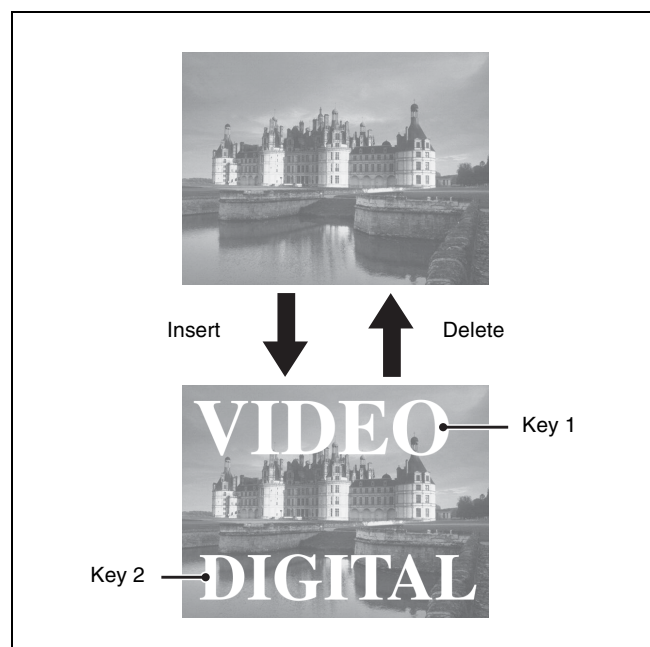
In the default selection of flip-flop mode (*see page 84*), the background always switches in the direction from the A bus to the B bus. When the transition completes, the cross-point selections on the A and B buses are interchanged.

## Inserting and deleting a key

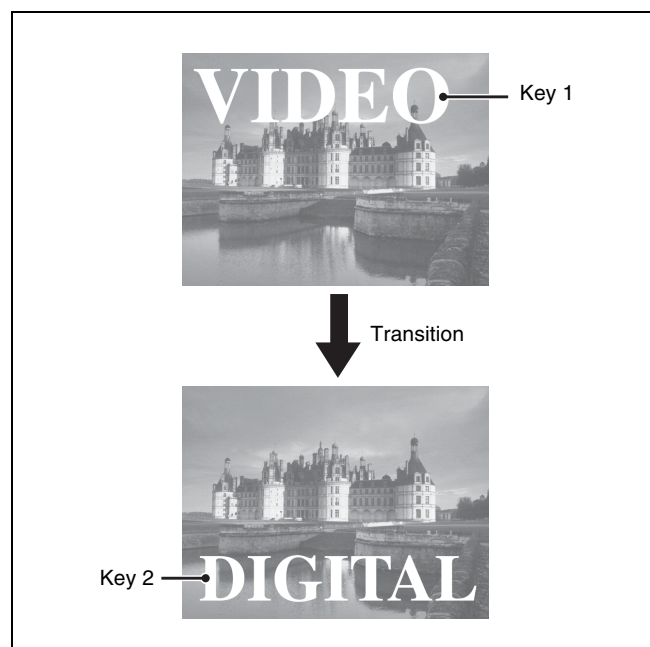
You can insert one or more of the eight keys (downstream keys on the PGM/PST bank).

If you select a key which is already inserted, the transition will delete the key.

A simultaneous combination of deleting and inserting keys is also possible.



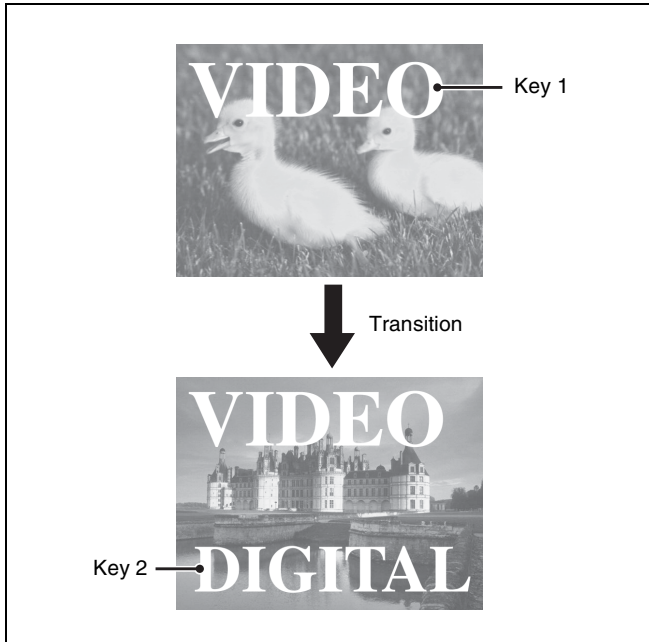
Inserting or deleting key 1 and key 2



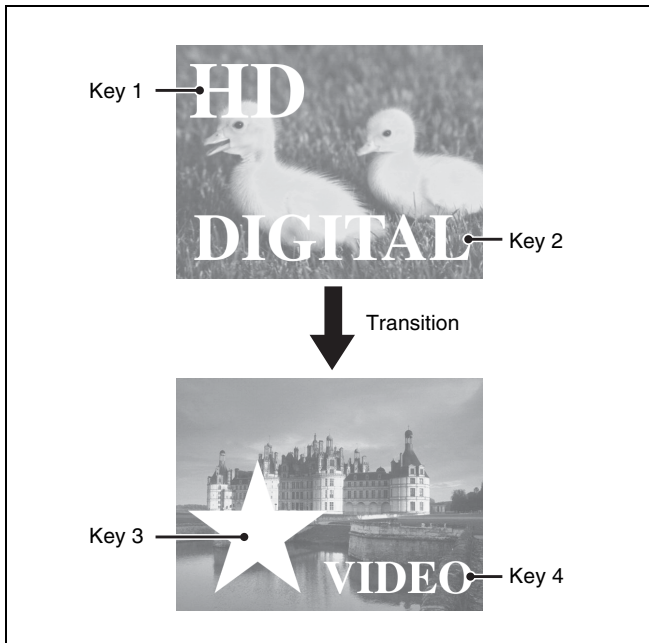
Deleting key 1 and inserting key 2

## Simultaneously changing the background and keys

You can change any of the eight keys (downstream keys on the PGM/PST bank) and the background at the same time.



Changing the background and key 2 simultaneously



Changing the background and keys 1 to 4 simultaneously

Selecting the transition type determines the way in which the transition occurs. The following are the transition type.

- Mix
- NAM (non-additive mix)
- Super mix
- Preset color mix (color matte)
- Wipe
- DME wipe
- Clip transition
- Cut

There are two modes for carrying out a transition: auto transitions are carried out by a button operation, and

manual transitions are carried out using the fader lever. It is also possible to combine these two modes.

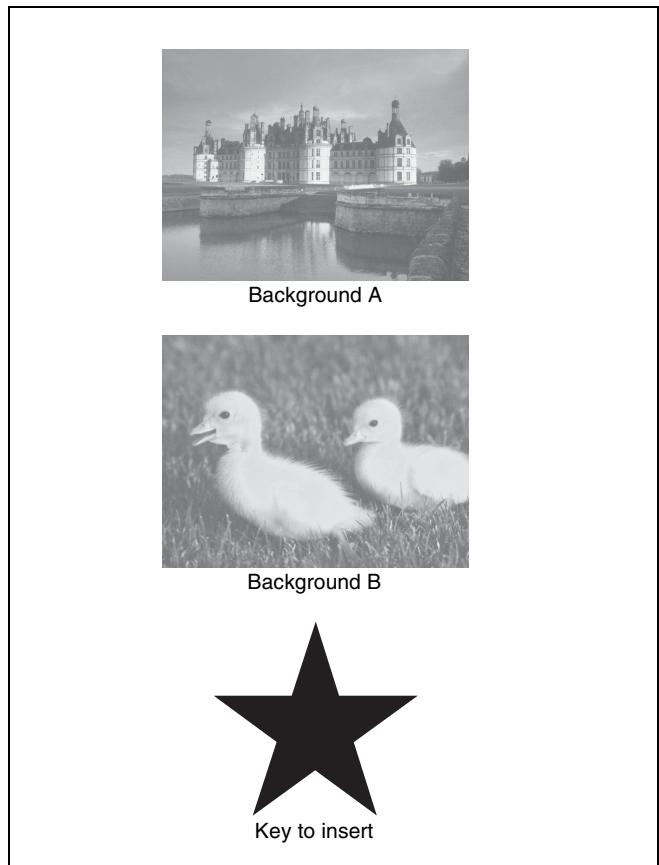
## Independent Key Transitions

In addition to common transitions, it is possible to carry out independent transitions on the keys of the M/E banks and PGM/PST bank. These are called “independent key transitions.”

By carrying out an independent key transition in combination with a common transition, different transition types can be used for the background and keys.

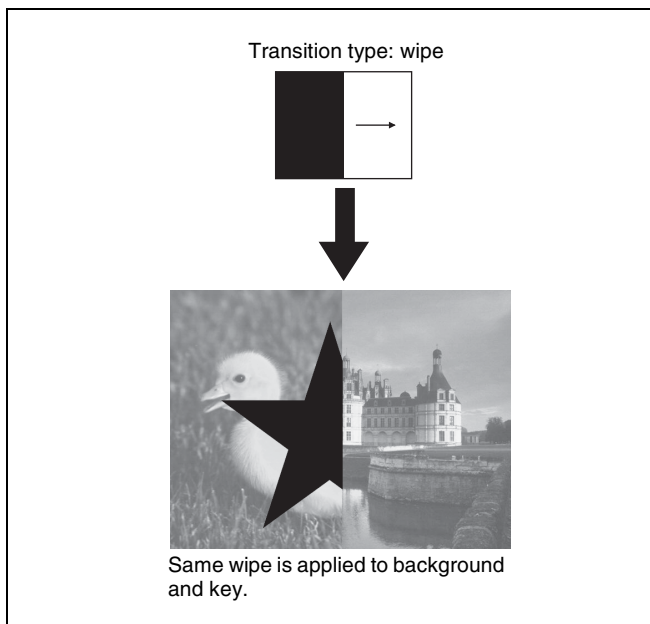
The following description compares the independent key transition with a common transition, taking a simultaneous change of the background and key as an example.

### Video used in the transition



### Effect of a common transition

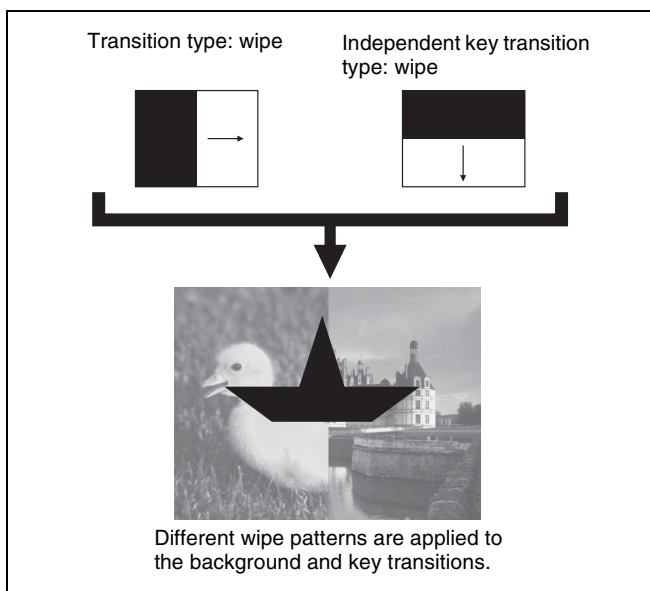
In the case shown in the previous illustration, carrying out a common transition produces the following change in the image.



Effect of a common transition

### Effect of use with an independent key transition

The key is inserted with an independent key transition as the background changes with a common transition, providing the following result.



Effect of a background transition and independent key transition

For details, see Chapter 3 “Signal Selection and Transitions” (page 65).

## Keys

A key is an effect in which a part of the background image is replaced by an image or superimposed text. The signal determining how the background is cut out is termed the “key source,” and the signal that replaces the cut-out part

is termed the “key fill.” The system component responsible for processing a key is referred to as a keyer. Each switcher bank has eight keyers, each providing the same functionality.

On each switcher bank, you can use the following key types (methods of processing the key source).

- Luminance key
- Linear key
- Color vector key
- Chroma key
- Wipe pattern key
- Key wipe pattern key

### Key modifiers

You can apply borders and other modifiers to the edge of the key image.

### Masks

A mask allows a part of the image to be replaced by the background or a key. To prevent unwanted holes in the background, or if a key is not the desired shape, you can correct this with a mask.

### Resizer

This function allows you to apply effects, similar to a DME, such as zoom, movement, or aspect ratio change to a part of a created key. You can use the following operations.

- Two-dimensional transform of a key
- Rotation of keys
- Resizer interpolation settings
- Resizer crop/border settings
- Resizer effect settings (wide key border, drop shadow, edge enhancement, mosaic, defocus, mask)

For details, see “Keys” (page 92).

## Wipes

A wipe is a transition from the current video stream to a new video stream, using a wipe pattern.

Changing the background by means of a wipe is referred to as a “background wipe,” and inserting or deleting a key with a wipe is termed a “key wipe.”

There are two types of wipe: those that can be selected in a common transition, and those that can be selected in an independent key transition.

The patterns that can be used for a wipe are as follows.

- Standard wipe patterns
- Enhanced wipes
- Rotary wipes
- Mosaic wipe pattern

- Random and diamond dust wipe patterns

You can combine two selected patterns (referred to as “main” and “sub”) to create a new pattern (pattern mix). You can also specify the wipe direction, or set the pattern position, applying various changes and modifiers to the selected wipe pattern.

*For details, see “Wipes” (page 127).*

---

## DME Wipes

A DME wipe is a wipe transition that uses a DME effect to change from one video image to the next.

There are two types of DME wipe: those which can be selected for a normal transition, and those which can be selected for an independent key transition.

The patterns that can be used for a DME wipe are as follows.

Slide, Squeeze, Split, Door, Flip tumble, Mirror, Sphere, Character trail, Wave, Ripple, Page turn, Page roll, Frame in-out, Picture-in-picture, 2D trans, 3D trans, Sparkle, Split slide, Mosaic, Defocus, Brick, and User programmable DME

You can also specify the wipe direction, or set the pattern position, applying various changes and modifiers to the selected DME wipe pattern.

### Resizer DME wipes

Using the resizer, you can carry out key DME wipes.

*For details, see “DME Wipes” (page 143).*

---

## Frame Memory

Frame memory is a function for using a still image or video (frame memory clip) as material for editing.

You can create a still image by capturing a frame of input video or a clip by specifying a range of input video. The created images and clips can be written to memory for playback, editing, and output.

*For details, see “Frame Memory” (page 160).*

---

## Color Backgrounds

This function can be used to obtain color background video.

Two color signals generated from the dedicated generators can be switched or mixed, and then output.

*For details, see “Color Background” (page 186).*

---

## Copy and Swap

This function can be used to copy and swap the settings among the M/E-1 to M/E-3, and PGM/PST banks or between keyers.

The following settings can be copied or swapped.

- Overall settings for the M/E and PGM/PST banks
- Keyer settings
- Wipe settings in a transition control block
- Wipe settings in an independent key transition control block
- DME wipe settings in a transition control block
- DME wipe settings in an independent key transition control block
- Matte color settings (color 1, color 2, and how to compose them)
- Color settings
- DME channel settings
- Format converter input settings (copy only)
- Format converter output settings (copy only)

*For details, see “Copy and Swap” (page 188).*

---

## Video Process

The term “video process” is applied to adjustments to the gain, hue, black level of the input video signal. There are two types of adjustment; adjustment of an individual input signal and adjustment as image effects on a particular bus.

*For details, see “Video Process” (page 195).*

---

## Color Corrector

The color corrector enables video signal color correction (black balance/white balance adjustment, gamma correction, knee correction, etc.).

The color corrector includes the following adjustments.

- Input video processing
- Primary color correction
- Secondary color correction
- Luminance processing
- Spot color adjustment
- Output video processing
- YUV/RGB clip

*For details, see “Color Corrector” (page 197).*

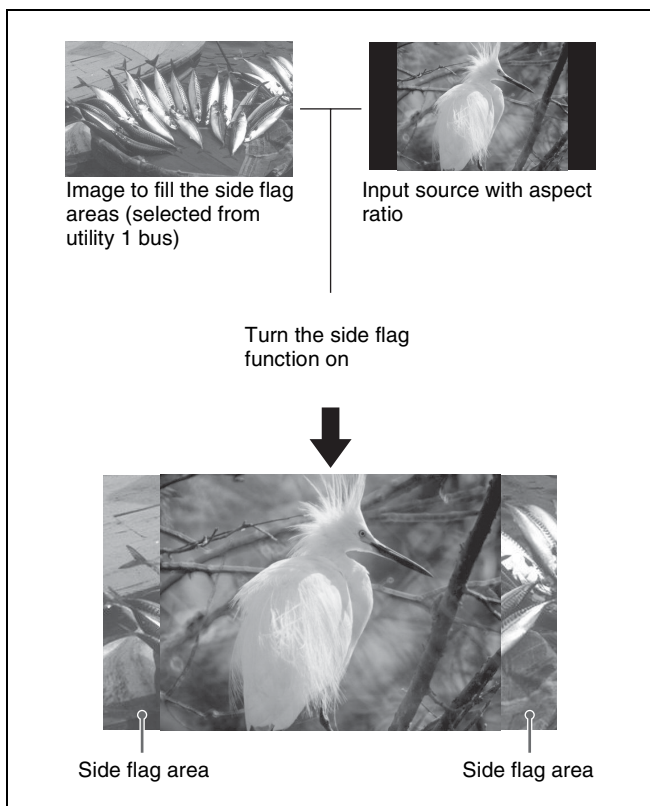
---

## Side Flags

The term “side flags” refers to the areas to left and right of an image with aspect ratio 4:3 embedded within a 16:9



frame, when these areas are filled with a separate image selected from the utility 1 bus.

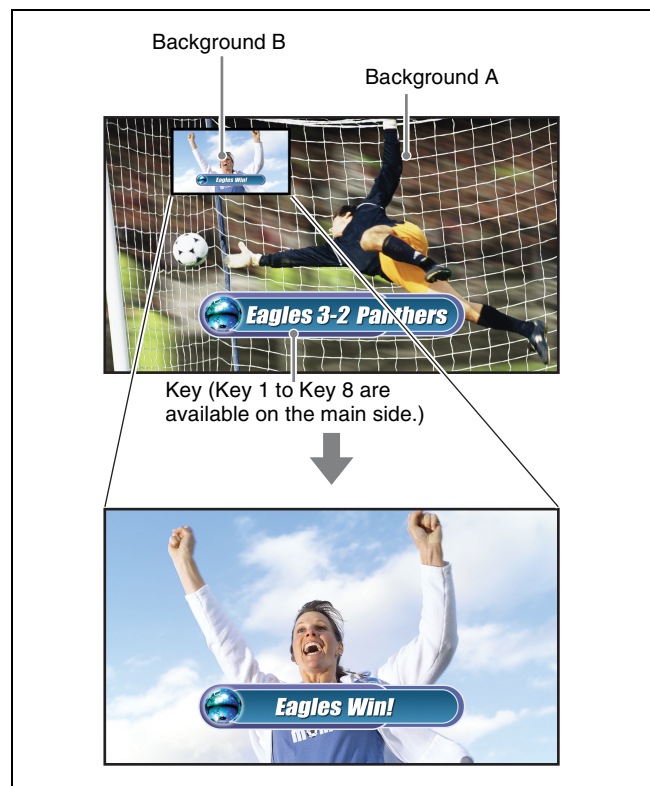


For details, see “Side Flags” (page 206).

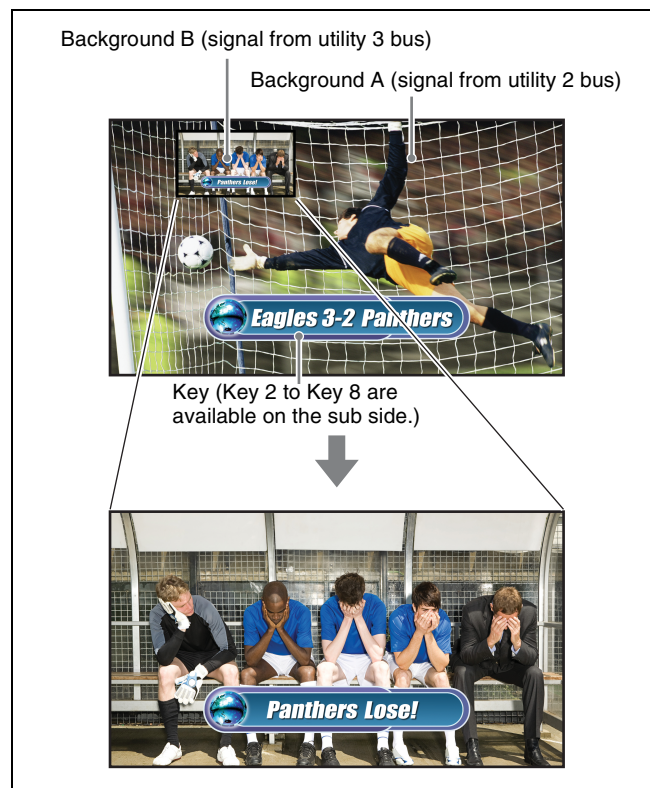
## Multi Program 2

By operating the switcher in Multi Program 2 mode, a single switcher mix/effects bank can be used to create two separate video outputs, referred to as “main” and “sub.” You can set backgrounds, keys, and transitions for each of main and sub. For example, during broadcast of sports events, two versions of the scene can be provided as shown below, and switched simultaneously.

### Program output for “Main”



### Program output for “Sub”



For details, see “Multi Program 2” (page 209).

## 3D Support

Installing the switcher upgrade software in an MVS-8000X/ 7000X, and the DME upgrade software in an MVE-8000A, MVE-9000, or MKS-7470X/7471X, enables the processing of video in 3D mode.

*For details, see “3D Support” (page 216).*

## Creation of Special Effects and Management of Data and Operations

This section introduces functions used for creation of special effects, control of external devices or switcher operations, and data management.

### Digital Multi Effects (DME)

When used with the switcher, DME allows you to add three-dimensional effects such as image movement, rotation, magnification and shrinking, as well as a wide variety of special effects.

Each channel can be used on its own or in combination with other channels, which allows you to create advanced effects with more complexity.

The following types of DME special effects are available.

- **Edge effects:** Border, Crop, Beveled Edge, Key Border, Art Edge, Flex Shadow
- **Effects for entire image:** Defocus, Blur, Multi Move
- **Effects for video image:** Sepia, Mono, Posterization, Solarization, Nega, Contrast, Mosaic, Mask, Sketch, Metal, Dim and Fade, Glow
- **Freeze effects**
- **Nonlinear effects:** Wave, Mosaic Glass, Flag, Twist, Ripple, Rings, Broken Glass, Flying Bar, Blind, Split, Split Slide, Mirror, Multi Mirror, Kaleidoscope, Lens, Circle, Panorama, Page Turn, Roll, Cylinder, Sphere, Explosion, Swirl, Melt, Character Trail
- **Lighting effects:** Lighting, Spotlighting
- **Recursive effects:** Trail, Motion Decay, Keyframe Strobe
- **Background color**
- **Separate Sides** (effects for front and back sides)
- **Signal inversion** (Invert effect)
- **Key density adjustment**
- **Key source selection**

#### Global effects

Global effects are special effects created by combining the images of successive channels. The following types of global effects are available.

- Combiner
- Brick
- Shadow

*For details, see “DME Operations” (page 224).*

## External Device Control

In this system, you can operate while controlling the following types of external device:

- Devices supporting P-Bus (Peripheral II protocol)
- Devices supporting GPI
- VTRs
- Disk recorder (Sony disk 9-pin protocol and video disk communications protocol, Odetics protocol)
- Extended VTR (Abekas A53 protocol)

*For details on the devices that can be connected, consult your Sony representative.*

You can control an external device by previously registering timeline keyframes.

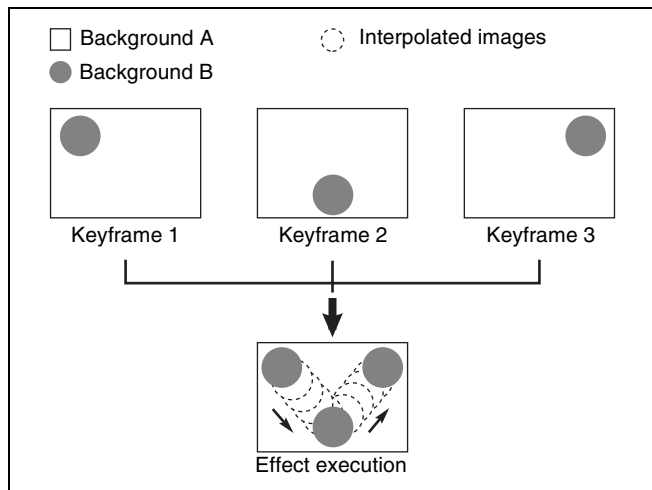
*For details, see Chapter 12 “External Devices” (Volume 2).*

## Keyframes

A keyframe represents an instantaneous state of an image; it can be saved in a register and recalled for reuse.

By arranging a number of keyframes on the time axis, and interpolating between successive keyframes, you can create a “keyframe effect” in which there is a continuous change from each keyframe to the next.

The following figure shows three keyframes created with a wipe pattern (the circle) in different positions. This is interpolated to create the effect shown.



Example of keyframes and effect execution

You can save the sequence of keyframes representing a single effect in a register. Then by recalling this register, you can replay the same effect.

*For details, see Chapter 13 “Keyframe Effects” (Volume 2).*

## Snapshots

The term “snapshot” refers to a function whereby the various settings required to apply a particular effect to an image are saved in a register as a set of data, for recall as required, to recover the original state.

Snapshots are divided as follows.

- Snapshots applying to a particular region (functional block of the switcher or DME)
- Master snapshot
- Key snapshot
- Wipe snapshot
- DME wipe snapshot

An individual snapshot may also have attached special conditions relating to switcher or DME operation when the snapshot is recalled.

These conditions are called “attributes” of the snapshot, and can be added when the snapshot is saved or recalled.

*For details, see Chapter 14 “Snapshots” (Volume 2).*

## Utility

The utility function refers to a function whereby you can assign an arbitrary action or a shortcut for frequently used menu to a particular button, then instantly recall the action or menu by pressing the button.

*For details, see “Utility Execution” in Chapter 15 (Volume 2).*

## Shotbox

The term “shotbox” refers to a function whereby for each specified region (see “Regions” in Chapter 13 (Volume 2)) any snapshot or keyframe effect can be recalled simultaneously.

*For details, see “Shotbox” in Chapter 15 (Volume 2).*

## Macros

The term “macro” refers to the function whereby a sequence of signal selections and other operations on the control panel is saved as data in memory (macro register), so that it can be recalled as required to automatically execute the same sequence of operations.

The individual control panel operations constituting a macro are termed “events.”

Macros also provide the following functions.

## Menu macros

The term “menu macro” refers to the function whereby a sequence of menu operations is saved as data in memory, so that it can be recalled as required to automatically execute the same sequence of operations.

## Macro timeline

By recording macro recall and execute action on a timeline, in the same way as for keyframes in an effect, you can automatically execute them in a sequence.

## Macro attachment

Macro attachment is a function whereby a macro register is assigned to a control panel button or a particular position of a fader lever, linking the execution of the button function or a fader lever operation with a macro execution.

*For details, see Chapter 16 “Macros” (Volume 2).*

## Files

You can save register data, including setup information and snapshot information, as a file on a hard disk or memory card, and recall it as required.

You can operate on individual files or registers, or together in a batch.

Regarding frame memory, it is possible to capture image data stored in an external device into frame memory.

The following files can be saved and recalled.

- Operation mode setup data for system as a whole and individual devices
- Device status data for system startup
- Key memory setting data
- Video process memory setting data
- Keyframe effect setting data
- Snapshot setting data
- Wipe snapshot setting data
- DME wipe snapshot setting data
- Key snapshot setting data
- Shotbox setting data
- Macro setting data
- Macro attachment data
- Menu macro setting data
- Frame memory image data

*For details, see Chapter 17 “Files” (Volume 2).*

# Setup

Various settings are required, in order to operate the switcher, control panel, DME, external devices, and so on, connected together in a single system.

This is referred to as “setup,” and you can carry out the setup operations from the Engineering Setup menu.

The settings in the Engineering Setup menu are grouped under the following headings.

## System setup (System)

*For details, see Chapter 18 “System Setup” (Volume 2).*

## Panel setup (Panel)

*For details, see Chapter 19 “Control Panel Setup (Panel)” (Volume 2).*

## Switcher setup (Switcher)

*For details, see Chapter 20 “Switcher Setup (Switcher)” (Volume 2).*

## DME setup (DME)

*For details, see Chapter 21 “DME Setup (DME)” (Volume 2).*

## DCU setup (DCU)

*For details, see Chapter 22 “DCU Setup (DCU)” (Volume 2).*

## Router/tally setup (Router/Tally)

*For details, see Chapter 23 “Setup Relating to Router Interface and Tally (Router/Tally)” (Volume 2).*

## User setup (User Setup)

*For details, see Chapter 24 “User Setup (User Setup)” (Volume 2).*



## Names and Functions of Parts of the Control Panel

The maximum number of M/E banks supported by the MVS-8000X/7000X system is given below.

### **MVS-8000X**

Five M/E banks maximum (PGM/PST, M/E-1 to M/E-4)

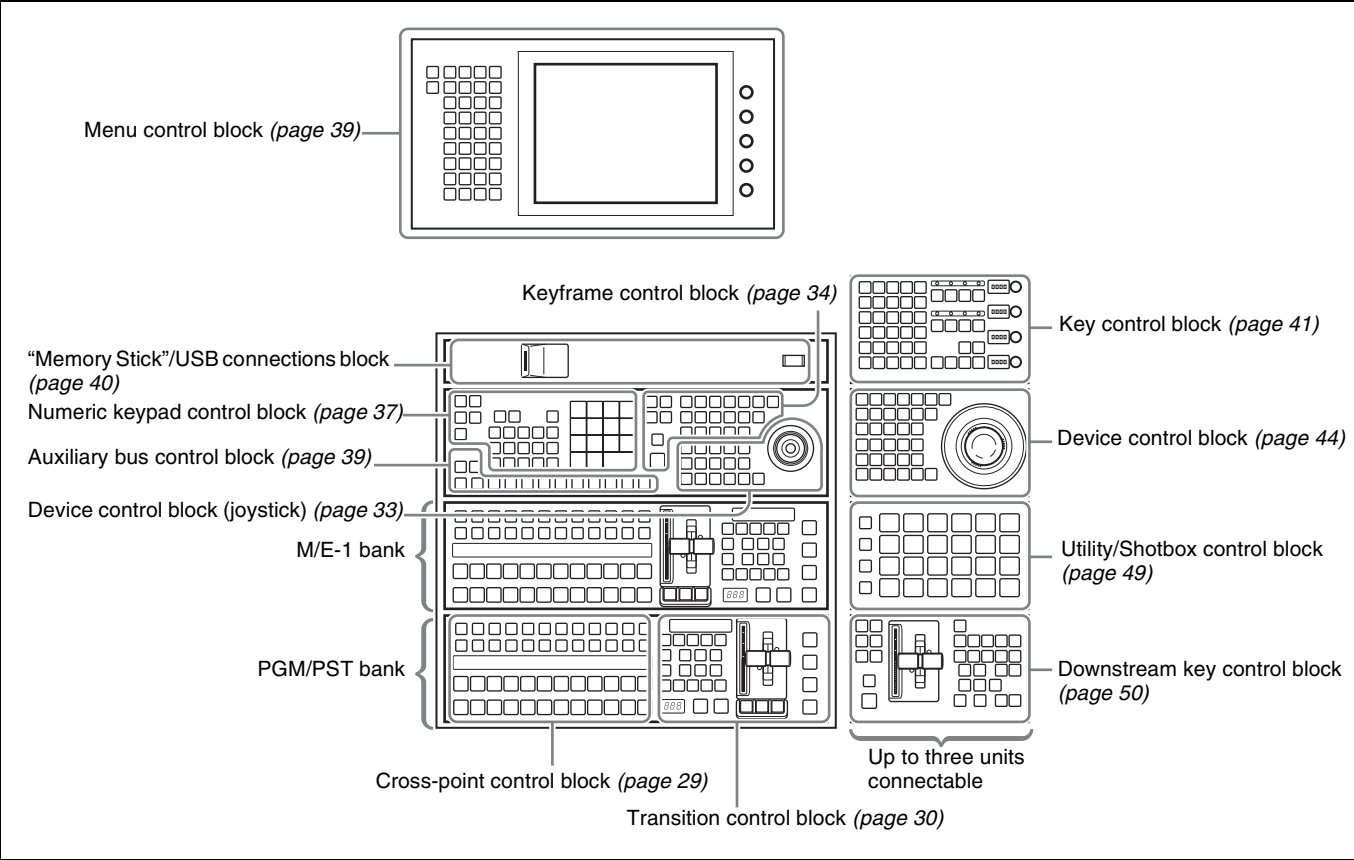
### **MVS-7000X**

Six M/E banks maximum (PGM/PST, M/E-1 to M/E-5)

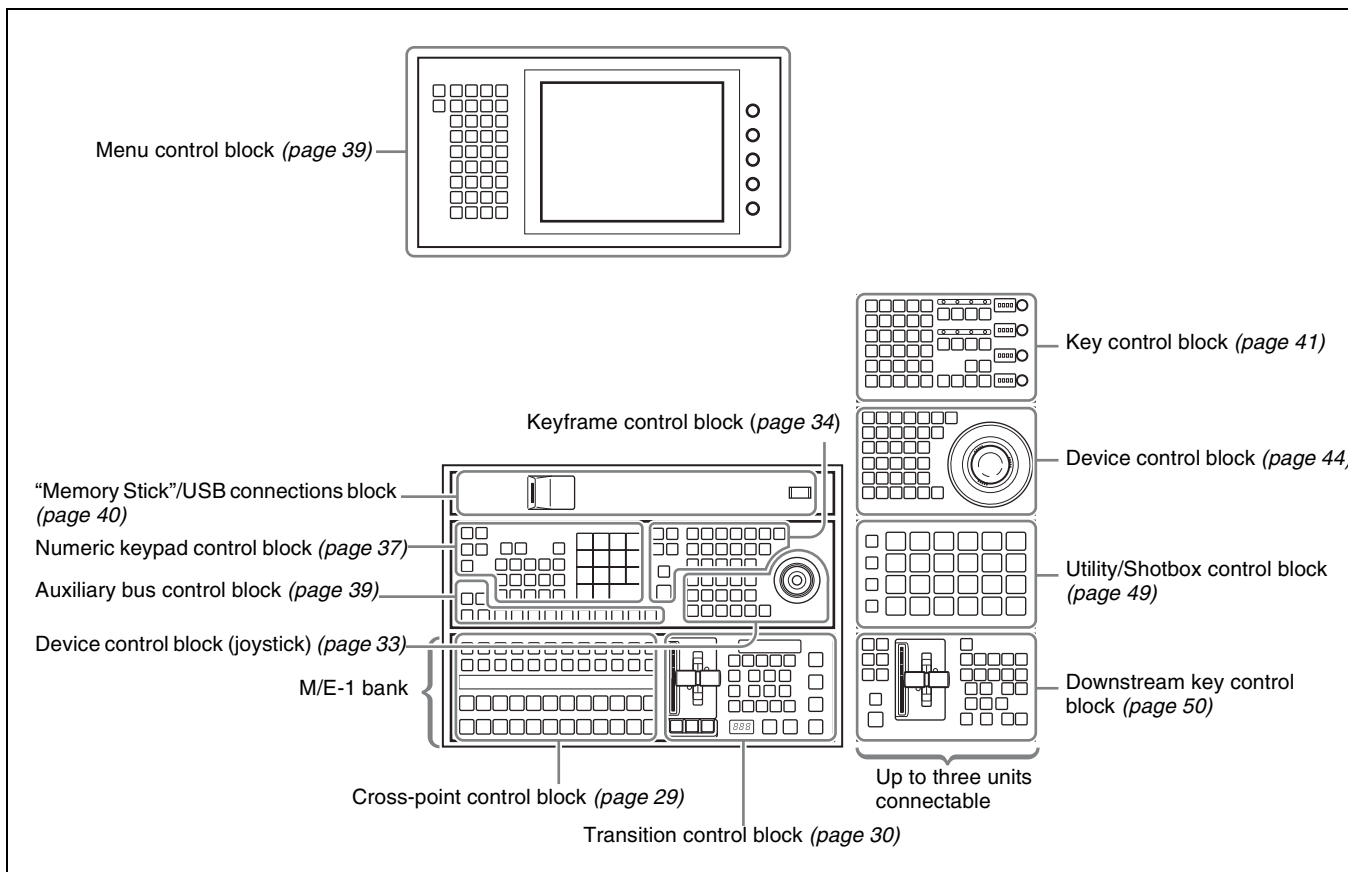
#### **Notes**

- On the MVS-8000X, M/E-5 cannot be used. M/E-5 operation and settings are disabled, even if they appear in the menu.  
*See “Disabled Operation and Settings Menus” (page 348) in Appendix.*
- To select M/E-4 or M/E-5 using control panel buttons, it is first necessary to assign the buttons in the Setup menu.  
*For details of assignment, see “Assigning a Button for M/E-4 or M/E-5 Selection in the Setup Menu” (page 351) in Appendix.*

# Example Control Panel Configuration



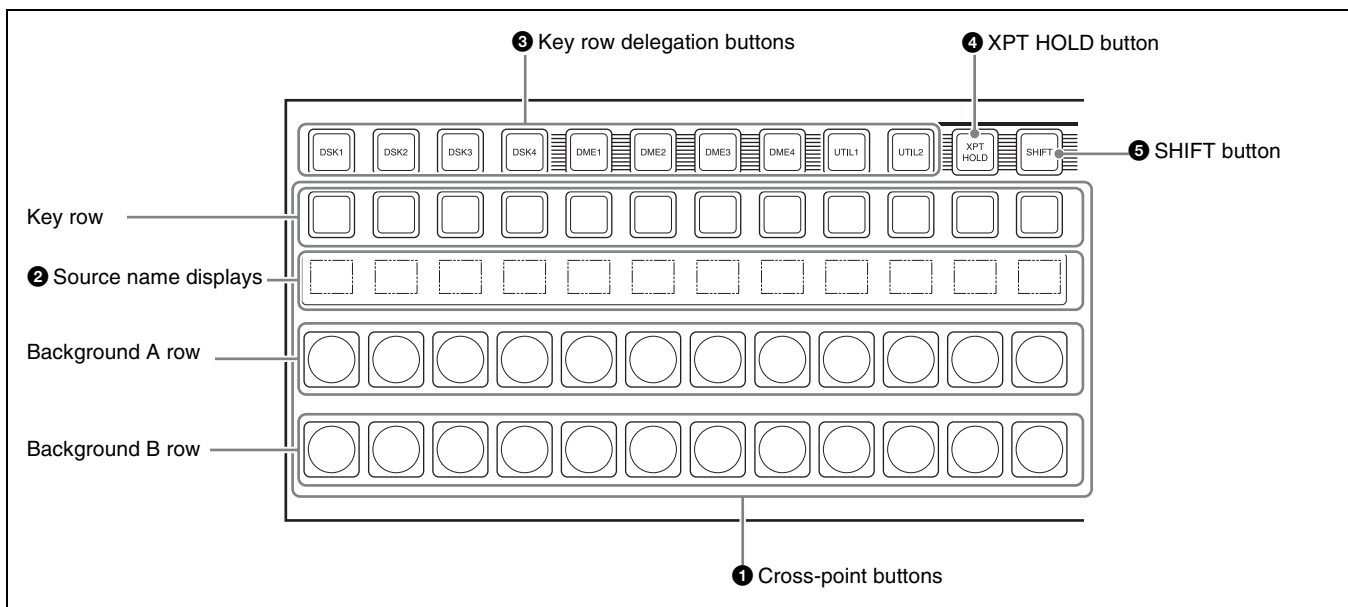
Example control panel configuration (with CCP-9000A 2M/E panel)



Example control panel configuration (with CCP-9000A 1M/E panel)

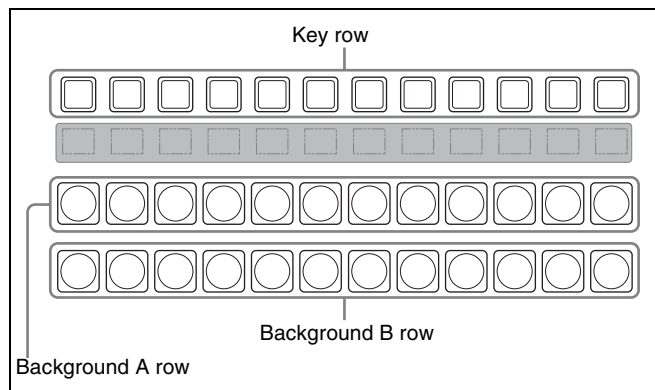
## Cross-Point Control Block

In the cross-point control block, you can select the signals to be used in this M/E bank or PGM/PST bank.



## ① Cross-point buttons

These buttons select the signals used for video creation on this M/E bank or PGM/PST bank. Each row of buttons corresponds to one or more signal buses within the switcher.



| Name             | Description  |
|------------------|--|
| Key row          | <ul style="list-style-type: none"> <li>The buttons in this row select the bus signals specified with the key row delegation buttons ([DSK1] to [DSK8], [DME1] to [DME4], [UTIL1], or [UTIL2]) or delegation buttons in the auxiliary bus control block.</li> <li>The later pressed delegation button takes precedence and the selection is reflected in the key row.</li> </ul> <p><i>For details of DSK5 to DSK8 assignment, see “Assigning Buttons for Selection of Keys 5 to 8 in the Setup Menu” (page 352) in Appendix.</i></p> |
| Background A row | Press to select the signal as the current background video on this M/E bank or PGM/PST bank.   |
| Background B row | Press to select the signal as the background after the next transition on this M/E bank or PGM/PST bank.   |

### Cross-point button numbers

Cross-point button and reentry buttons are respectively numbered (see page 68).

### Assigning signals to button

You can assign a signal to each button using the Setup menu.

*For details on the operation, see “Cross-Point Settings (Xpt Assign Menu)” in Chapter 19 (Volume 2).*

## Visual indications on cross-point buttons

*For details on the operation, see “Colors of lit cross-point buttons” (page 69).*

## ② Source name displays

These show the names of the signals which can be selected on the cross-point buttons, in two or four characters, or in auto mode.

While the [SHIFT] button or the [SHIFT] button assigned to the column of cross-point buttons is enabled, the source name of the signal assigned to the column of cross-point buttons in shift mode appears. You can select green, orange, or yellow for the background color of the source name display, for each source separately. You can set the source name display mode and background color in the Setup menu.

## ③ Key row delegation buttons

Use these buttons to assign buses to the key row, copy keys, or assign DME to keys.

## ④ XPT (cross-point) HOLD button

Turning this button on enables you to recall a keyframe or snapshot while keeping the current cross-point selection unchanged.

This function is valid for the background A and B rows. By means of setup settings, you can also enable this for the following function blocks.

- Background A and B rows
- Key buses
- Utility 1 and 2 buses
- External DME bus
- DME utility 1 and 2 buses

## ⑤ SHIFT button

When this button is enabled, either the source name displays show the shifted signal names, or the shifted signals for all buses in this M/E (PGM/PST) bank are enabled.

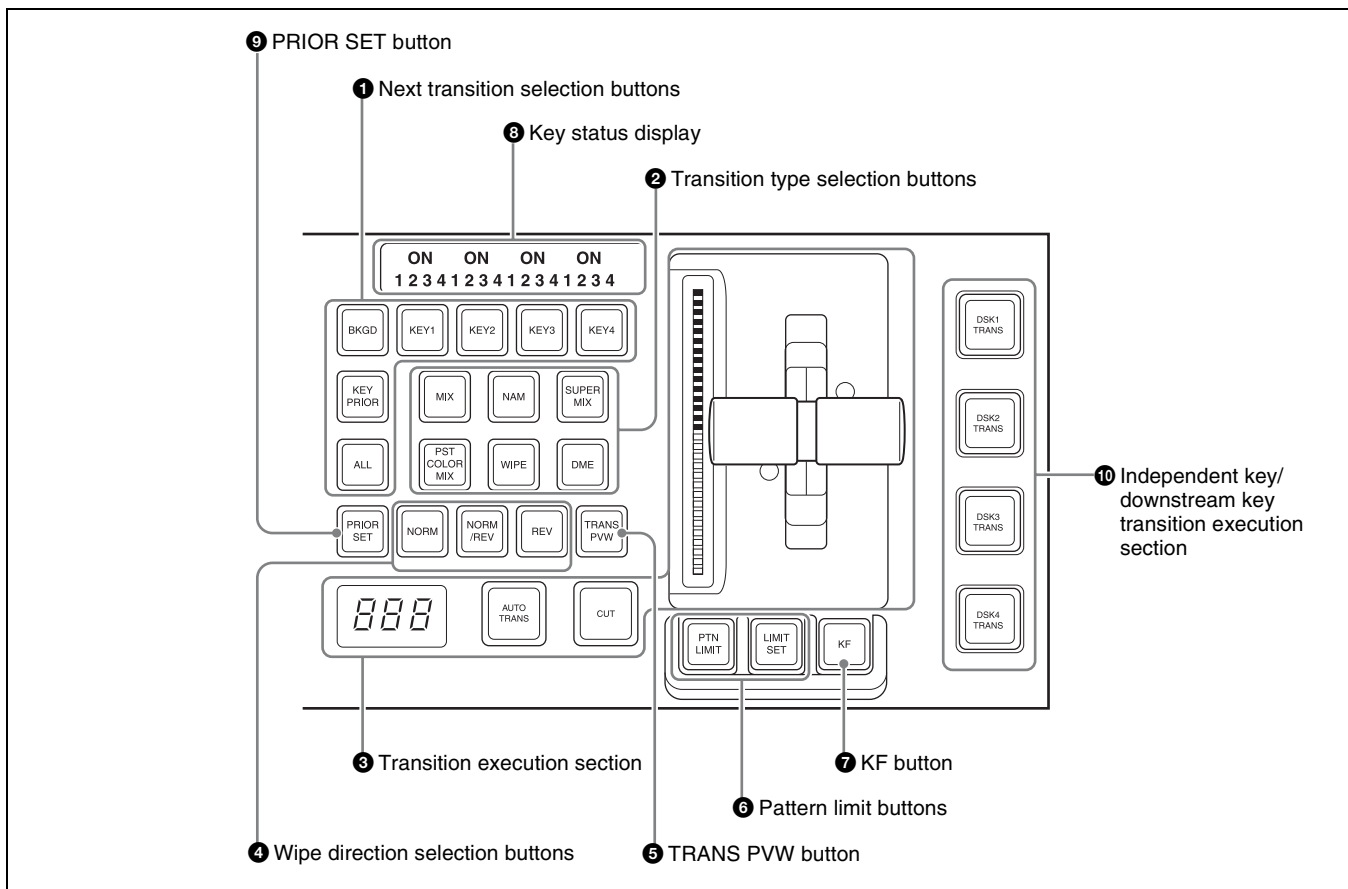
You can select either mode in the Setup menu.

Each press of the button toggles between the enabled and disabled states.

Using a Setup menu operation, you can also make this button function as the [SHIFT] button for the whole cross-point control block inclusive of the key row and background A and B rows.

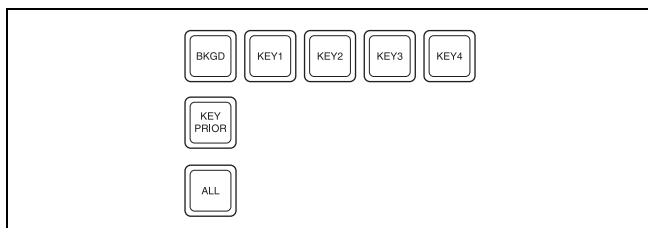
## Transition Control Block

In the transition control block, you can modify the output of the M/E bank or PGM/PST bank, and perform transitions. Both common transition and independent key transition operations are possible.



### 1 Next transition selection buttons

Press these buttons, turning them on, to determine what the next transition will apply to.



| Name  | Description   |
|---|---|
| BKGD  | Next transition changes the background.   |
| KEY1 to KEY8 (DSK1 to DSK8 in the PGM/PST bank) | <ul style="list-style-type: none"> <li>Press this button, turning it on, to make the next transition insert or remove the corresponding key (keys 1 to 8).</li> <li>If a key is currently inserted it will be removed, and vice versa.</li> <li>In the PGM/PST bank, this inserts or removes downstream keys 1 to 8.</li> </ul> <p><i>For details of assignment and selection of keys 5 to 8, see the following sections in Appendix: "Assigning Buttons for Selection of Keys 5 to 8 in the Setup Menu" (page 352) and "Selecting Keys 5 to 8 for Next Transition" (page 353).</i></p> |

| Name                 | Description  |
|----------------------|--|
| KEY PRIOR (priority) | When this button is lit, the setting of the key priority after the next transition is enabled. The key priority after the next transition appears in the key status display. |
| ALL                  | Pressing this button turns on a preselected set of the [BKGD], [KEY1] to [KEY8], and [KEY PRIOR] buttons. Make this setting in the Setup menu.                               |

### 2 Transition type selection buttons

Press one of these buttons, turning it on, to determine the type of the next transition (*see page 70*).

*For the method of assigning transition types, see "Transition Control Block Button Assignments" in Chapter 19 (Volume 2).*

When multi-program mode is selected in the Setup menu, two or more of the following buttons may light.

*For details of multi-program mode, see "Setting Transition Control Block Button Assignments" in Chapter 19 (Volume 2).*

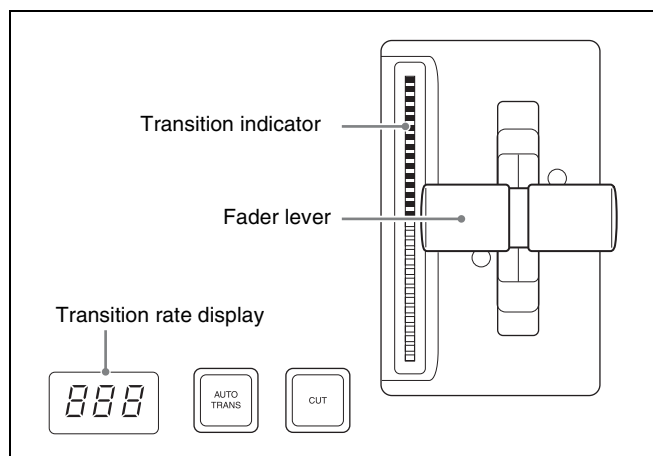
You can also assign a function to these buttons to select whether or not the fader levers are used as keyframe faders.



| Name                                       | Description   |
|--|---|
| MIX  | In a background transition, the new video fades in as the current video fades out.  |
| NAM (non-additive mix)                     | The current and new video signals are compared, and the signal with the higher luminance level is given priority in the output.   |
| SUPER MIX                                  | The current video is maintained at 100% output for the first half of the transition as the new video is mixed while increasing progressively to 100%.                           |
| PST (preset) COLOR MIX                     | The color matte (unpatterned display) is inserted during transition, replacing the current video by the color matte, and then replacing the color matte by the new video.       |
| WIPE                                       | The current video is replaced by the new video, using the wipe pattern selected in the Wipe menu.   |
| DME (DME wipe)                             | A wipe type of transition is carried out, using the DME effect selected in the DME Wipe menu.   |
| FM1&2CLIP, FM3&4CLIP, FM5&6CLIP, FM7&8CLIP | A recorded clip is played back together with the transition. At this point, you can also carry out a transition (wipe or mix (dissolve)) simultaneously together with the clip. |
| KF (keyframe)                              | Press this button, turning it on, to enable using the fader lever as a keyframe fader.  |

### 3 Transition execution section

This section is used to carry out a transition and check the progress of the transition.



| Name                 | Description  |
|----------------------|--|
| Transition indicator | This comprises multiple LEDs, which show the progress of the transition. |

| Name                           | Description  |
|--------------------------------|--|
| Fader lever                    | <ul style="list-style-type: none"> <li>Move up or down to carry out the transition.</li> <li>When a transition type selection button to which the [KF] button function has been assigned is lit, you can use this as a keyframe fader.</li> </ul>                                  |
| Transition rate display        | <ul style="list-style-type: none"> <li>This shows the “transition rate” (the time from the beginning of a transition to its completion) set for an auto transition, in frames.</li> <li>You can set the transition rate using the numeric keypad control block or menu.</li> </ul> |
| AUTO TRANS (transition) button | <ul style="list-style-type: none"> <li>Pressing this button carries out an auto transition of the set transition rate (duration). The transition starts immediately, and the button lights amber.</li> <li>When the transition completes, the button goes off.</li> </ul>          |
| CUT button                     | Pressing this button carries out the transition as a cut (i.e. instantaneously).   |

### 4 Wipe direction selection buttons

When a wipe or DME wipe is selected as the transition type, you can press to light these buttons to select the wipe direction.



| Name                      | Description   |
|---------------------------|---|
| NORM (normal)             | The wipe proceeds in the direction from black to white as shown on the pattern in the lists of patterns <i>see “Wipe Pattern List” (page 312)</i> and <i>“DME Wipe Pattern List” (page 316)</i> , or in the direction of the arrow. |
| REV (reverse)             | The wipe proceeds in the opposite direction to that when the [NORM] button is pressed.  |
| NORM/REV (normal/reverse) | The wipe direction alternates between normal and reverse every time a transition is executed.   |

### 5 TRANS PVW (transition preview) button

When this button is lit, you can check in advance the video changes during the transition, on the preview output from the M/E or PGM/PST bank.

During the preview, you can use the fader lever, [AUTO TRANS] button, and [CUT] button. One of the following functions of this button can be selected in a Setup mode.

- When the transition completes, the system returns to the normal mode.
- The transition preview mode is maintained while this button is pressed.
- Switching is made between the transition preview mode and normal mode every time this button is pressed.

### 6 Pattern limit buttons

The following buttons are used to set a pattern limit.



| Name                | Description  |
|---------------------|--|
| PTN (pattern) LIMIT | Pressing this button, turning it on, enables the pattern limit function.   |
| LIMIT SET           | <ul style="list-style-type: none"> <li>Use this button to set a pattern limit when the [PTN LIMIT] button is off.</li> <li>Move the fader lever to the position of a particular pattern size, and stop it there, then press this button to set the pattern limit range.</li> </ul> |

### 7 KF (keyframe) button

Pressing this button to turn it on allows you to use the fader lever as a keyframe fader.

### 8 Key status display

For each of the next transition selection buttons, [KEY1] to [KEY4], the corresponding ON indicator lights when the key is inserted. It also shows the priority (1 to 4) of each key.

### 9 PRIOR (priority) SET button

While this button is held down, you can set the key priority.

The setting mode when this button is pressed depends on whether or not the [KEY PRIOR] button is lit, as follows.

- When the [KEY PRIOR] button is off, the current key priority is set.
- When the [KEY PRIOR] button is lit, the key priority after the next transition is set.

Press the [KEY PRIOR] button as required, to switch between these two modes.

In either mode, hold down the [PRIOR SET] button, and press the button ([KEY1] to [KEY8]) corresponding to the key you want to bring to the front.

## Notes

The key priority establishes a separate priority order within each of the groups of keys 1 to 4 and keys 5 to 8. You can make any setting within the groups of keys 1 to 4 or keys 5 to 8, but not for combinations of keys from different groups. For example, it is not possible to set a priority sequence of keys 1, 5, and 2.

*For details, see “Setting the Key Priority in the Transition Control Block” (page 73).*

The following controls are used as the independent key transition control block.

### 10 Independent key/downstream key transition execution section

#### KEY1 TRANS to KEY8 TRANS (DSK1 TRANS to DSK8 TRANS in the PGM/PST bank) buttons:

These correspond to keys 1 to 8 from top to bottom; press one to carry out an auto transition. The transition rate for an independent key transition can be set in the numeric keypad control block or in a menu.

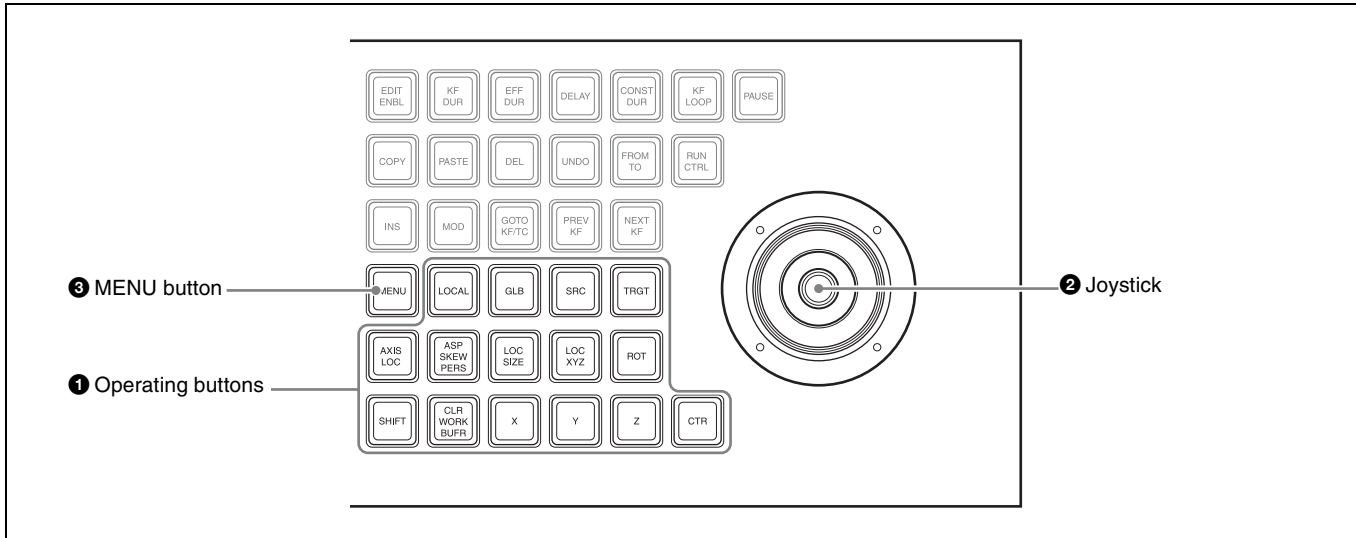
*For details of assignment of keys 5 to 8, see “Assigning Buttons for Selection of Keys 5 to 8 in the Setup Menu” (page 352) in Appendix.*

The color with which buttons are lit shows the status, as follows.

| Lighting color | Status  |
|----------------|---|
| Green          | During a transition   |
| Amber          | Key on. Not inserted into program video (final output video from the switcher). |
| Red            | Key on. Inserted into program video (final output video from the switcher).     |
| Not lit        | Key off.  |

## Device Control Block (Joystick)

The joystick type device control block is used for three-dimensional transform operations using a DME.



### 1 Operating buttons

The functions of these buttons are equivalent to the functions in three-dimensional transform operation mode of the operating buttons of the trackball type device control block.

#### Notes

To select a required DME channel, use the region selection buttons in the numeric keypad control block.

#### Use of the [SHIFT] button

Pressing a button in the device control block while holding down the [SHIFT] button enables the shifted function of the button. Also, pressing a button in the keyframe control block while holding down the [SHIFT] button enables the shifted function of the button.

#### About the [CLR WORK BUFR] (clear work buffer) button

When [M/E 1] or [P/P] is selected along in the numeric region selection buttons of the keypad control block, press this button twice in rapid succession to reset all parameters of the selected M/E or P/P to their initial values. When a DME channel is selected in the region selection buttons, the operation is the same as when using a trackball type device control block in the three-dimensional transform operation mode.

### 2 Joystick

#### When the three-dimensional transform operation mode is enabled

By moving this, you can carry out operations in the X-, Y-, and Z-axes.

When the following buttons are held down, operation of the joystick is switched to fine control (fine mode).

- The button on the end of the joystick
- [SRC] button
- [TRGT] button

Depending on the settings made in the Setup menu, the operation speed multiple can be changed in fine mode.

#### When the effect run control mode is enabled

By moving the joystick sideways, you can run the keyframe effect, independent of the STOP NEXT KF, EFF LOOP, and similar settings in the keyframe control block. Move to the right to run the effect in the normal direction, and to the left for the reverse direction.

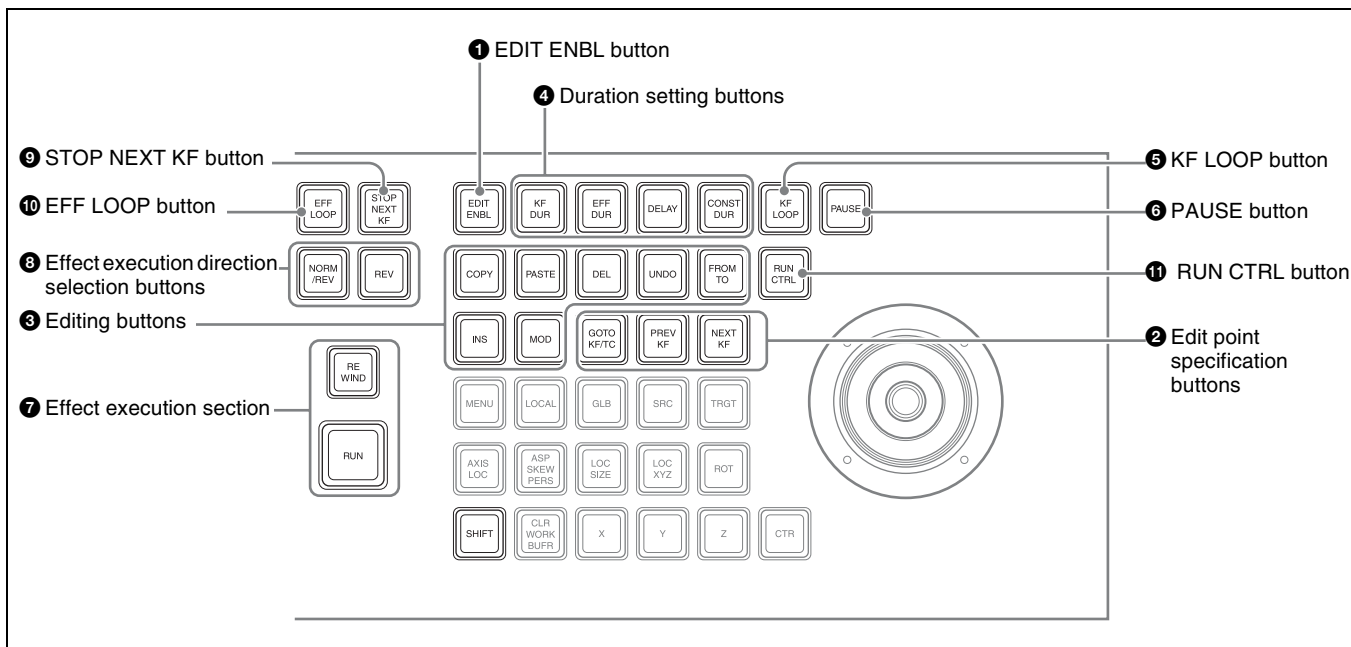
### 3 MENU button

The function of this button is equivalent to the function of the [MENU] button in the trackball type device control block.

## Keyframe Control Block

In the keyframe control block, you can carry out effect editing and execution.





### 1 EDIT ENBL (edit enable) button

Press this button, turning it on, to enable effect editing operations with the keyframe control block. When macro editing is carried out, this button lights red.

### 2 Edit point specification buttons

The following buttons are used to set an edit point.

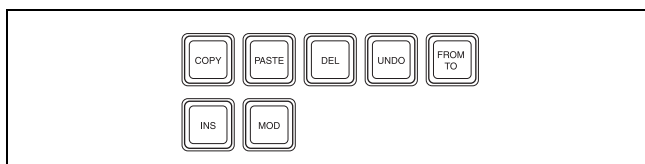


| Name                                 | Description   |
|--------------------------------------|---|
| GO TO KF/TC (Go to keyframe/timcode) | <ul style="list-style-type: none"> <li>Press this button, turning it on, to enter a numeric value from the numeric keypad control block, and move the edit point to the specified keyframe.</li> <li>To move the edit point to the specified timecode position, hold down the [SHIFT] button in the device control block, then press this button, turning it on, and enter the desired numeric value from the numeric keypad control block.</li> <li>During macro editing, pressing this button moves the edit point to the event number specified by numeric entry with the numeric keypad control block.</li> </ul> |
| PREV KF (previous keyframe)          | <ul style="list-style-type: none"> <li>When this button is pressed, the edit point moves to the keyframe immediately before the current time (the position where the effect is currently stopped).</li> <li>During macro editing, pressing this button moves the edit point to the event immediately before the current event.</li> </ul>   |

| Name                    | Description  |
|-------------------------|--|
| NEXT KF (next keyframe) | <ul style="list-style-type: none"> <li>When this button is pressed, the edit point moves to the keyframe immediately after the current time.</li> <li>During macro editing, pressing this button moves the edit point to the event immediately after the current event.</li> </ul> |

### 3 Editing buttons

The following buttons are used to edit keyframes.

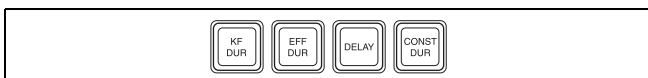


| Name         | Description  |
|--------------|--|
| FROM TO      | Press this button, turning it on, to enter numeric values from the numeric keypad control block, and select a specified range of keyframes (during macro editing, the specified range of events).  |
| INS (insert) | <ul style="list-style-type: none"> <li>When this button is pressed, a new keyframe is inserted after the current keyframe.</li> <li>Pressing this button while holding down the [SHIFT] button in the device control block inserts a new keyframe before the current keyframe.</li> <li>During macro editing, pressing this button moves the edit point to the event immediately after the current event.</li> <li>During macro editing, holding down the [SHIFT] button in the device control block and pressing this button inserts a new event before the current event.</li> </ul> |

| Name         | Description  |
|--------------|--|
| MOD (modify) | <ul style="list-style-type: none"> <li>When this button is pressed, the selected keyframe is modified with the values of the current keyframe.</li> <li>When the edit point is between two keyframes, the immediately preceding keyframe is modified.</li> <li>You can also select multiple keyframes, and modify them in a single operation.</li> <li>At this time, pressing this button while holding down the [SHIFT] button in the device control block modifies all selected keyframes with the changed values taken as relative values.</li> <li>During macro editing, pressing this button amends the selected event.</li> <li>You can also select multiple events, and edit them in a single operation.</li> </ul> |
| DEL (delete) | <ul style="list-style-type: none"> <li>When this button is pressed, the selected keyframe is deleted.</li> <li>When the edit point is between two keyframes, the immediately preceding keyframe is deleted.</li> <li>During macro editing, pressing this button deletes the selected event.</li> <li>You can also select multiple keyframes or macro events, and delete them in a single operation.</li> </ul>   |
| COPY         | <ul style="list-style-type: none"> <li>When this button is pressed, the selected keyframe (during macro editing, macro event) is copied.</li> <li>You can also select multiple keyframes or macro events, and copy them in a single operation.</li> </ul>  |
| PASTE        | <ul style="list-style-type: none"> <li>When this button is pressed, the deleted or copied keyframe (during macro editing, macro event) is inserted after the current keyframe (during macro editing, macro event).</li> <li>Pressing this button while holding down the [SHIFT] button in the device control block inserts the deleted or copied keyframe (during macro editing, macro event) before the current keyframe (during macro editing, macro event).</li> </ul>  |
| UNDO         | When this button is pressed, the last executed keyframe (during macro editing, macro event) insertion, modification, or deletion, or paste operation is canceled.  |

#### 4 Duration setting buttons

The following buttons are used to set the duration of a keyframe.



| Name                          | Description  |
|-------------------------------|--|
| KF DUR (keyframe duration)    | Press this button, turning it on, to set the keyframe duration of the selected keyframe, by numeric value entry from the numeric keypad control block.                           |
| EFF DUR (effect duration)     | Press this button, turning it on, to set the effect duration from the numeric keypad control block.  |
| DELAY                         | Press this button, turning it on, to enter a delay value from the numeric keypad control block.  |
| CONST DUR (constant duration) | <ul style="list-style-type: none"> <li>Select the duration mode.</li> <li>When this is lit, the mode is constant duration mode, and when off, variable duration mode.</li> </ul> |

#### 5 KF LOOP (keyframe loop) button

Press this button, turning it on, to execute the effect the specified number of times through the keyframes in the specified range.

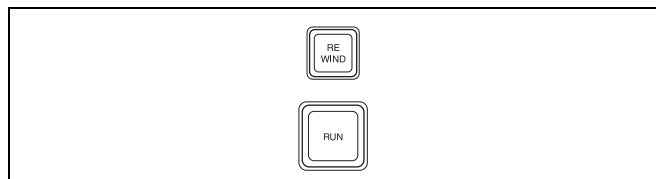
#### 6 PAUSE button

When this button is pressed, a pause is applied to the selected keyframe.

When editing a macro, press this button, turning it on, to include a pause event in the macro. The pause length can be set in the numeric keypad control block.

#### 7 Effect execution section

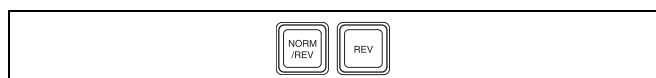
This section is used to execute an effect, and check the progress of the effect execution.



| Name          | Description   |
|---------------|---|
| RUN button    | <ul style="list-style-type: none"> <li>When this button is pressed, the effect is run from the first keyframe to the last keyframe. However, if a pause is set on a keyframe, the effect stops at that point.</li> <li>Press this button again to resume execution, and continue to the next pause point or the end of the effect.</li> </ul> |
| REWIND button | When this button is pressed, the currently recalled effect is rewound to the first keyframe.  |

#### 8 Effect execution direction selection buttons

The following buttons are used to set the direction of effect execution.



| Name                      | Description  |
|---------------------------|--|
| REV (reverse)             | <ul style="list-style-type: none"> <li>When this button is off, effect execution runs from the first keyframe to the last keyframe.</li> <li>When this button is lit, effect execution runs from the last keyframe to the first keyframe.</li> </ul> |
| NORM/REV (normal/reverse) | Press this button, turning it on, to reverse the direction of the effect when it reaches the last keyframe or first keyframe.  |

### 9 STOP NEXT KF (stop next keyframe) button

When this button is pressed, turning it on, the effect execution range is from the current time to the next keyframe.

### 10 EFF LOOP (effect loop) button

When the effect reaches the last keyframe with this button on, it returns to the first keyframe and repeats.

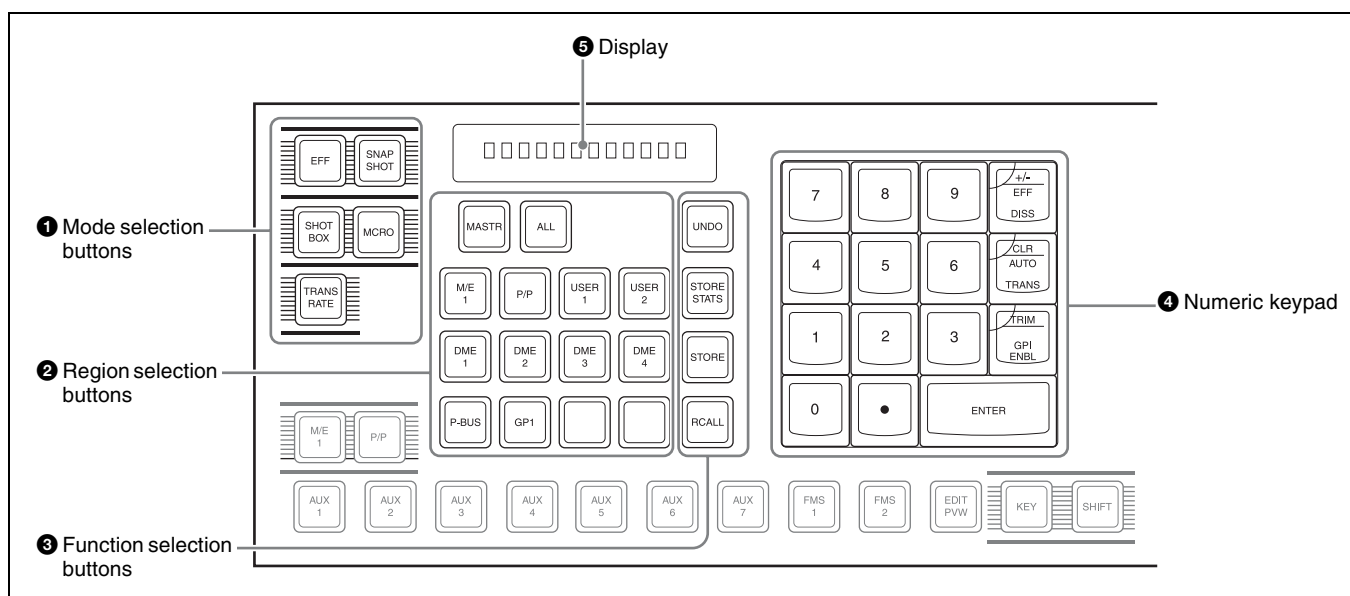
### 11 RUN CTRL (run control) button

When this button is on, you can execute keyframe effects without being affected by the STOP NEXT KF or EFF LOOP settings in the keyframe control block.

## Numeric Keypad Control Block

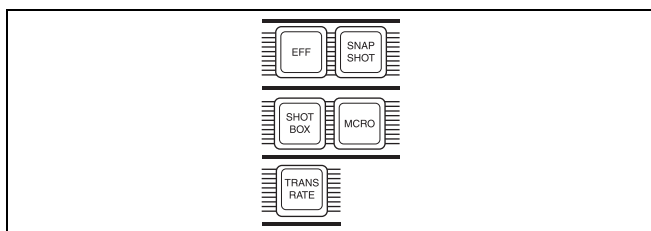
The numeric keypad control block is used for region selection, for saving and recalling snapshots, effects and shotboxes, for entering numeric values for trackball

operation and keyframe operation, and for transition rate entry.



### 1 Mode selection buttons

Pressing the following buttons changes the mode.



| Name         | Description                         |
|--------------|-------------------------------------|
| EFF (effect) | Press to save or recall an effect.  |
| SNAPSHOT     | Press to save or recall a snapshot. |
| SHOTBOX      | Press to save or recall a shotbox.  |

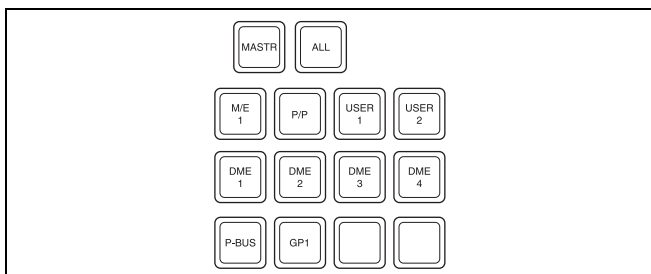
| Name                         | Description  |
|------------------------------|--|
| MCRO (macro)                 | Press to save, recall or edit a macro.   |
| TRANS RATE (transition rate) | <ul style="list-style-type: none"> <li>Press to set the transition rate.</li> <li>Hold down this button, and press one of the key row delegation buttons [KEY1] to [KEY8] in the cross-point control block to set an independent key transition rate.</li> </ul> |

### 2 Region selection buttons

These select the functional block (“region”) of the control panel to which operations apply.

You can select more than one region at the same time. The first button you press is taken as the reference region, and lights green, while the next pressed button lights amber.

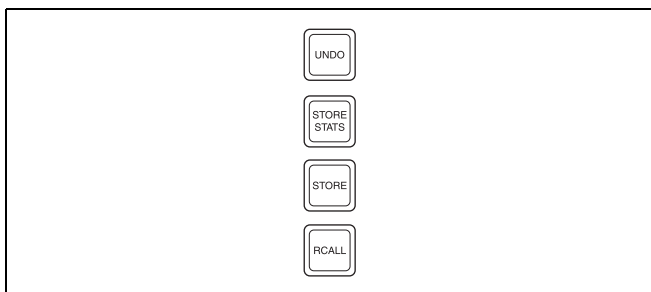
With the exception of the [MASTR] and [ALL] buttons, you can change the region assignment to the buttons as desired in the Setup menu.



| Name             | Description   |
|------------------|---|
| MASTR            | Press this, turning it on, to save region information in a master snapshot register or master timeline register, or to recall such region information.                |
| ALL              | <ul style="list-style-type: none"> <li>Select all regions.</li> <li>When any region is already selected, pressing this button makes all regions unselected</li> </ul> |
| M/E 1 and P/P    | Select the corresponding regions, M/E-1 and PGM/PST.  |
| USER 1 to USER 8 | Select the corresponding User regions.  |
| DME1 to DME8     | Select a DME channel.   |
| P-BUS            | Select the P-Bus region.  |
| GPI              | Select the GPI region.  |
| RTR              | Select the router region.   |
| DEV1 to DEV12    | Select the Device 1 to Device 12 regions respectively.  |
| MCRO             | Select the macro region.  |

### 3 Function selection buttons

The following buttons are used to switch the function.



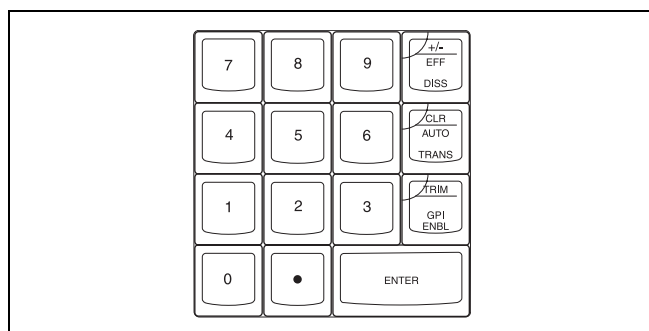
| Name | Description   |
|------|---|
| UNDO | After recalling a register, press this button to return to the state before recalling the register. |

| Name                         | Description   |
|------------------------------|---|
| STORE STATS (store status)   | <ul style="list-style-type: none"> <li>This lights amber when data is stored in a register.</li> <li>After saving data to a register, hold down this button and press the [UNDO] button to return the register to the state before the data was saved.</li> </ul> |
| STORE <sup>a)</sup>          | Press this button to switch to the mode for saving a snapshot, effect, shotbox or macro in a register.  |
| RCALL (recall) <sup>a)</sup> | Press this button to switch to the mode for recalling a snapshot, effect, shotbox or macro from a register.   |

a) [STORE] button or [RCALL] button flashes amber when one or more of the regions assigned to the Region selection buttons are not selected by the Region Select menu.

### 4 Numeric keypad

In addition to the buttons for numeric input, this includes buttons for adding attributes to snapshots.

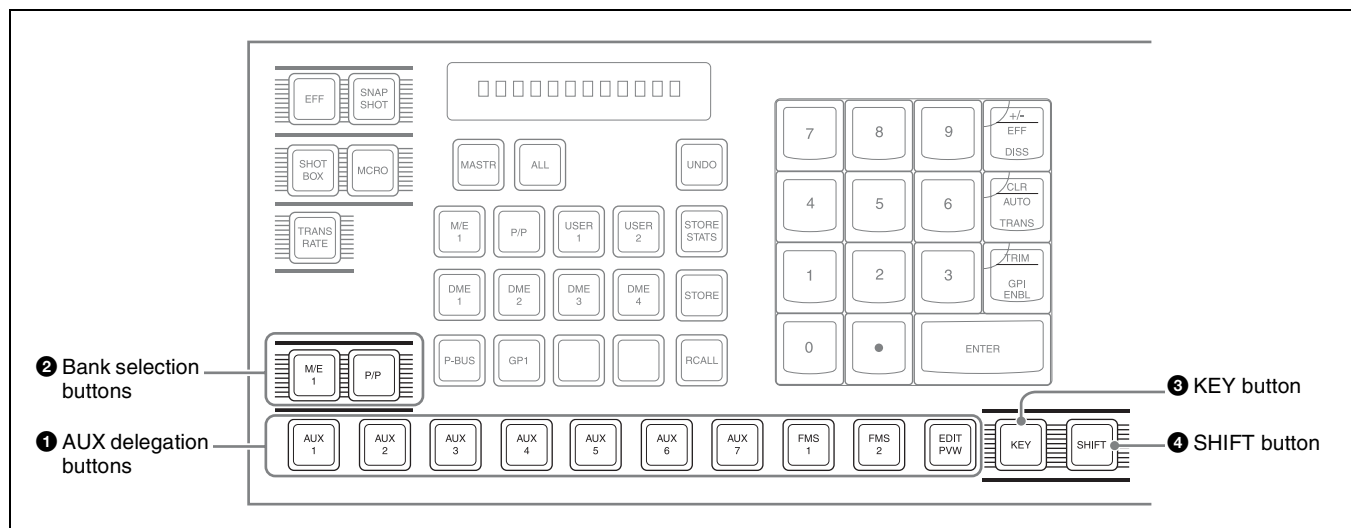


| Name                                   | Description   |
|--|---|
| 0 to 9                                 | Used to input numeric digits.   |
| . (period)                             | <ul style="list-style-type: none"> <li>Enters the decimal point.</li> <li>When the [TC] button is lit, enters "00."</li> <li>When the [EFF] button, [SNAPSHOT] button or [SHOTBOX] button is lit, this is used to find an empty register.</li> </ul>      |
| +/-/EFF DISS (effect dissolve)         | <ul style="list-style-type: none"> <li>Invert the sign, negative or positive.</li> <li>When the [SNAPSHOT] button is lit, applies the effect dissolve attribute to a snapshot.</li> </ul>   |
| CLR/AUTO TRANS (clear/auto transition) | <ul style="list-style-type: none"> <li>Clear an input value, returning to the previous state.</li> <li>When the [SNAPSHOT] button is lit, applies the auto transition attribute to a snapshot.</li> </ul>   |
| TRIM/GPI ENBL (enable)                 | <ul style="list-style-type: none"> <li>After entering a difference value to be added to an existing setting, press this button to confirm the change.</li> <li>When the [SNAPSHOT] button is lit, adds a GPI output attribute to the snapshot.</li> </ul> |
| ENTER                                  | Confirm an entered value.   |

### 5 Display

This shows the selected region name, register number, and entered numeric values.

## Auxiliary Bus Control Block



### 1 AUX delegation buttons

Press one of these buttons, turning it on, to select the bus to assign to the key row of the bank selected with the bank selection buttons.

These 10 buttons from left to right have ID numbers 1 to 10. When the [SHIFT] button is enabled, their ID numbers switch to 11 to 20. Pressing one of the buttons selects the bus assigned to the ID number. That is, you can select up to 20 buses using these AUX delegation buttons in combination with the [SHIFT] button. The assignment of buses to the ID numbers can be done in the Setup menu.

*For buses that can be selected, see “Bus Selection” (page 66).*

For each bank, the key row is shared between the auxiliary bus control block and cross-point control block. Priority is given to the control block in which the delegation button is last pressed. When priority is given to the cross-point control block, all these buttons go off.

### 2 Bank selection buttons

These select the bank for which the AUX delegation buttons are enabled.

### 3 KEY button

While this button is held down, you can use the cross-point row of buttons to select key signals.

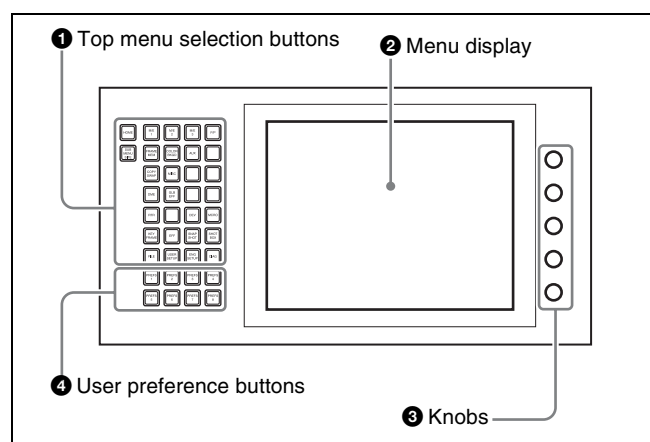
### 4 SHIFT button

While this button is enabled, the AUX delegation buttons have the shifted ID numbers. In a Setup menu, you can select one of the following three modes for this button.

- The button takes effect while being held down.
- Every time the button is pressed, it toggles between the shifted and unshifted states for the AUX delegation buttons.

- The button does not take effect even when pressed.

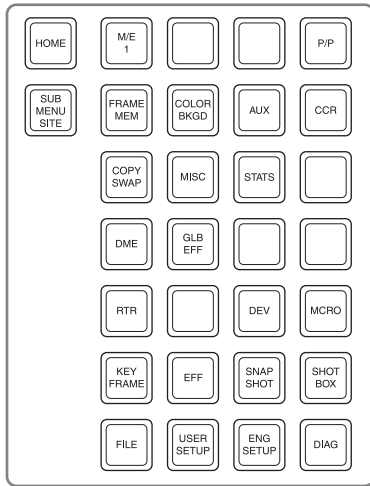
## Menu Control Block



### 1 Top menu selection buttons

These select the menu appearing in the menu display. It is also possible to change the assignment of these buttons in setup.

*For details, see “Assigning Functions to the Menu Control Block Top Menu and User Preference Buttons” in Chapter 19 (Volume 2).*



## 2 Menu display

This shows the menu currently in use.

## 3 Knobs

These adjust the parameter values appearing in the menu.

## 4 User preference buttons

These recall the functions or menus assigned to them in the Setup menu.

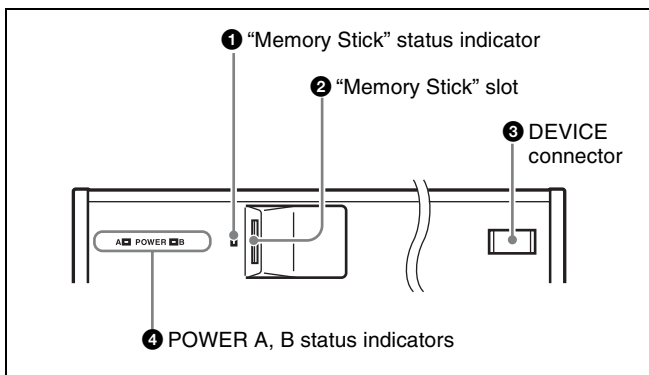
In the default setup, nothing is assigned to the [PREFS 1] to [PREFS 7] buttons.

It is also possible to change the assignment of these buttons in setup.

*For details, see “Assigning Functions to User Preference Buttons” in Chapter 19 (Volume 2).*

**PREFS 8 button:** When this button is on, control of an editor from the Remote1 port on the rear panel of the switcher is possible. However, even when it is off, control of the Edit PVW bus is always possible.

## “Memory Stick”/USB Connections Block



## 1 “Memory Stick” status indicator

Lights in red during access to a “Memory Stick.”

### Notes

Do not power the unit off or remove a “Memory Stick” when the “Memory Stick” status indicator is lit.

## 2 “Memory Stick” slot

Insert “Memory Sticks.” You can use it in software installation, and for saving and reading data, such as snapshot, keyframe, effect, and setup data.

*See the next item, “About “Memory Sticks”” for more information about the usable “Memory Sticks” and their handling.*

## 3 DEVICE connectors

There is a USB connector.

You can connect a device such as a mouse, keyboard, or USB storage that is equipped with a USB interface to any of these connectors.

*For details on the devices that can be connected, consult your Sony representative.*

## 4 POWER A, B status indicators

The status indicators light green when the unit is powered on.

The POWER B status indicator does not light when the optional HK-PSU11 Power Supply Unit is not supplied in the factory configuration.

## About “Memory Sticks”

### Usable “Memory Sticks”

This unit has been confirmed to operate with those of the following “Memory Sticks” that have a capacity of 8 GB (gigabytes) or less. However, operation with all “Memory Sticks” is not guaranteed.

- “Memory Stick”
- “Memory Stick PRO”
- “Memory Stick Duo”
- “Memory Stick PRO Duo”

### Notes

- When using a “Memory Stick PRO,” high-rate data transfer using parallel interface is not supported.
- A “MagicGate Memory Stick” can also be used, but this system does not support the MagicGate function.
- When using a “Memory Stick Duo,” be sure to use it with a “Memory Stick Duo Adaptor” (MSAC-M2 or equivalent). If you insert a “Memory Stick Duo” without using the adaptor, there is the possibility that the stick cannot be removed, resulting in a serious accident.



Handling “Memory Sticks”

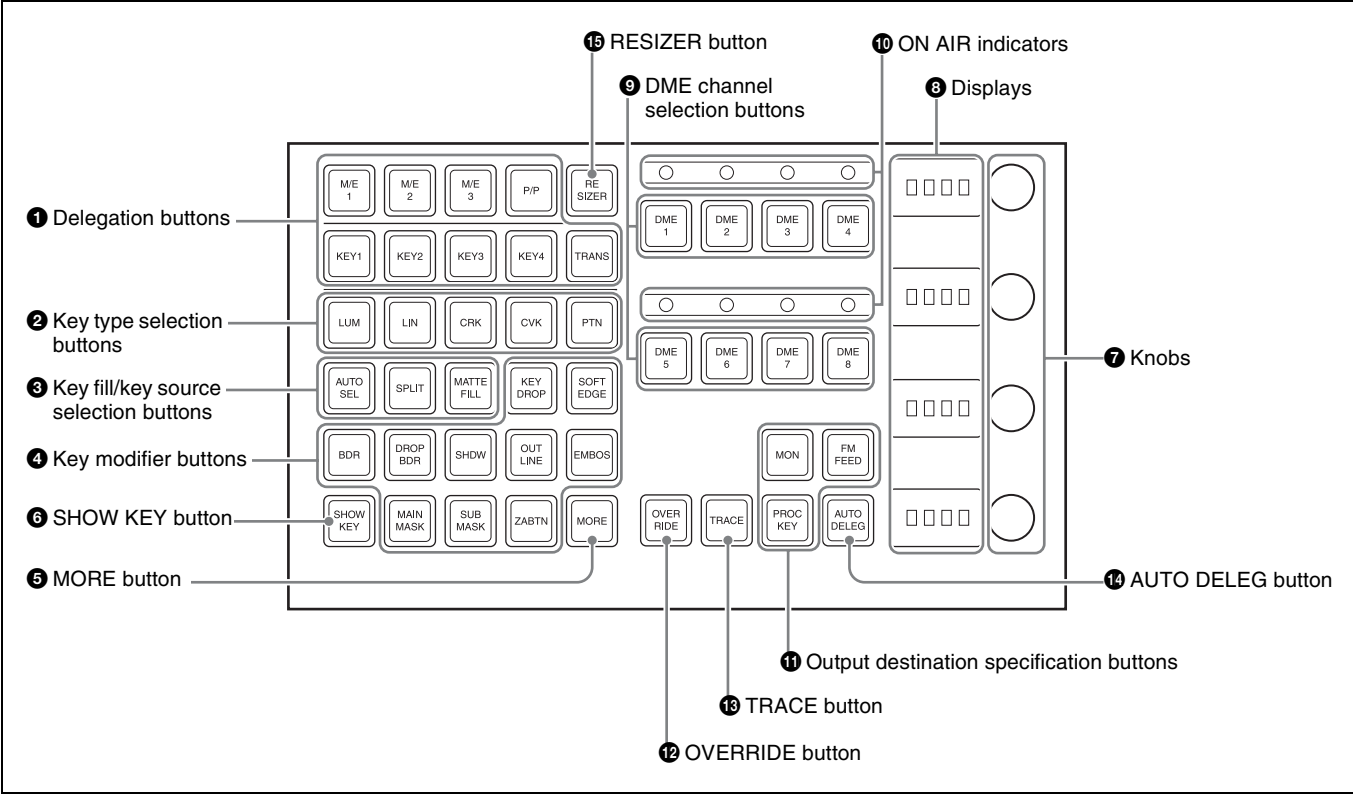
When using “Memory Sticks,” pay attention to the following points.

- Do not touch the connector of the “Memory Stick” with anything, including your finger or metallic objects.
- Do not attach anything other than the supplied label to the “Memory Stick” labeling position.
- Attach the label so that it does not stick out beyond the labeling position.

- Carry and store the “Memory Stick” in its case.
- Do not strike, bend, or drop the “Memory Stick.”
- Do not disassemble or modify the “Memory Stick.”
- Do not allow the “Memory Stick” to get wet.
- Do not use or store the “Memory Stick” in a location that is:
  - Extremely hot, such as in a car parked in the sun
  - Under direct sunlight
  - Very humid or subject to corrosive substances

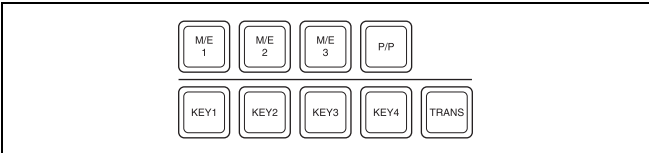
Key Control Block (MKS-8035 Key Control Module, Option)

Each of the M/E and PGM/PST banks includes eight keyers (for keys 1 to 8), and you can delegate this control block to any desired keyer. In this control block, you can adjust and modify keys.



1 Delegation buttons

Pressing the following buttons selects a keyer and an M/E or PGM/PST bank to which the key control block is delegated.



| Name           | Description  |
|----------------|--|
| M/E delegation | <p>Press one of the [M/E 1] to [M/E 5], and [P/P] buttons to select the bank (the M/E bank or PGM/PST bank) to which the key control block is delegated.</p> <p><i>For details of [M/E 4] or [M/E 5] button assignment, see “Assigning a Button for M/E-4 or M/E-5 Selection in the Setup Menu” (page 351) in Appendix.</i></p> <p><b>Notes</b></p> <ul style="list-style-type: none"><li>• When the MKS-9011 1M/E Control Panel is used, only the [P/P] is enabled.</li><li>• When the MKS-9012 2M/E Control Panel is used, only the [M/E 1] and [P/P] are enabled.</li></ul> |

| Name           | Description  |
|----------------|--|
| Key delegation | Press one of the [KEY1] to [KEY8] buttons to delegate the key control block to the corresponding keyer.<br><br><i>For details of assignment of keys 5 to 8, see “Assigning Buttons for Selection of Keys 5 to 8 in the Setup Menu” (page 352) in Appendix.</i>   |
| TRANS          | <ul style="list-style-type: none"> <li>By pressing this button, you can check the DME channel used for DME wipes on the M/E or PGM/PST bank.</li> <li>Also, by pressing this button, then pressing one of the DME channel selection buttons, you can preset the DME channel to be used when a DME wipe is selected as the transition type for the next transition.</li> <li>When presetting the DME channel for an independent key transition, hold down this button, then press one of the [KEY1] to [KEY8] buttons, turning the two buttons on, beforehand.</li> </ul> |

## ② Key type selection buttons

Press one of these buttons, turning it on, to select the desired key type.

Depending on the selected key type, various parameters are displayed, and you can set the values with the knobs. The following key types can be selected.

**LUM:** luminance key

**LIN:** linear key

**CRK:** chroma key

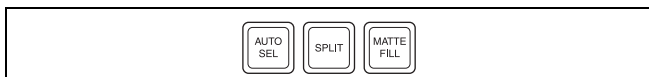
**CVK:** color vector key

**PTN:** key wipe pattern key

*For details, see “Key Types” (page 92).*

## ③ Key fill/key source selection buttons

Pressing the following buttons selects key fill and key source.



| Name                 | Description   |
|----------------------|---|
| AUTO SEL (selection) | <ul style="list-style-type: none"> <li>Use the signal selected on the key fill bus, and the paired key source signal. The setting of key fill and key source pairs is carried out in the Setup menu.</li> <li>To use the signal selected on the key fill bus as key source (self keying), press the [AUTO SEL] button and [SPLIT] button at the same time, so that both are off.</li> </ul> |

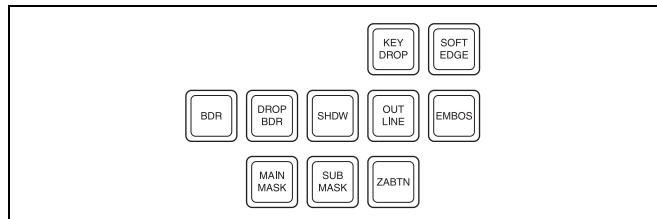
| Name       | Description  |
|------------|--|
| SPLIT      | <ul style="list-style-type: none"> <li>To use the signal selected on the key fill bus as key fill, and a signal separate from the signal assigned in a pair with key fill for key source, press this button, turning it on.</li> <li>To use the signal selected on the key fill bus as key source (self keying), press the [AUTO SEL] button and [SPLIT] button at the same time, so that both are off.</li> </ul> |
| MATTE FILL | <ul style="list-style-type: none"> <li>To use a color matte from the internal generator as key fill, press this button, turning it on. You can adjust the color matte using the knobs.</li> <li>When this button is off, the signal selected on the key fill bus is used as key fill.</li> </ul>   |

## ④ Key modifier buttons

To add an edge modifier to the key, press one of these buttons, turning it on.

Depending on the edge type selected, parameters appear in the displays, and you can set the values with the knobs.

To select a normal edge as the edge type, turn off the [BDR], [DROP BDR], [SHDW], [OUTLINE], and [EMBOS] buttons.



| Name                                 | Description  |
|--------------------------------------|--|
| KEY DROP <sup>a)</sup>               | <ul style="list-style-type: none"> <li>When the selected edge type is “normal” and soft edge is not selected or when drop border or shadow is selected, turning this button on lowers the key fill and key source position by four or eight scan lines as set in the key menu. To select 4H or 8H, use the Key menu.</li> <li>When the selected edge type is “normal” and soft edge is selected or when border, outline, or emboss is selected, this button lights automatically.</li> </ul> |
| BDR (border) <sup>a)</sup>           | Apply a border of a uniform thickness to the whole key.  |
| DROP BDR (drop border) <sup>a)</sup> | Apply a border to two sides of the key (for example, below and to the right, or below and to the left).  |
| SHDW (shadow) <sup>a)</sup>          | Apply a shadow to two sides of the key (for example, below and to the right, or below and to the left).  |
| OUTLINE                              | <ul style="list-style-type: none"> <li>Use the outline of the key.</li> <li>Use the key fill signal selected for the key in the edge portions.</li> </ul>  |



| Name              | Description  |
|-------------------|--|
| EMBOS<br>(emboss) | <ul style="list-style-type: none"> <li>Apply an embossing effect to the periphery of the key.</li> <li>When emboss is selected, you can use the dedicated color matte signal for the emboss function.</li> </ul> |
| MAIN MASK         | Press this button, turning it on, to enable the key mask using the main pattern.   |
| SUB MASK          | Press this button, turning it on, to enable the key mask using the sub pattern.  |
| ZABTN<br>(zabton) | Press this button, turning it on, to insert a translucent pattern behind the key.  |
| SOFT EDGE         | Press this button, turning it on, to soften the key edge portions.   |

a) When one of these buttons is selected, you can use a special color matte or a signal selected on the utility 1 bus for the edge.

### 5 MORE button

When there are more than four parameters, this button lights amber. When it is pressed, it changes from amber to green and the fifth and subsequent parameters are assigned to the knobs, allowing them to be adjusted.

### 6 SHOW KEY button

While this button is held down, a key processed key source signal is output from the specified output port. You can make the output specification independently for the edit preview and the preview of the M/E or PGM/PST bank in the Setup menu.

### 7 Knobs

Turn the knobs to adjust the parameter values.

### 8 Displays

Each display shows the initial letters of the parameter name and the parameter value (maximum three digits including a minus sign for a negative value).

### 9 DME channel selection buttons

Press one of these buttons, turning it on, to assign a DME channel to the keyer.

The number of valid DME channel selection buttons depends on the number of channels installed in the DME processor.

A maximum of four consecutively numbered DME channels from DME 1 to 8 can be assigned to one keyer. When the signal format is 1080P only, the consecutive channel combinations that can be selected are any of DME1 and DME2, DME3 and DME4, DME5 and DME6, or DME7 and DME8.

A DME channel assigned to a keyer cannot be selected on another keyer. However, using the override function it is possible to allocate a channel already allocated to another keyer to the currently selected keyer. If DME channel allocations have been made in a Setup menu, these buttons cannot be used to make DME channel allocations. Using

the trace function, it is possible to check which keyer a DME channel is allocated to.

### Notes

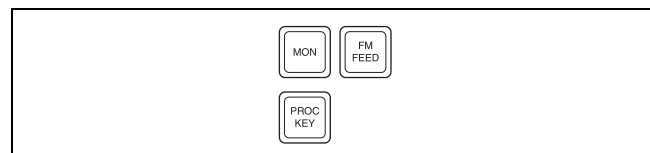
For the MKS-9011/9012, direct control of DME5 to 8 is not possible.

### 10 ON AIR indicators

These light red when the corresponding DME channels are included in the final program output.

### 11 Output destination specification buttons

Pressing the following buttons selects and checks the output signal.



| Name                        | Description  |
|-----------------------------|--|
| MON (DME monitor)           | <ul style="list-style-type: none"> <li>Hold down this button and press the selection button for the DME channel you want to assign to the monitor output; you can then monitor the output signal on the DME monitor output.</li> <li>While this button is held down, the DME channel selection buttons light as follows, allowing you to check the monitor assignment. <ul style="list-style-type: none"> <li><b>Lit amber:</b> DME channel that can currently be monitored</li> <li><b>Lit green:</b> DME channel currently assigned to the monitor output</li> </ul> </li> </ul> |
| FM FEED (frame memory feed) | <ul style="list-style-type: none"> <li>When you press this button, it lights momentarily amber, then for the currently selected keyer, the key processed signals are selected for frame memory sources 1 and 2.</li> <li>If a DME is selected on the currently selected keyer, the key fill and key source signals to which a DME effect is applied are assigned to frame memory sources 1 and 2; otherwise the key fill and key source signals are assigned.</li> <li>Carrying out a frame memory feed causes the [PROC KEY] button to light amber.</li> </ul>                    |

| Name                        | Description   |
|-----------------------------|---|
| PROC KEY<br>(processed key) | <ul style="list-style-type: none"><li>When this button is on, the key fill/source signal subjected to key processing or signal subjected to a DME effect on the currently selected keyer can be selected as a reentry signal (PROC V or PROC K) for the M/E or PGM/PST bank, on the auxiliary bus or the like.</li><li>If a DME is selected on the currently selected keyer, the key fill and key source signals to which a DME effect is applied are assigned; otherwise the key fill and key source are assigned.</li></ul> |

**12 OVERRIDE button**

To select a DME channel already allocated to another keyer or transition to the currently selected keyer (or transition), hold down this button, and press the DME channel selection button.

**13 TRACE button**

When a DME channel is already allocated to another keyer or transition, hold down this button, and press the corresponding DME channel selection button, to switch to the state in which the keyer (or transition) to which the DME channel is allocated is currently selected.

**14 AUTO DELEG (auto delegation) button**

When this button is on, the key delegation selection state of the key control block is linked to the next transition selection state of the transition control block.

**15 RESIZER button**

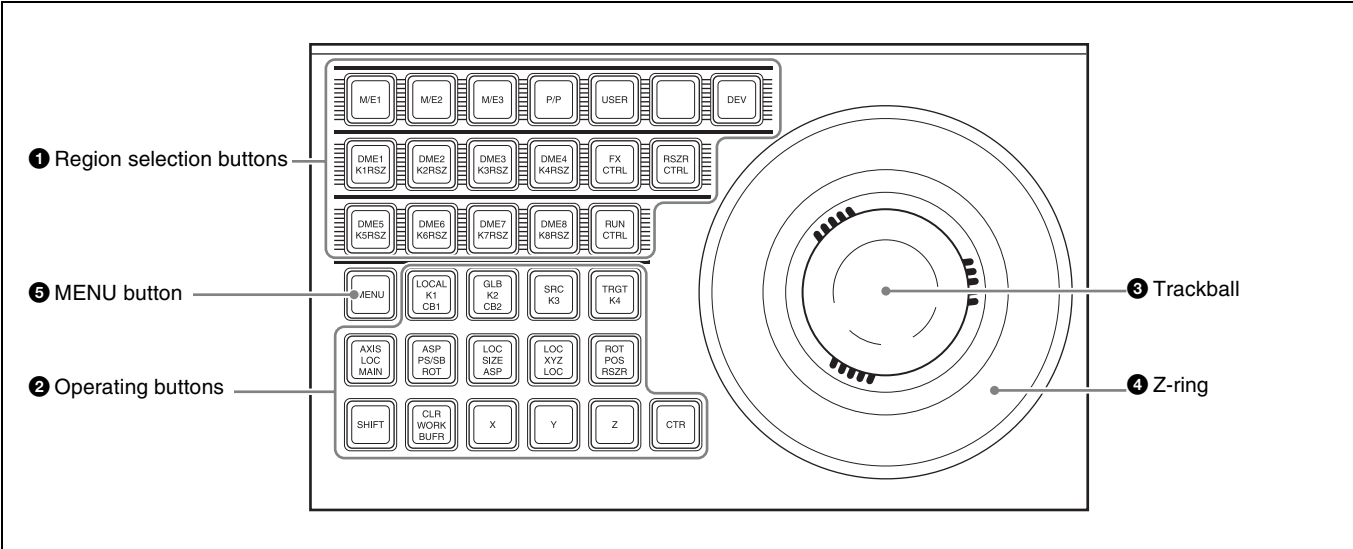
Enables or disables resizer.  
When this is set to On, you can turn the knob to shrink, magnify, or move a key.  
You can also rotate the key by pressing the following buttons assigned in the Setup menu in advance.  
**ROT X button:** Rotate the key in the horizontal direction.  
**ROT Y button:** Rotate the key in the vertical direction.

*For details on resizer, see page 118.*

**Device Control Block (MKS-8031TB Trackball Module, Option)**

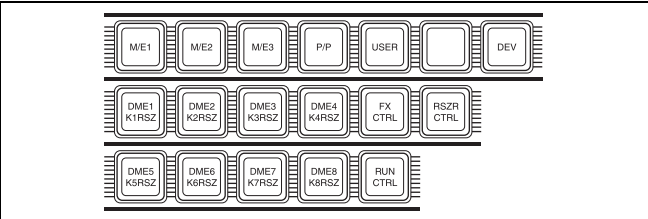
The device control block is used for three-dimensional transform operations using a DME, for wipe pattern

position setting, and for VTR/disk recorder or frame memory clip operations.



**1 Region selection buttons**

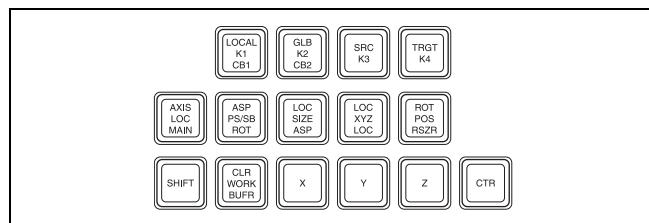
The operation mode allocated to the device control block depends on the selection state of the region selection buttons.



| Selected buttons        | Overview of assigned operation  |
|-------------------------|---|
| [M/E1] to [M/E5], [P/P] | <ul style="list-style-type: none"> <li>This enables the wipe pattern position setting (positioner) operation mode in the device control block.</li> <li>You can select multiple buttons simultaneously.</li> <li>When the MKS-9011 1M/E Control Panel is used, only the [P/P] is enabled. When the MKS-9012 2M/E Control Panel is used, only the [M/E1] and [P/P] are enabled.</li> </ul> <p><i>For details of [M/E4] or [M/E5] button assignment, see “Assigning a Button for M/E-4 or M/E-5 Selection in the Setup Menu” (page 351) in Appendix.</i></p>  |
| [USER]                  | This enables pattern position setting used for color backgrounds.   |
| [DME 1] to [DME 8]      | <ul style="list-style-type: none"> <li>This enables the three-dimensional transform operation mode in the device control block.</li> <li>Press a button, turning it on, to select a DME channel.</li> <li>You can select multiple buttons simultaneously.</li> <li>The number of valid buttons depends on the number of DME processor channels installed.</li> </ul>  |
| [DEV]                   | <ul style="list-style-type: none"> <li>This enables the VTR/disk recorder/frame memory operation mode in the device control block.</li> <li>Each button functions as follows.<br/>(From upper left to right in the above figure)<br/>[M/E1] to [M/E3]: DEV1 (device 1) to DEV3 (device 3)<br/>[P/P]: DEV4 (device 4)<br/>[USER]: FM1CLIP (frame memory clip 1)<br/>[FX CTRL]: FM2CLIP (frame memory clip 2)<br/>[DME1] to [DME4]: DEV5 (device 5) to DEV8 (device 8)<br/>[Unused]: FM LOOP (frame memory loop)<br/>[DME5] to [DME8]: DEV9 (device 9) to DEV12 (device 12)</li> <li>To exit from this mode, press the [DEV] button again, turning it off.</li> </ul> |
| [RUN CTRL]              | This enables the effect run control mode in the device control block.   |
| [RSZR CTRL]             | <ul style="list-style-type: none"> <li>This enables the resizer control mode in the device control block.</li> <li>In resizer control mode, select the key with the region selection button [K1RSZ] to [K8RSZ].</li> </ul> <p><i>For details on resizer, see page 118.</i></p>  |
| [FX CTRL]               | <p>Leave this button off for operation.</p> <p><i>Alternatively, for details of operation of this button, refer to the help information for the MPES-FX01 Programmable Effector software.</i></p>   |

## ② Operation buttons

The following buttons are used to carry out the corresponding operations. Function of each button varies with the operation mode.



### When the positioner operation mode is enabled

| Name                 | Description   |
|----------------------|---|
| K1 CB1 <sup>a)</sup> | <ul style="list-style-type: none"> <li>Press this button to enable wipe pattern position setting for key 1 (DSK1).</li> <li>When the [USER] button is selected, pattern position setting for color background 1 is enabled.</li> </ul>  |
| K2 CB2 <sup>a)</sup> | <ul style="list-style-type: none"> <li>Press this button to enable wipe pattern position setting for key 2 (DSK2).</li> <li>When the [USER] button is selected, pattern position setting is enabled for color background 2.</li> </ul>  |
| K3 <sup>a)</sup>     | Press this button to enable wipe pattern position setting for key 3 (DSK3).   |
| K4 <sup>a)</sup>     | Press this button to enable wipe pattern position setting for key 4 (DSK4).   |
| MAIN <sup>a)</sup>   | Press this button to enable main wipe pattern position setting for normal transitions.  |
| SB <sup>a)</sup>     | Press this button to enable sub wipe pattern position setting for normal transitions.   |
| POS                  | <ul style="list-style-type: none"> <li>Press this button to enable pattern movement in the X-axis and Y-axis directions with the trackball.</li> <li>When the [USER] button is selected, this enables the trackball to move the pattern in the X-axis and Y-axis directions, and the Z-ring to adjust the size of the pattern.</li> </ul> |
| X, Y, Z              | These restrict the axes affected by the trackball and Z-ring to the X-, Y- or Z-axis.   |
| CTR (center)         | <ul style="list-style-type: none"> <li>When this button is pressed, the pattern position returns to the center.</li> <li>When the [USER] button is selected, the pattern size also returns to 50.00.</li> </ul>   |
| CLR WORK BUFR        | These are not used in positioner operation mode.  |

a) Among these buttons, you can select multiple buttons.

### When the three-dimensional transform operation mode is enabled

The buttons are used for three-dimensional DME transformations.

*For details, see “Three-Dimensional Transformation Operations” (page 238).*

### When the VTR/disk recorder/frame memory operation mode is enabled

The buttons are used for VTR control or playback of frame memory clips.

For details, see “Controlling the Tape/Disk Transport” in Chapter 12 (Volume 2).

### When the resizer control mode is enabled

| Name   | Description  |
|--|--|
| LOC SIZE<br>(ASP:<br>aspect)                     | <ul style="list-style-type: none"> <li>Pressing this button and operating the trackball or Z-ring changes the aspect ratio of a key to which the resizer function is applied to.</li> <li>When this button is held down, the trackball or Z-ring operation is switched to fine control (fine mode).</li> </ul>                   |
| LOC XYZ<br>(LOC:<br>location)                    | <ul style="list-style-type: none"> <li>Pressing this button and operating the trackball or Z-ring moves, shrinks, or magnifies a key to which the resizer function is applied.</li> <li>When this button is held down, the trackball or Z-ring operation is switched to fine control (fine mode).</li> </ul>                     |
| ROT<br>(RSZR:<br>resizer)                        | Press this button, turning it on, to enable the resizer.   |
| ASP PS<br>(ROT:<br>Rotation)                     | <ul style="list-style-type: none"> <li>Pressing this button and operating the trackball or Z-ring rotates the key to which the resizer function is applied or adjusts perspective.</li> <li>When this button is held down, the trackball or Z-ring operation is switched to fine control (fine mode).</li> </ul>                 |
| SHIFT/CLR<br>WORK<br>BUFR (clear<br>work buffer) | <ul style="list-style-type: none"> <li>Pressing this button once returns the two-dimensional transformation settings to the defaults.</li> <li>Pressing the [CLR WORK BUFR] button twice, or holding down [SHIFT] and pressing the [CLR WORK BUFR] button returns all resizer parameter values to the defaults.</li> </ul>       |
| X, Y, Z  | These restrict the axes affected by the trackball and Z-ring to the X-, Y- or Z-axis.  |
| SHIFT/CTR<br>(center)                            | <ul style="list-style-type: none"> <li>Pressing this button once changes the two-dimensional transformation settings to the closest detent values.</li> <li>Pressing the [CTR] button twice, or holding down [SHIFT] and pressing the [CTR] button returns the two-dimensional transformation values to the defaults.</li> </ul> |

### ③ Trackball

The effect of operation depends on the operating mode as follows.

### When the positioner operation mode is enabled

By moving this, you can move the pattern in the X-axis and Y-axis directions.

### When the three-dimensional transform operation mode is enabled

Move the trackball to control the X- and Y-axes in a three-dimensional transform.

When the [SRC] or [TRGT] button is held down, the trackball operation is switched to fine control (fine mode).

### When the resizer control mode is enabled

By turning the trackball, you can move in the X and Y directions of the key to which the resize is applied, change the aspect ratio, and rotate around the X-axis and Y-axis. When the [LOC SIZE], [LOC XYZ], or [ASP PS] button is held down, the trackball operation is switched to fine control (fine mode).

### ④ Z-ring

The effect of operation depends on the operating mode as follows.

### When the positioner operation mode is enabled

When the [USER] button is selected, by turning the ring you can adjust the size of the pattern.

### When the three-dimensional transform operation mode is enabled

Turn this ring to control the Z-axis in a three-dimensional transform.

When the [SRC] or [TRGT] button is held down, the Z-ring operation is switched to fine control (fine mode).

### When the effect run control mode is enabled

By turning the Z-ring, you can run the keyframe effect, independent of the STOP NEXT KF, EFF LOOP and similar settings in the keyframe control block. Turn clockwise to run the effect in the normal direction, and counterclockwise for the reverse direction.

### When the VTR/disk recorder/frame memory operation mode is enabled

Turning the Z-ring controls the tape transport/disk drive/frame memory clip operations, at a speed determined by the operating buttons. Turn clockwise for the normal direction, and counterclockwise for the reverse direction.

### When the resizer control mode is enabled

By turning the ring, you can zoom the key to which the resizer is applied, and change the aspect ratio and perspective.

When the [LOC SIZE], [LOC XYZ], or [ASP PS] button is held down, the trackball operation is switched to fine control (fine mode).

### 5 MENU button

Press this button, turning it on, to enable adjusting the parameters allocated to the knobs in the menu using the trackball and Z-ring.

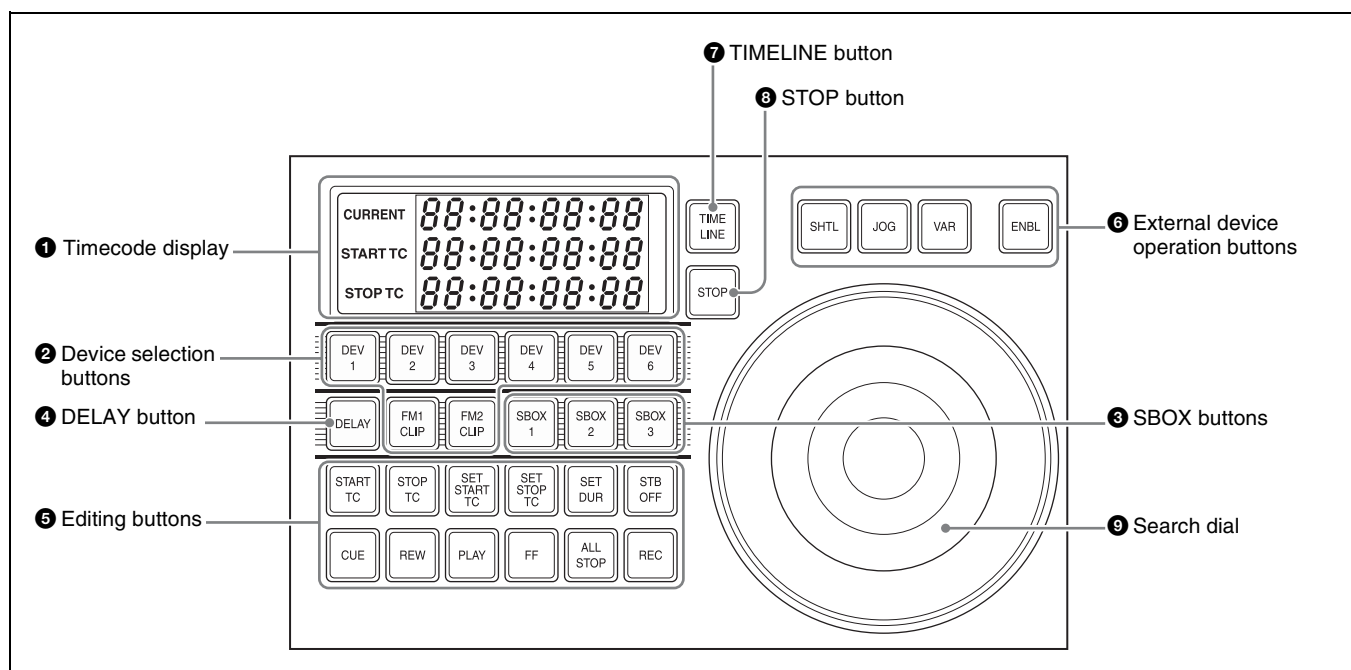
In the case of the DME menu, the operation applies to the selected DME channel.

In VTR/disk recorder/frame memory operation mode, press this button, setting it to On, to make it possible to carry out timeline start/stop point setting operation for the device selected with the device selection buttons (timeline setting mode).

## Device Control Block (MKS-8036A Search Dial Module, Option)

Using the device control block (MKS-8036A search dial module <sup>1)</sup>, option), you can directly operate an XDCAM, disk recorder, VTR or other external device, frame memory clip, or shotbox. The device control block (MKS-8031TB trackball module, option) can be used together.

1) The product name of the MKS-8036A is “device control module,” but in this manual it is referred to as “search dial module” to distinguish it from the MKS-8031TB trackball module.



### 1 Timecode display

This shows the current time (CURRENT) and the start and stop point timecode values for the current reference device (START TC, STOP TC). When you press a device selection button, the button lights, selecting the assigned device as the reference device, and displaying its setting value.

In the case of the SBOX buttons, the display does not change. When the operation applies to a VTR/disk recorder, the displayed setting value depends on whether the [TIMELINE] button is on or off, as follows.

**When the [TIMELINE] button is on:** Displays the start and stop points of the last set keyframe on the timeline. When the keyframe number is changed and the last register and keyframe change, the display also changes (timeline setting mode).

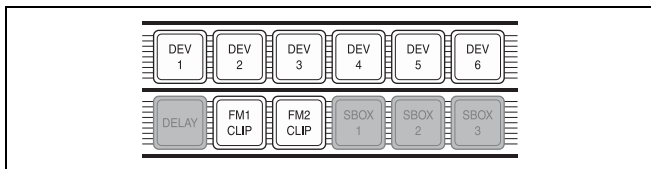
**When the [TIMELINE] button is off:** Displays the Cueup & Play (rewind action) start and stop points.

### 2 Device selection buttons

These buttons are used for selecting assigned external devices or frame memory clips. Each button can only be assigned to a single device. Carry out the assignment in the Setup menu.

*For details, see “Assigning Functions to the Device Control Block” in Chapter 19 (Volume 2).*

To select an assigned device, press the corresponding button, which lights green. To select more than one device simultaneously, hold down the button for the first selection, while pressing the buttons for the other selections in turn. The second and subsequent selected buttons light amber. If you press another button without holding down the first selected button, the second button will be the reference device and light green.



| Name               | Description                            |
|--------------------|--|
| DEV1 to DVE6       | Assign external devices DEV1 to DEV12. |
| FM1 CLIP, FM2 CLIP | Assign frame memory clips FM1 to FM8.  |

### ③ SBOX (shotbox) buttons

Assign a shotbox saved in registers 1 to 99. When you press a button, the assigned shotbox is selected, and executed.

Carry out the assignment in the Setup menu.

*For details, see “Assigning Functions to the Device Control Block” in Chapter 19 (Volume 2).*

You can freely assign the portions for device selection, SBOX, and [DELAY] buttons in setup.

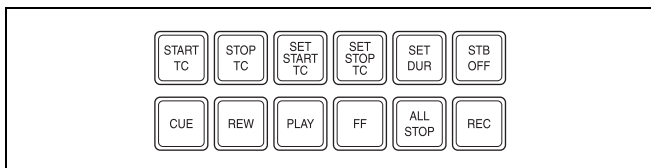
### ④ DELAY button

When pressed, this button lights green, the numeric keypad control block display changes to DELAY\_\_ : , and you can set the start delay time for the selected device. The setting range is from 00:00 to 59:29 (depends on the video format). This button goes off when another timecode setting button ([START TC], [STOP TC], [SET START TC], [SET STOP TC], or [SET DUR]) is pressed. The [DELAY] button can be set as a device selection button or an SBOX button in the Setup menu. Carry out the assignment in the Setup menu.

*For details, see “Assigning Functions to the Device Control Block” in Chapter 19 (Volume 2).*

### ⑤ Editing buttons

These carry out Cueup & Play (rewind action) operations on material, and timeline settings. These operations are only valid while a device is selected with the device selection buttons.



| Name                               | Description   |
|------------------------------------|---|
| START TC                           | Press this button to set the timecode of the start point at that time. The timecode of the start point is updated to the current time each time this button is pressed. When the device the operation applies to is a VTR/disk recorder, the start point updated by the setting of the [TIMELINE] button is as follows.<br><b>When the [TIMELINE] button is On:</b> start point of the timeline<br><b>When the [TIMELINE] button is Off:</b> start point of Cueup & Play  |
| STOP TC                            | Press this button to set the timecode of the stop point at that time. The timecode of the stop point is updated to the current time each time this button is pressed. When the device the operation applies to is a VTR/disk recorder, the stop point updated by the setting of the [TIMELINE] button is as follows.<br><b>When the [TIMELINE] button is On:</b> stop point of the timeline<br><b>When the [TIMELINE] button is Off:</b> stop point of Cueup & Play   |
| SET START TC, SET STOP TC, SET DUR | <ul style="list-style-type: none"> <li>When pressed, these buttons light green, “START TC”, “STOP TC” or “DUR” appears in the numeric keypad control block display, and you can enter a timecode from the numeric keypad. If you enter a numeric value and press the [ENTER] button, the button goes off, whereas if you press the [ENTER] button without entering a numeric value, the numeric keypad control block display shows “--:--:--”. If the timecode has been set correctly, the entered numeric value appears in the timecode display.</li> <li>To exit the numeric value entry mode, either repeat pressing the same button, or press a different numeric keypad control block linked button, or a mode selection button such as the [EFF] and [SNAPSHOT] buttons in the numeric keypad control block.</li> </ul> |
| STB (standby) OFF                  | <ul style="list-style-type: none"> <li>When pressed, this button flashes amber, and the device selected with the device selection buttons exits from the standby mode.</li> <li>This button cannot be used for frame memory clip operations.</li> </ul>   |
| CUE                                | <ul style="list-style-type: none"> <li>When pressed, this button flashes amber together with the [ALL STOP] button, and the device selected with the device selection button is cued up to the start point of the material.</li> <li>When more than one device is selected, the amber flashing continues until the reference device is cued up, and when the cueing up is finished, this button lights green.</li> </ul>  |
| REW                                | When pressed, this button lights amber, and material of the device selected with the device selection buttons is rewind.  |



| Name     | Description  |
|----------|--|
| PLAY     | <ul style="list-style-type: none"> <li>When pressed, this button lights amber, and the device selected with the device selection buttons plays. The playback stops not only if the [STOP] button is pressed, but also if any of the [STB OFF], [SHTL], [JOG], [CUE], [REW], [PLAY], [FF], and [ALL STOP] buttons is pressed.</li> <li>When the [VAR] button is pressed while the device is playing back, the device plays at one times normal speed in variable mode.</li> </ul> |
| FF       | When pressed, this button lights amber, and the material of the device selected with the device selection buttons is fast forwarded.   |
| ALL STOP | <ul style="list-style-type: none"> <li>When pressed, all device material playback stops.</li> <li>During cueing up of any of the devices, this button flashes amber, and when all cueing up operations are completed, it lights green.</li> </ul>  |
| REC      | When pressed simultaneously with the [PLAY] button, this button lights red (the [PLAY] button lights amber), and the image from the selected device is recorded.   |

## 6 External device operation buttons

Pressing the following buttons selects the search dial mode.



| Name           | Description  |
|----------------|--|
| ENBL (enable)  | When this is pressed, turning it on, the search dial [VAR], [JOG], and [SHTL] button operations are enabled. |
| VAR (variable) | Sets the search dial to variable mode.   |
| JOG            | Sets the search dial to jog mode.  |
| SHTL (shuttle) | Sets the search dial to shuttle mode.  |

## 7 TIMELINE button

Press to switch the device selected with the device selection buttons to timeline setting mode.

## 8 STOP button

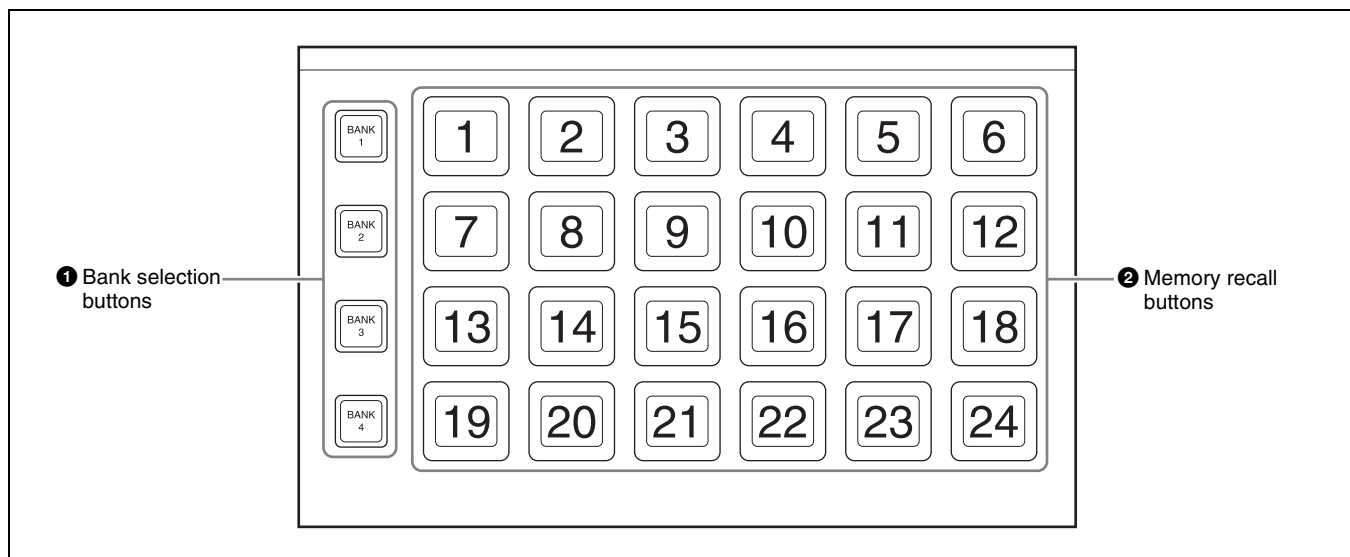
When pressed, this lights amber, and operation of the device selected with the device selection buttons stops.

## 9 Search dial

Use this for search and other operations on the material of an external device.

*For details, see “Controlling Tape/Disk Transport” in Chapter 12 (Volume 2).*

## Utility/Shotbox Control Block (MKS-8033 Utility/Shotbox Module, Option)



## 1 Bank selection buttons

Press any of the [BANK1] to [BANK4] buttons to select a bank of 24 memory recall buttons. The selected button lights amber.

## 2 Memory recall buttons

You can use these buttons to recall frequently used menus, utility functions, shotbox registers, or macro registers that you have assigned.

When a utility function is allocated to a button, the button lights orange (or green depending on the status), and the allocated function name appears.

Pressing the button executes the allocated function. When the function constitutes a switching on/off operation, the button lights green; otherwise, it only momentarily lights green.

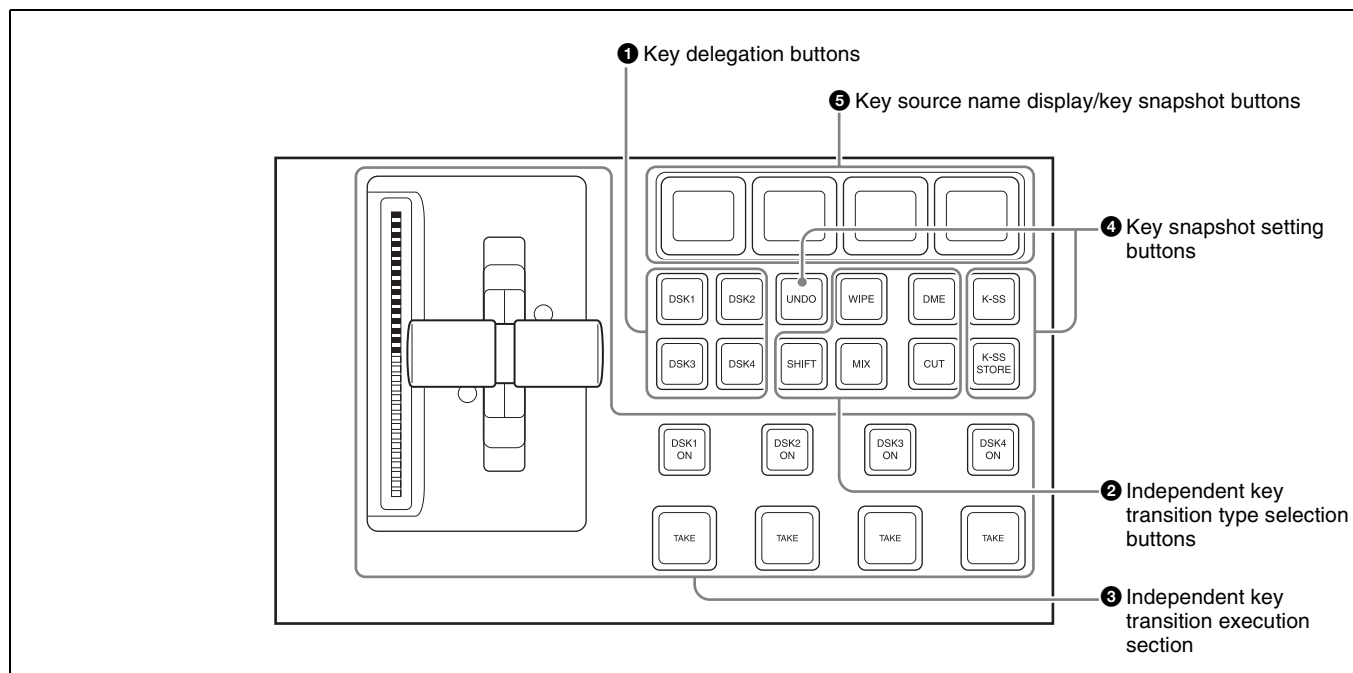
When a shotbox register or macro register recall is assigned to a button, the button lights orange, and the assigned register name appears (if the register is empty, the button goes off). In the case of a shotbox function, pressing the button executes the assigned shotbox function, and the

button lights yellow. In the case of a macro register, pressing the button executes the assigned macro, and the button flashes yellow.

You can also assign enabling and disabling of macro attachment to use as the [MCRO ATTCH ENBL] button. You can make a setup setting such that when the [MCRO ATTCH ENBL] button is On, the buttons for which a macro attachment is set light.

For details, see “Assigning a Function to a Memory Recall Button in the Utility/Shotbox Control Block” in Chapter 19 (Volume 2).

## Downstream Key Control Block (MKS-8032 DSK Fader Module, Option)



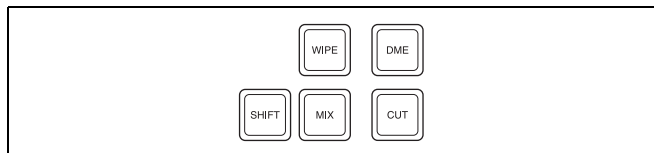
### 1 Key delegation buttons

Press one of the [DSK1] to [DSK4] buttons to delegate this control block to the corresponding keyer.

When the MKS-9012 2M/E Control Panel is used, using the Setup menu, it is possible to assign these to DSK5 to DSK8 or M/E keys 1 to 8.

### 2 Independent key transition type selection buttons

Press one of these buttons, turning it on, to select the downstream key transition type.

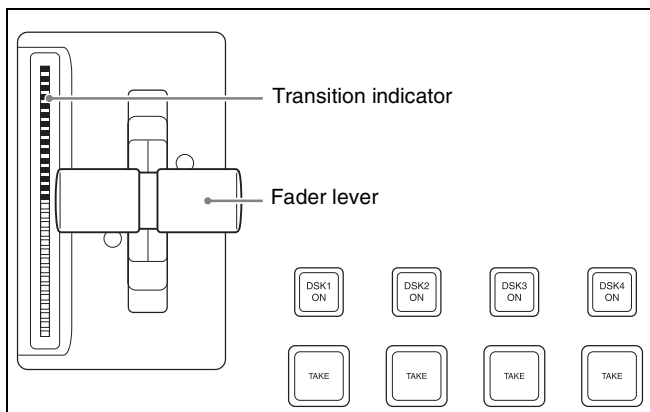


| Name  | Description   |
|-------|---|
| MIX   | Carry out a dissolve with the key selected with the key delegation buttons.   |
| WIPE  | Carry out a wipe with the key selected with the key delegation buttons.   |
| DME   | This switches the key selected with the key delegation buttons, using a DME wipe.   |
| CUT   | Instantaneously insert or delete the key selected with the key delegation buttons.  |
| SHIFT | When setting is made in the Setup menu to allow a different transition type for inserting or deleting a key, it is possible to display and set the transition after the next transition while this button is held down. |

### 3 Independent key transition execution section

This section is used to carry out an independent key transition, and check the progress of the transition.





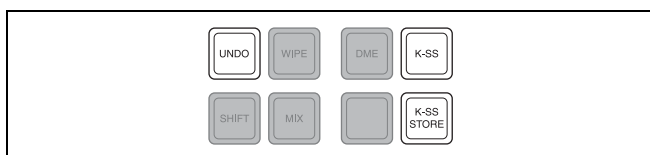
### 5 Key source name display/key snapshot buttons

These display the selected source name for each corresponding keyer. In snapshot mode, they correspond to registers 1 to 4 of the selected keyer, and pressing the button saves or recalls a key snapshot.

| Name  | Description   |
|---|---|
| DSK1 (downstream key 1) ON to DSK4 ON buttons | <ul style="list-style-type: none"> <li>Press these to instantaneously cut the downstream keys 1, 2, 3, and 4 in.</li> <li>When a key is already inserted, pressing the button cuts it out.</li> <li>When the key corresponding to the button appears in the final program output, the button lights red, and otherwise lights amber.</li> </ul> |
| TAKE buttons                                  | <ul style="list-style-type: none"> <li>These correspond to downstream keys 1, 2, 3, and 4 from left to right; press to execute an auto transition. The transition starts immediately, and the button lights amber.</li> <li>When the transition completes, the button goes off.</li> </ul>  |
| Fader lever                                   | Move this vertically to carry out a manual downstream key transition.   |
| Transition indicator                          | This comprises multiple LEDs, which show the progress of the downstream key transition.   |

### 4 Key snapshot setting buttons

Pressing the following buttons carries out key snapshot operations.



| Name                            | Description   |
|---------------------------------|---|
| K-SS (key snapshot)             | This enables key snapshot mode.   |
| K-SS STORE (key snapshot store) | To save a key snapshot, hold down this button, and press the key source name display/key snapshot button for the register you want to save. |
| UNDO (key snapshot recall undo) | This undoes the last key snapshot recall.   |

# Basic Menu Operations

## Overview

In the MVS system, all detailed settings for basic operations such as transitions, keys, wipes, and DME are made in menus.

### Notes

On the MVS-8000X, M/E-5 cannot be used. M/E-5 operation and settings are disabled, even if they appear in the menu.

For details, see “Disabled Operation and Settings Menus” (page 348).

## About the Top Menu List

When the control panel is powered on, the top menu list appears as shown below.



You can also display this by selecting VF1 ‘Top Menu List’ after pressing the [HOME] button at the upper left in the top menu selection button area of the menu control block.

## To display the top menu from the top menu list

In the same way as for the top menu selection buttons in the menu control block, press each button to display the particular top menu in the menu display.

### Notes

- The arrangement of buttons in the top menu list and the default arrangement of the top menu selection buttons may be different.
- Changing the top menu selection button assignment in setup has no effect on the top menu list.

## To shut down the menus

Press [Shutdown] at the lower right.

This operation is the same as the shut down operation in the top menu window (see page 57).

## Accessing Menus

You can use any of the following methods to access a menu, and the initially displayed menu page depends on the method used.

### Pressing a top menu selection button in the menu control block

This displays the page you last accessed in the particular menu. After initially powering on the system, however, the page of VF1 - HF1 of the particular menu is always selected.

For details of the menus which can be recalled, see “Menus accessed from a top menu selection button” (page 53).

For details of the VF buttons and HF buttons, see “Interpreting the Menu Screen” (page 54).

### Pressing a button other than a top menu button twice in rapid succession

Depending on the button, this may display a fixed page or the page selected last time you accessed the menu.

For details of the menus which can be recalled, see “Menus Accessed by Pressing a Button Twice” (page 354).

## Press the menu page selection button at the top left of the menu display

The top menu window appears; press the top menu selection button for the particular menu, or enter the menu number with the numeric keypad, and press [Enter].

## Menus accessed from a top menu selection button

| Buttons    | Menus             | Function  | See  |
|------------|-------------------|---|--|
| HOME       | Home              | Recalling menus using the top menu list or shortcut menu                                    | Top menu list: <i>page 52</i> Shortcut menu: <i>page 62</i>                  |
| M/E 1      | M/E-1             | Transition, keys, and wipe settings for the M/E-1 bank                                      | <i>page 76</i> (transitions), <i>page 95</i> (keys), <i>page 127</i> (wipes) |
| P/P        | PGM/PST           | Transition, downstream key, and wipe settings for the PGM/PST bank                          |  |
| FRAME MEM  | Frame Memory      | Frame memory settings   | <i>page 162</i>  |
| COLOR BKGD | Color Bkgd        | Color background settings   | <i>page 186</i>  |
| AUX        | Aux               | AUX bus settings  | <i>page 193</i>  |
| CCR        | CCR               | Color corrector settings  | <i>page 197</i>  |
| COPY SWAP  | Copy/Swap         | Copy and swap settings  | <i>page 188</i>  |
| MISC       | Misc              | Settings for side flag, safe title, transition settings, and connection to external devices | <i>page 190</i>  |
| STATS      | Status            | Status display  | <i>page 194</i>  |
| DME        | DME               | DME special effect settings   | <i>page 243</i>  |
| GLB EFF    | Global Effect     | Global effect settings  | <i>page 304</i>  |
| RTR        | Router            | Router settings   | <i>page 194</i>  |
| DEV        | Device            | Settings for external device operation  | Chapter 12 (Volume 2)  |
| MCRO       | Macro             | Macro register and macro timeline settings  | Chapter 16 (Volume 2)  |
| KEY FRAME  | Key Frame         | Keyframe settings   | Chapter 13 (Volume 2)  |
| EFF        | Effect            | Keyframe effect register settings   | Chapter 13 (Volume 2)  |
| SNAPSHOT   | Snapshot          | Snapshot register settings  | Chapter 14 (Volume 2)  |
| SHOTBOX    | Shotbox           | Shotbox register settings   | Chapter 15 (Volume 2)  |
| FILE       | File              | File settings   | Chapter 17 (Volume 2)  |
| USER SETUP | User setup        | User setup settings   | Chapter 24 (Volume 2)  |
| ENG SETUP  | Engineering Setup | Setup functions   | Chapter 18 to Chapter 23 (Volume 2)  |
| DIAG       | Diagnosis         | Status information display  | Chapter 25 (Volume 2)  |

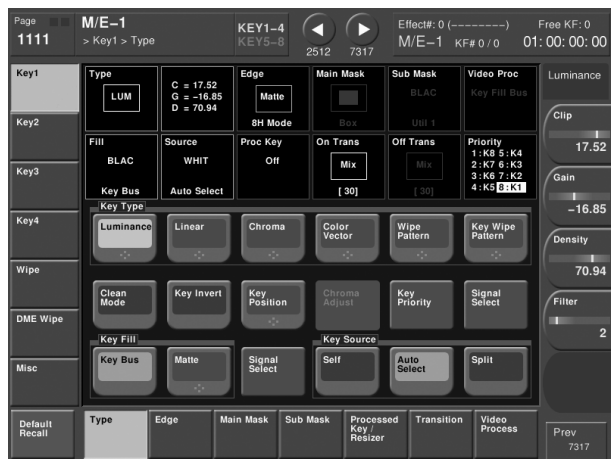
## Example of Displaying a Menu

To display, for example, the M/E-1 >Key1 >Type menu, use either of the following operations.

- Press the top menu selection button [M/E 1], then press the VF1 'Key1' button and the HF1 'Type' button in that order.
- Press the menu page number button in the upper left corner of the menu screen to display the top menu window, then enter the page number of the M/E-1 >Key1 >Type menu, which is 1111, and press [Enter].

*For details of the menu page numbers, see "Menu Tree" (page 326).*

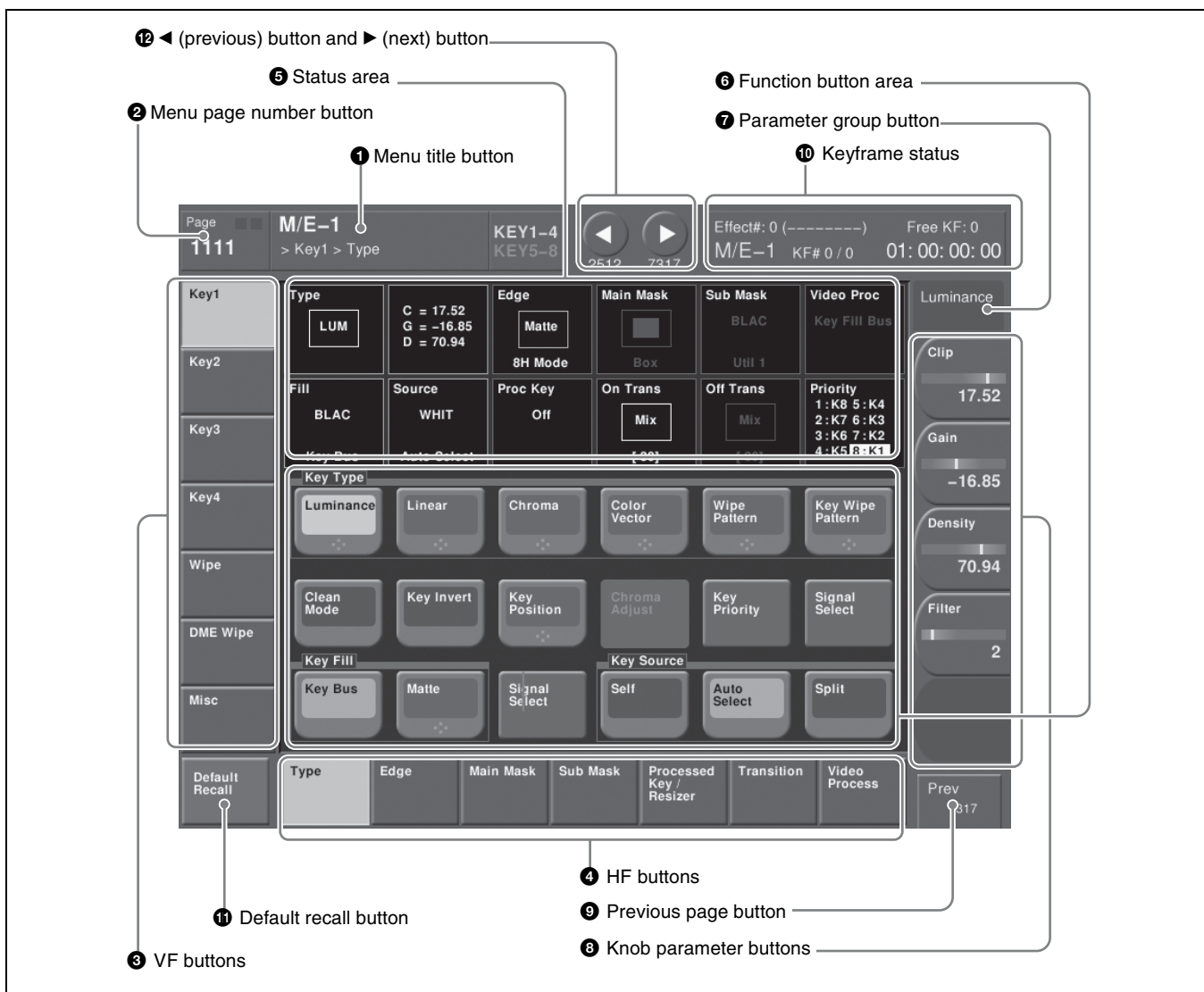
The M/E-1 >Key1 >Type menu appears in the menu display as follows.



## Interpreting the Menu Screen

The menu screen consists of the following principal parts. When buttons on the screen are lit or represented in a depressed state, this indicates that the corresponding item or function is selected (set on).

The following describes the M/E-1 >Key1 >Type menu screen as an example.



M/E-1 &gt;Key1 &gt;Type menu

### 1 Menu title button

This shows the title of the menu screen. You can set different colors for the main menu site and subsidiary menu site (*see page 61*).

### Switching the VF buttons between the Key1 to Key4 and Key5 to Key8 button displays

Switch the displays using the [KEY1-4] and [KEY5-8] menu title buttons.



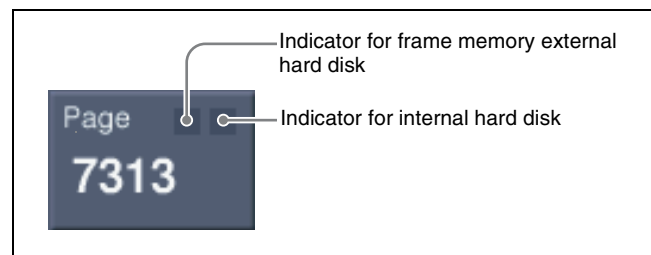
When [KEY1-4] is lit, Key1 to Key4 buttons appear in VF1 to VF4.

When [KEY5-8] is lit, Key5 to Key8 buttons appear in VF1 to VF4.

### 2 Menu page number button

This shows the menu screen page number.

When you press this button, the top menu window (*see page 57*) appears. You can enter the page number for the desired menu, or press one of the top menu selection buttons in the window, to display that menu. While the system is accessing the hard disk, the indicator lights red.



### Notes

When the indicator is lit, do not power off the switcher, or disconnect the USB cable <sup>1)</sup>.

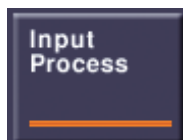
1) When an external hard disk drive is connected

### ③ VF buttons

These indicate the larger subdivisions of this menu. Depending on the selected item, the menu screen contents including the HF button indications change.

### ④ HF buttons

These indicate the items within the menu. Depending on the selected item, the menu indications change. Depending on the function, if any one is on, the status is shown by an orange bar, as in the following figure.



### ⑤ Status area

This shows the status of the settings items controlled by the selected menu. An orange frame appears around the parameter area relating to the displayed menu. For each of the twelve areas, pressing the display jumps to the related menu.

### ⑥ Function button area

This shows the functions which can be operated in the currently selected menu by means of buttons. Each function button corresponds to a function which can be set in the currently selected menu. Press it to enable the function, to display a parameter group and adjust the parameters with the knobs, or to execute the function. These buttons are in groups by function. In the screen example shown on the previous page, the [Key Bus] and [Matte] function buttons constitute the <Key Fill> group.

### ⑦ Parameter group button

This displays parameter group names for which the knobs can make adjustments, the current parameter setting page number, and the total number of the parameter setting pages (Example: Color Vector 1/2). When there are more than five parameters within the same parameter group, press this button to display the sixth and subsequent parameters, which can then be controlled by the knobs.

### ⑧ Knob parameter buttons

These show the parameters currently controlled by the knobs and their values. Pressing one of these buttons displays the numeric keypad window (see page 58), and you can then enter a new value for the corresponding parameter with the numeric keypad.

### ⑨ Previous page button

This shows the page number of the previously displayed menu screen. Press it to go back to that page. When the

indication [Parent] appears, this displays the parent directory.

### ⑩ Keyframe status

This shows the keyframe status of the reference region. Pressing this button switches the menu screen as follows.

#### When a menu other than the Key Frame menu is

**currently shown:** The menu screen switches to the Key Frame menu.

**When the Key Frame menu is currently shown:** The menu screen switches to the menu that was on the screen immediately before the Key Frame menu.

In some parts of menus such as the File menu, this functions as a “Region selection area,” for selecting the region to which operations apply.

### ⑪ Default recall button

This only appears in those menus for which the default recall function is available.

*For details of the menus which can be initialized, see “Menus Allowing a Return to Default Settings” (page 357) in Appendix.*

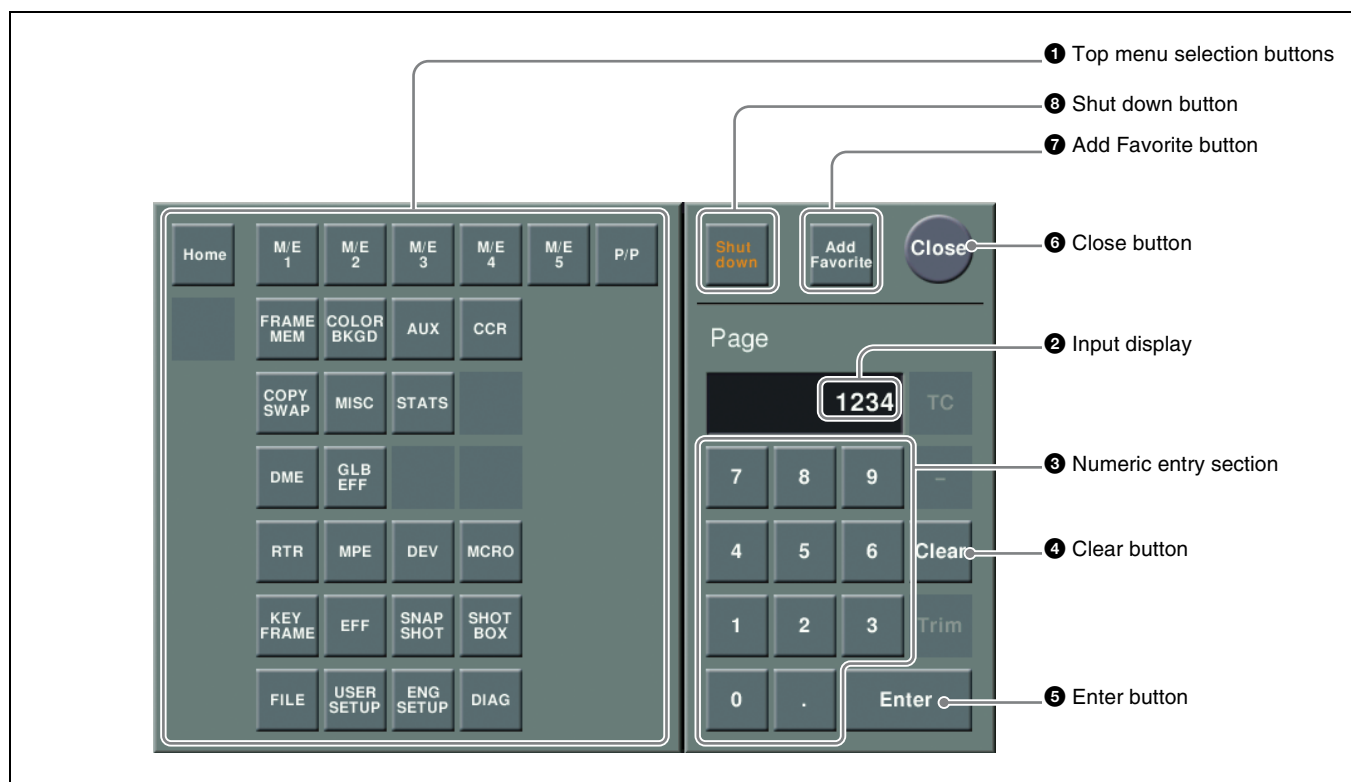
Press this button, turning it on, then press a VF button or knob parameter button to return the settings to their default values, in the following groupings.

- Function grouping: the functions within an HF menu under the VF button
- Knob parameters (parameters currently controlled by the knobs)

### ⑫ ◀ (previous) button and ▶ (next) button

The ◀ button returns to the previous menu. Press the ▶ button to continue to the next menu.

## Names and Functions of Parts of the Top Menu Window



### 1 Top menu selection buttons

These are the same as the top menu selection buttons in the menu control block. Pressing one of these buttons closes the top menu window and displays the selected menu in the menu display.

### 2 Input display

This shows the page number entered with the numeric entry section.

### 3 Numeric entry section

Enter a page number.

### 4 Clear button

Press this to clear the input display.

### 5 Enter button

Pressing this button without entering a page number closes the top menu window with the current menu remaining in the menu display.

If you enter a page number then press this button, this confirms the value in the input display. If it is a correct page number, the top menu window closes, and the menu display shows the new menu. If it is not correctly set, the input display changes color.

### 6 Close button

Press this to close the top menu window.

### 7 Add Favorite button

Pressing this button allows the currently displayed menu to be registered to the Shortcut menu (*see page 62*).

### 8 Shut down button

Shuts down the menus.

### Notes

Be sure to shut down the menus before powering off the control panel.

## Shutting down the menus

**1** In the menu screen, press the menu page number button to open the top menu window.

**2** Press [Shut down].

A confirmation message appears.

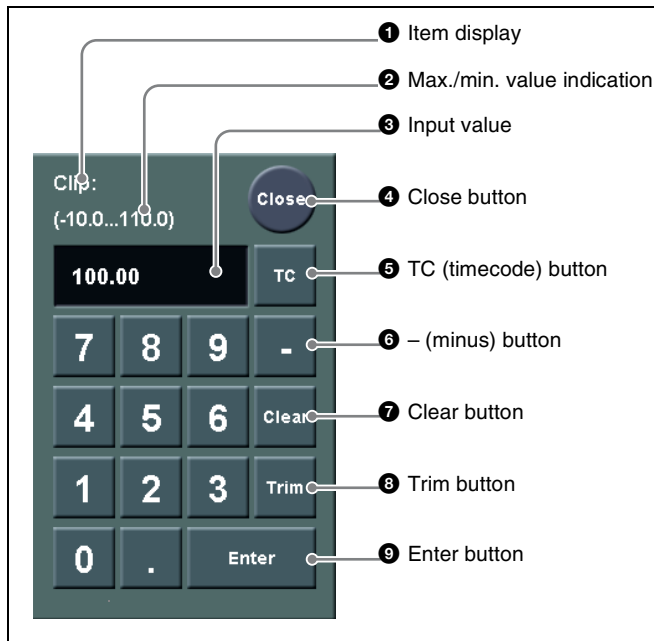
**3** Press [Yes].

This shuts down the menu system after a while, and the menu display changes to black. Then, power off the system.

### To restart menu operations

Power on the control panel once more.

## Names and Functions of Parts of the Numeric Keypad Window



### 1 Item display

This is the name of the parameter being set in the numeric keypad window.

### 2 Max./min. (maximum/minimum) value indication

This shows the maximum and minimum settings of the parameter.

### 3 Input value

This is the value being input into the numeric keypad window.

### 4 Close button

This closes the numeric keypad window.

### 5 TC (timecode) button

When the numeric keypad window is opened for a setting requiring a timecode value to be entered, this button appears in a depressed state.

You can enter a timecode value in the range that depends on the signal format.

00:00:00:00 to 23:59:59:nn,

where nn = (number of frames per second) – 1.

### 6 - (minus) button

This toggles the sign of the entered value. When it is pressed, the value is negative.

### 7 Clear button

This clears the input. It does not change the parameter setting.

### 8 Trim button

After entering the difference from the current value, press this button to confirm the numeric input.

### 9 Enter button

This confirms the entered value.

If correctly set, the numeric keypad window closes.

If not correctly set, the input display changes color.

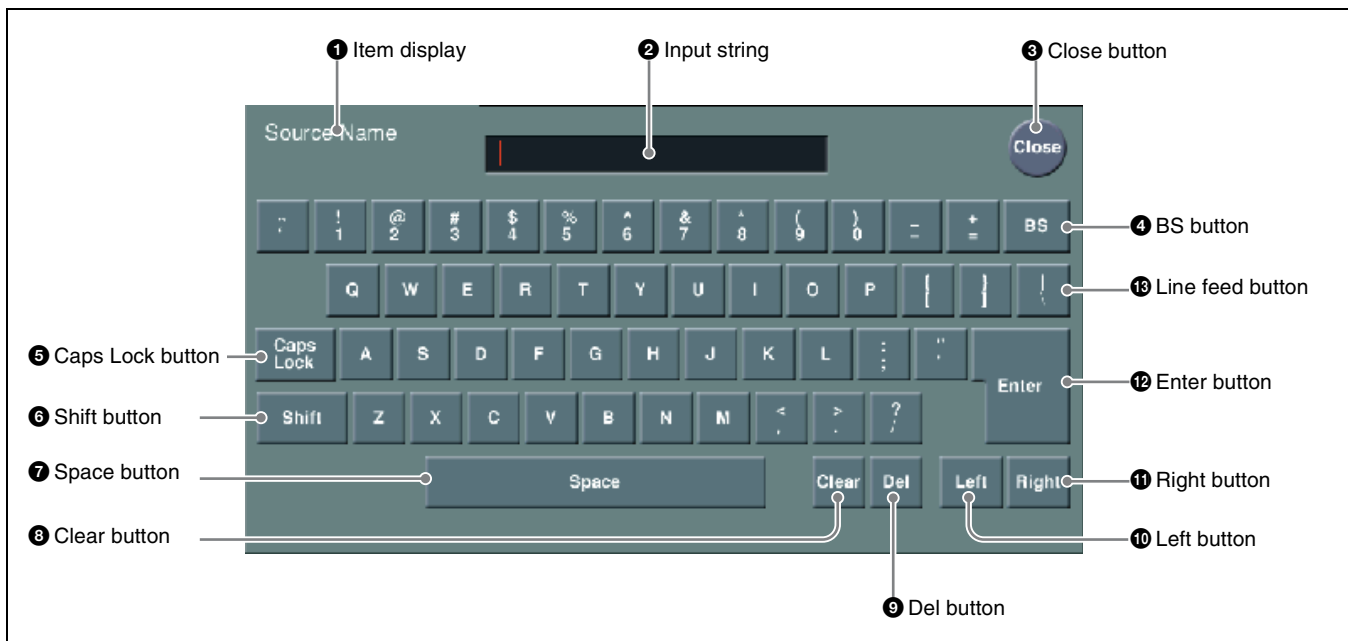
## Names and Functions of Parts of the Keyboard Window

### Notes

Except when changing source names, the following characters cannot be used.

space, \, /, :, ;, , (comma), . (period), <, >, \*, ?, ", |





### 1 Item display

This is the name of the parameter being set in the keyboard window.

### 2 Input string

This is the character string being input in the keyboard window.

### 3 Close button

This closes the keyboard window.

### 4 BS button

This clears the character immediately before the cursor in the input string.

### 5 Caps Lock button

This enables input of capital letters only.

### Notes

You can enter items to be displayed on the control panel LCD using lowercase letters, but these will be converted to capitals for display.

MS-DOS does not distinguish case in filenames, and therefore you are recommended to enter filenames in capital letters.

### 6 Shift button

This selects the characters on the shift side of the keys. The shift is released when you enter a character.

### 7 Space button

This enters a space character.

### 8 Clear button

This clears all of the characters in the input string.

### 9 Del button

This clears the character immediately after the cursor in the input string.

### 10 Left button

This moves the cursor one character to the left in the input string.

### 11 Right button

This moves the cursor one character to the right in the input string.

### 12 Enter button

This sets the input string as a parameter value, and closes the keyboard window if the value has been entered correctly. If the value has not been entered correctly, the display color changes.

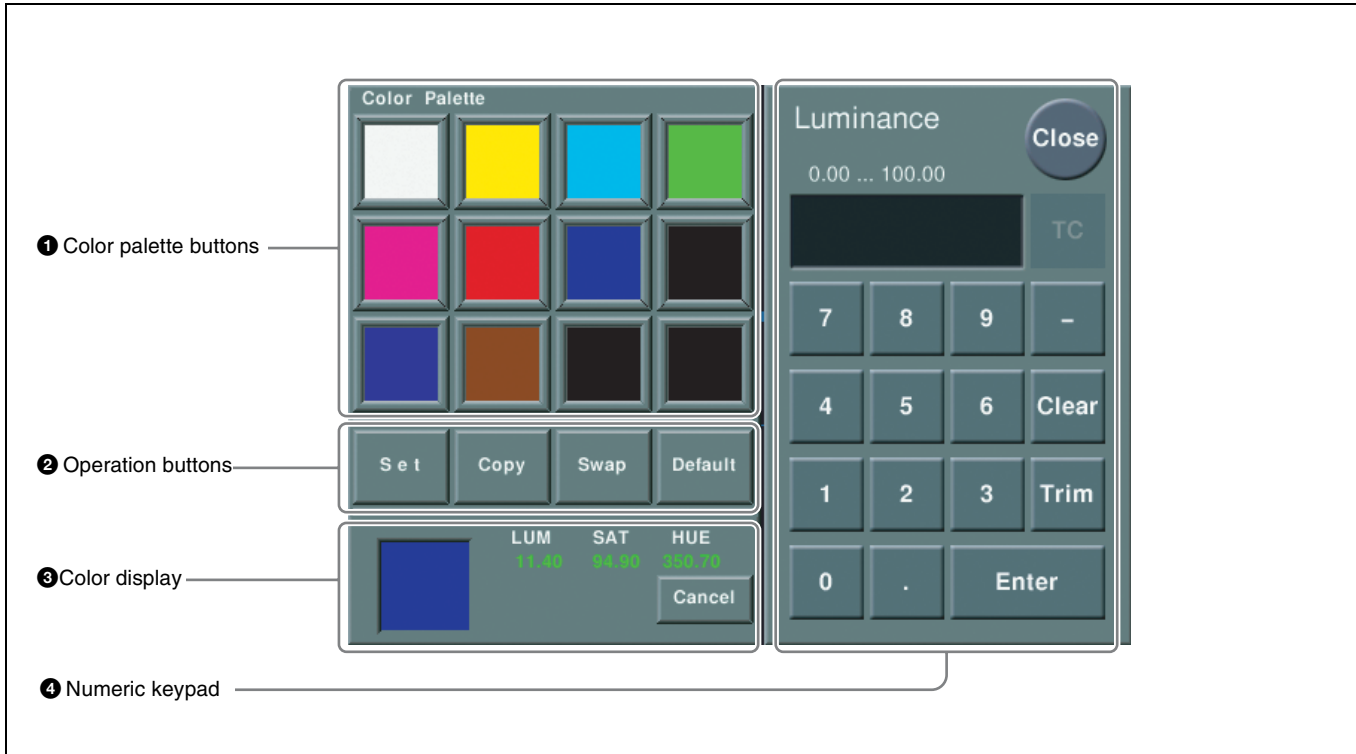
### 13 Line feed button

After pressing the Shift button, press this button to feed a line. The input string shows "l".

## Names and Functions of Parts of the Color Pallet Window

When a parameter is assigned to the knobs as a combination of luminance, saturation, and hue, pressing a

knob parameter button displays a color palette window.



### 1 Color palette buttons

Press one of these to enter the corresponding color in the display.

By default the following settings are available.

**First row:** white, yellow, cyan, green

**Second row:** magenta, red, blue, black

**Third row:** all black

### 2 Operation buttons

**Set:** If you press any color palette button with this button held down, the color shown in the color display is assigned to the color palette button.

**Copy:** If you press a color palette button with this button held down, the color is used as the source for copying. Next press a different color palette button to copy to that button.

**Swap:** If you press two color palette buttons in sequence with this button held down, the two colors are swapped.

**Default:** If you press any color palette button with this button held down, the color palette button is set to the default color.

### 3 Color display

This shows the setting color, and the parameters (LUM, SAT, and HUE).

By adjusting the parameters with the knobs, you can create any color.

If a parameter value is outside the permitted range for RGB (0 to 255), the indication “Illegal Color” appears, and this is adjusted to a value in range.

**Cancel:** Pressing this button returns to the state when the color palette window was opened.

### 4 Numeric keypad

Use this to enter numeric values for parameters.

*For details of use, see page 58.*

# Menu Operations

## Selecting an Item

- 1 Press the VF button (1 to 7) for the desired group of items.

The HF button (1 to 7) indications change to show the items within the selected group.

- 2 Press the HF button for the desired item.

The indications in the status area and function button area change, and you can now make various changes to the selected item.

## Selecting a Function

Press the appropriate function button within the function button area.

### Shape and color of the button

Pressing the button turns it on, and it lights, showing the state.



**Lit pale blue:** The function is enabled, and the parameters can currently be adjusted with the knobs.

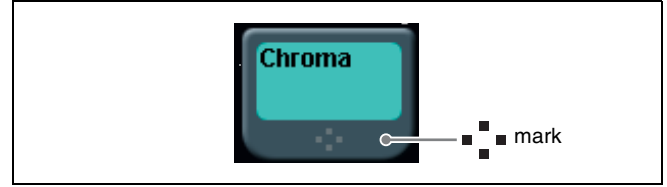
**Lit orange:** The function is enabled.

**Lit purple:** Execution button. Pressing the button immediately executes the function (Example: [Auto Start] in the Chroma Adjust menu).



Pressing a button of this type displays a further menu, allowing more detailed settings (Example: [Chroma Adjust] in the Type menu).

## Setting Parameters



The mark above on a function button indicates that there are parameters which can be adjusted with the knobs. Pressing this function button assigns parameters to the knobs.

You can set the parameter values by either of the following methods.

- Turn the knob (1 to 5) corresponding to the parameter, to adjust the value.
- Press the knob parameter buttons (1 to 5) corresponding to the parameter. This displays the numeric keypad window allowing you to enter the desired value.

In the description of specific setting procedures, the knob adjustment is described, as follows.

**Example:** When wipe pattern key is selected

| Knob | Parameter | Adjustment    | Setting values |
|------|-----------|---------------|----------------|
| 1    | Size      | Pattern size  | 0.00 to 100.00 |
| 2    | Soft      | Edge softness | 0.00 to 100.00 |
| 3    | Density   | Key density   | 0.00 to 100.00 |

When the [MENU] button in the device control block is lit, you can use the trackball and Z-ring to control the parameters.

- Move the trackball on the X-axis to control the parameter for knob 1 or on the Y-axis to control the parameter for knob 2. Moving up or to the right increases the parameter value, and moving down or to the left decreases the parameter value.
- Use the Z-ring to adjust the parameter for knob 3. Turning clockwise increases the parameter value, and turning counterclockwise decreases the parameter value.

## Switching Between the Main Menu Site and Subsidiary Menu Site

For menu transitions, you can store two separate versions in the main and subsidiary menu sites.

By switching sites, and pressing the ◀ button and the ▶ button you can trace the history in each menu.

### To switch the subsidiary menu site on and off

Assign [SUB MENU SITE] to a menu control block top menu selection button or user preference button.

To switch to the subsidiary menu site, press this button, turning it on.

For details, see “Assigning Functions to the Menu Control Block Top Menu and User Preference buttons” in Chapter 19 (Volume 2).

## Going Back to the Previous Menu

To return to the last displayed menu, press the previous page button.

## Returning to Default State in Function Groupings

- 1 Press [Default Recall], turning it on.  
This enters the menu default recall mode.
- 2 Press the VF button you want to return to the default state.  
This returns the settings within the function grouping to the default state, and [Default Recall] goes off.

### Notes

The default state of the settings depends on the setting of the initial status mode, set in the Setup menu of system setup, as follows.

**User:** The state when [Initial Status Define] is executed.

**Factory:** Factory default settings

## Returning Knob Parameters to Default State

- 1 Press [Default Recall], turning it on.  
This enters the menu default recall mode.
- 2 Press the knob parameter button you want to return to the default state.  
This returns the knob parameter value to the default state, and [Default Recall] goes off.

For details, see the table, “Knob parameters subject to restriction on default recall” on page 359.

### Notes

The default recall function does not return the horizontal (H) and vertical (V) position settings to their default state individually. Returning the horizontal (H) position to its default state also returns the vertical (V) position to its default state automatically, and vice versa.

# Shortcut Menu

## Registering a Menu To the Shortcut Menu

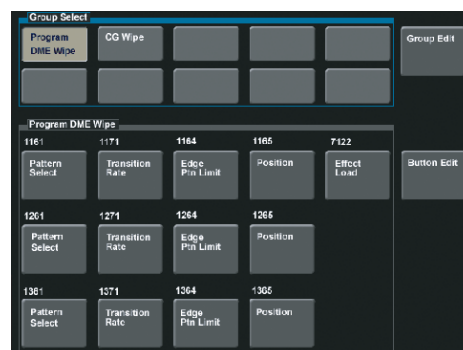
- 1 In the Home >Favorites >Shortcut menu, select the desired group.
- 2 Display the menu you want to register, and then press [Add Favorite].

The currently displayed menu is automatically registered to a blank button.

## Recalling a Menu Using the Shortcut Menu

- 1 In the Home menu, select VF2 ‘Favorites’ and HF1 ‘Shortcut.’

The following menu appears.



- 2 In the [Group Select] box, select the group.  
The group buttons appear.
- 3 Press the button for the desired menu.

## Customizing the Shortcut Menu

Assign frequently used menus to buttons, to create a “Favorites” menu.

### To create a menu group

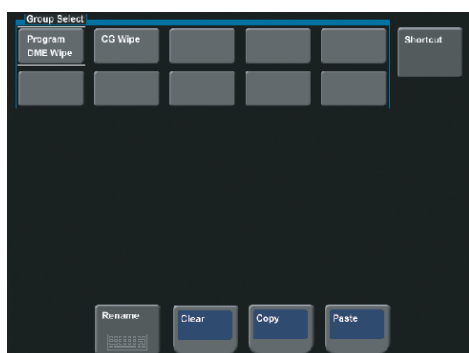
- 1 In the Home menu, select VF2 ‘Favorites’ and HF1 ‘Shortcut.’

The following menu appears.



- 2 Press [Group Edit].

The following menu appears.



- 3 With the cursor, select the group name (in this case a blank button) for the operation.
- 4 Press [Rename].  
A keyboard window appears.
- 5 Enter a group name (maximum 24 characters), and press [Enter].

This confirms the group name.

### To copy a menu group

- 1 In the Home >Favorites >Group Edit menu, press the button for the copy source group.
- 2 Press [Copy].
- 3 Press the button for the copy destination group.
- 4 Press [Paste].

This copies the menu group settings.

### To delete menu group settings

- 1 In the Home >Favorites >Group Edit menu, select the group to be deleted.

- 2 Press [Clear].

A confirmation message appears.

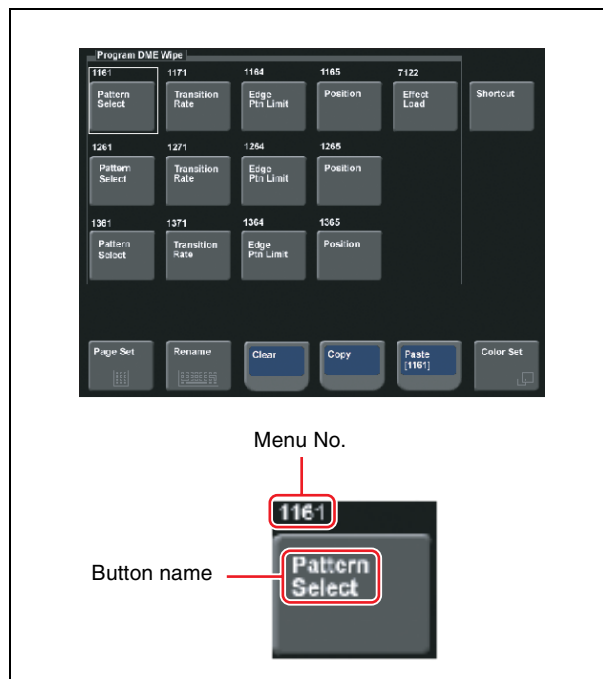
- 3 Press [Yes].

This deletes the settings.

### To register a menu on a button

You can register 15 buttons in one group.

- 1 In the Home >Favorites >Shortcut menu, press [Button Edit].



- 2 Move the cursor to the position where you want to display the button. To change the content of an already displayed button, press the button to select it.
- 3 Press [Page Set].  
A page number input window appears.
- 4 Enter the page number for the menu you want to register.
- 5 Press [Rename].  
A keyboard window appears.
- 6 Enter the button name (maximum 24 characters).
- 7 To change the button color, press [Color Set].  
Button color samples appear.
- 8 Press the desired color.

This completes the assignment of the menu to the button.

- 9** Repeat steps **2** to **8** to complete the “Favorites” menu.

### To copy button settings

- 1** In the Home >Favorites >Button Edit menu, press the copy source button to select it.
- 2** Press [Copy].
- 3** Press the copy destination button to select it.
- 4** Press [Paste].

This copies the button settings.

### To delete button settings

In the Home >Favorites >Button Edit menu, press [Clear].  
This deletes the button settings.

#### Notes

The shortcut menu settings are handled as part of the control panel setup. You can recall and save them in the same way as setup data.

### To register a menu macro on a button

See “Recalling a Menu Macro Register and Executing a Menu Macro” in Chapter 16 (Volume 2).

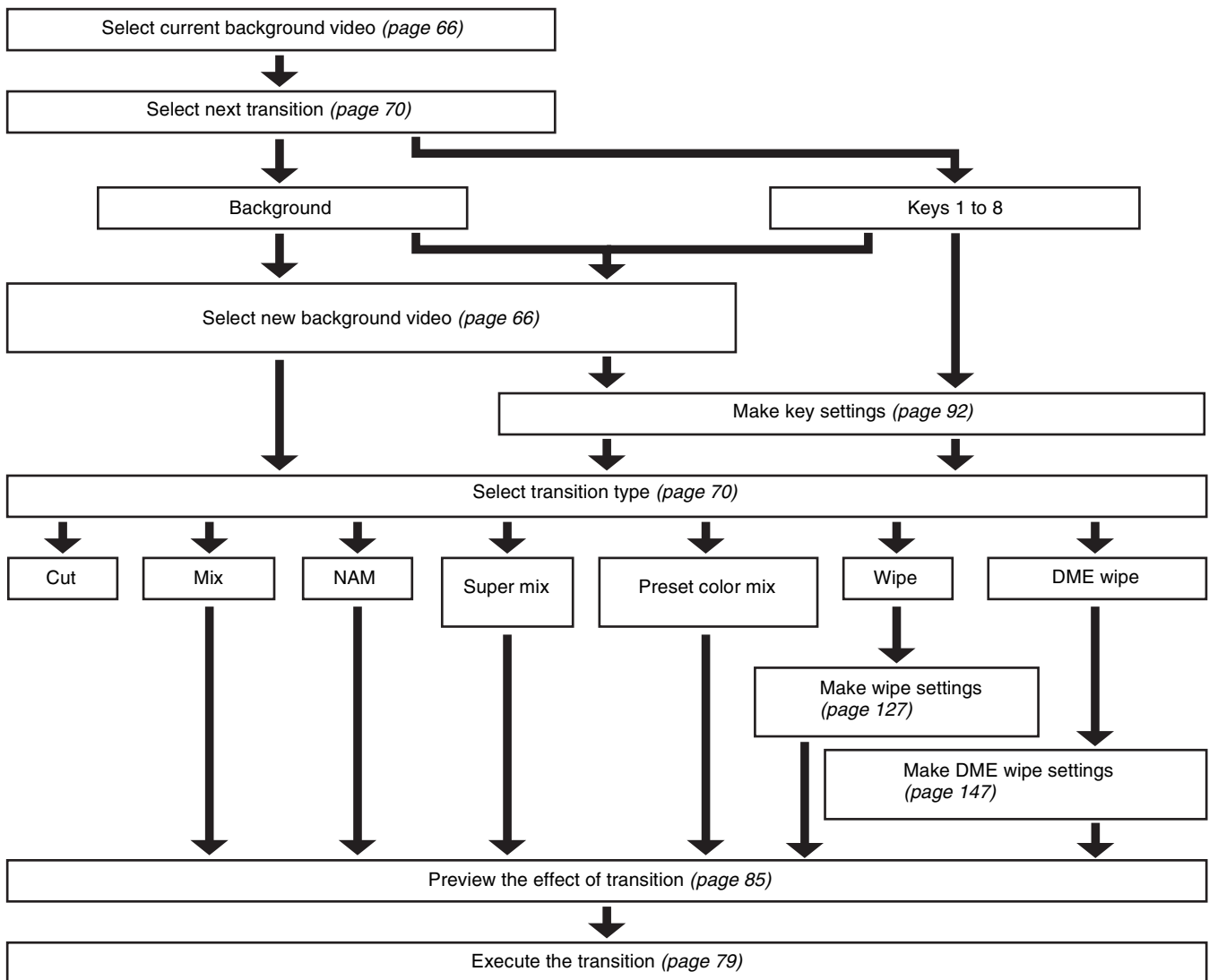
### To execute a menu macro with a button

See “Recalling a Menu Macro Register and Executing a Menu Macro” in Chapter 16 (Volume 2).

## Video Processing Flow

The switch from the current video stream (appearing on the corresponding program monitor) to a new video stream is referred to as a transition.

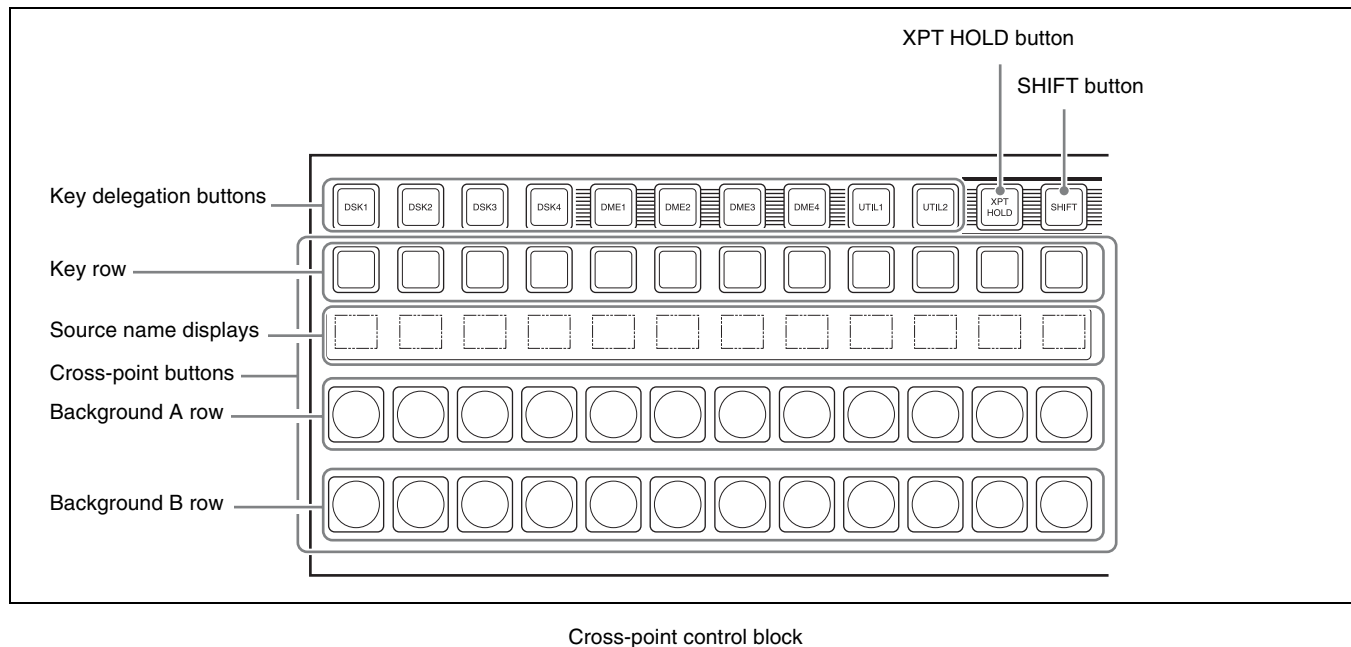
The following illustration shows the flow of operations for carrying out a transition on an M/E bank or the PGM/PST bank.



# Signal Selection

You carry out signal selection with the cross-point buttons in the cross-point control block of the M/E bank or PGM/

PST bank, and the buttons in the auxiliary bus control block.



## Basics of Signal Selection

The M/E bank and auxiliary bus control block each have cross-point buttons.

These buttons are identified by numbers common to all of the banks and the control block, and a signal is assigned to each number.

The basis of signal selection is to select, in a cross-point button row, the cross-point button to which is assigned the desired signal.

## Bus Selection

The key row is shared by multiple buses. To assign a bus to the cross-point buttons in the auxiliary bus control block, press one of the AUX delegation buttons to select the bus.

The following table illustrates the correspondence between buses and cross-point button rows, and the delegation operations.

| Bank  | Bus name                | Cross-point button row | Delegation operation   |
|-------|-------------------------|------------------------|--|
| M/E-1 | Background A bus        | Background A row       | –  |
|       | Background B bus        | Background B row       | –  |
|       | Key 1 bus               | Key row                | Turn on the button to which the corresponding key is assigned. |
|       | Key 2 bus               |                        |  |
|       | Key 3 bus               |                        |  |
|       | Key 4 bus               |                        |  |
|       | Key 5 bus <sup>a)</sup> |                        |  |
|       | Key 6 bus <sup>a)</sup> |                        |  |
|       | Key 7 bus <sup>a)</sup> |                        |  |
|       | Key 8 bus <sup>a)</sup> |                        |  |



| Bank                                      | Bus name  | Cross-point button row  | Delegation operation   |
|---|---|---|--|
| PGM/PST                                   | Program bus   | Program row   | –  |
|   | Preset bus  | Preset row  | –  |
|   | DSK 1 bus   | DSK row   | Turn on the button to which the corresponding key is assigned.                                   |
|   | DSK 2 bus   |   |  |
|   | DSK 3 bus   |   |  |
|   | DSK 4 bus   |   |  |
|   | DSK 5 bus <sup>a)</sup>                               |   |  |
|   | DSK 6 bus <sup>a)</sup>                               |   |  |
|   | DSK 7 bus <sup>a)</sup>                               |   |  |
|   | DSK 8 bus <sup>a)</sup>                               |   |  |
| M/E-1, PGM/PST                            | Utility 1 bus   | Key row   | Turn on the [UTIL1] button   |
|   | Utility 2 bus   |   | Turn on the [UTIL2] button   |
|   | DME 1 video bus                                       |   | Turn on the [DME1] button <sup>b)</sup>  |
|   | DME 2 video bus                                       |   | Turn on the [DME2] button <sup>b)</sup>  |
|   | DME 3 video bus                                       |   | Turn on the [DME3] button <sup>b)</sup>  |
|   | DME 4 video bus                                       |   | Turn on the [DME4] button <sup>b)</sup>  |
| Auxiliary bus control block <sup>c)</sup> | AUX1 to AUX48 buses                                   | The key row of the bank selected with the bank selection buttons in the auxiliary bus control block | Turn on the appropriate buttons in accordance with the signal assignment made in the Setup menu. |
|   | Frame memory source 1 and frame memory source 2 buses |   |  |
|   | DME 1 to DME 4 video buses                            |   |  |
|   | DME 1 to DME 4 key buses                              |   |  |
|   | Edit preview bus                                      |   |  |
|   | M/E-1 UTILITY 1 and M/E-1 UTILITY 2 buses             |   |  |
|   | P/P UTILITY 1 and P/P UTILITY 2 buses                 |   |  |
|   | M/E-1 Key 1 fill to M/E-1 Key 8 fill buses            |   |  |
|   | M/E-1 Key 1 source to M/E-1 Key 8 source buses        |   |  |
|   | DSK 1 fill to DSK 8 fill buses                        |   |  |
|   | DSK 1 source to DSK 8 source buses                    |   |  |
|   | M/E-1 external DME bus                                |   |  |
|   | P/P external DME bus                                  |   |  |
|   | DME UTILITY 1 and DME UTILITY 2 buses                 |   |  |

a) An assignment is required for keys 5 to 8.

b) To turn on the [DME1] to [DME4] buttons requires one of the [KEY1] to [KEY8] and [DSK1] to [DSK8] buttons to be on.

c) An assignment to the delegation buttons is required in setup, to assign the bus for operations.

## Signal Assignment and Selection

### Assigning signals to buttons

Each cross-point button has a button number, to which you assign a signal.

In addition to the signals input to the following connectors, you can also select signals generated within the switcher.

- The input connectors on the rear panel of the switcher (1 to 144 in MVS-8000X, 1 to 80 in MVS-7000X)
- The premium input 1 to 20 connectors (only in MVS-8000X)
- The FC input 1 to 16 connectors (only in MVS-8000X)

Each button has assigned to it a video signal and a key signal, forming a pair. You can set these video and key combinations in the Setup menu.

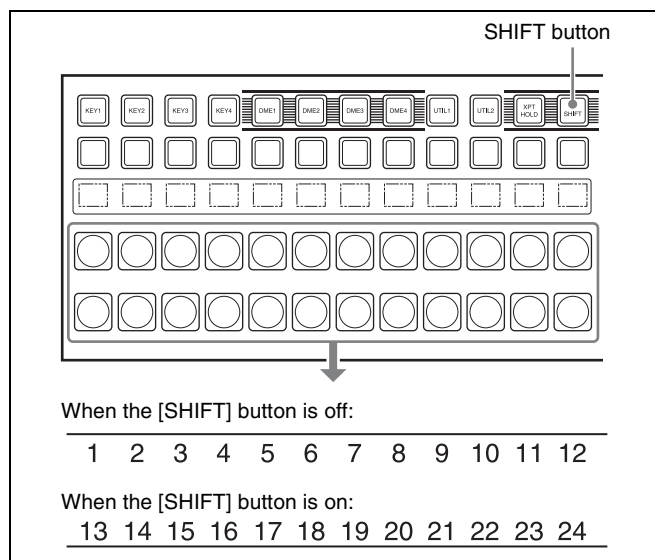
For details of Setup menu operations, see “Creating Cross-Point Assign Tables” in Chapter 19 (Volume 2).

## Cross-point button control block button numbers

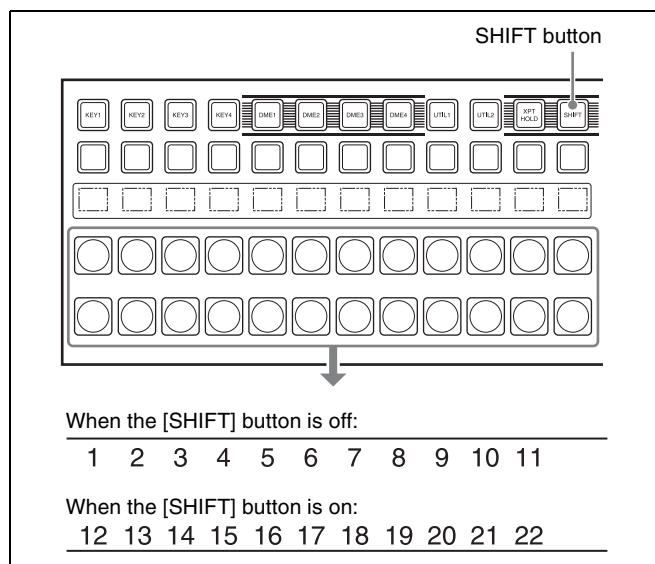
On the M/E and PGM/PST banks, each cross-point button has two button numbers, and you use the [SHIFT] button to switch between these numbers.

The button numbers are as follows.

### Button numbers when all 12 buttons are used as cross-point buttons



### Button numbers when the rightmost buttons (12th buttons) are used as the [SHIFT] button



#### Notes

You can use the rightmost button (number 12) as a [SIDE FLAG] button. In this case, the shift button moves one to

the left, to number 11, and the button numbers are offset by one.

For details of the [SIDE FLAG] button, see “Assigning a Cross-Point Button to Enable/Disable Side Flags” in Chapter 19 (Volume 2).

## Inhibiting cross-point button operations

For each cross-point button, you can temporarily inhibit operations.

#### Notes

This setting is cleared when you reset the control panel.

### Assigning a button to the function of disabling cross-point button operation

You can assign the button to be used for the operation to a user preference button, in setup. The [Inhibit All Clear] function is also assigned to this button.

For details, see “Assigning Functions to User Preference Buttons” in Chapter 19 (Volume 2).

### Buses for which operations can be inhibited

This setting applies to the auxiliary bus control block and the cross-point buttons in each switcher bank.

For example, if you make the setting for one cross-point button in a switcher bank, this inhibits operation of all cross-point buttons with the same number in the following buses.

The corresponding name also disappears from the source name display.

- Background A, background B
- Keys 1 to 8
- Utility 1, Utility 2
- DME utility 1, DME utility 2
- External DME

### To inhibit operation of a cross-point button

Hold down the button to which “Inhibit Set” is assigned, and press the cross-point button whose operation you want to inhibit.

The button you pressed flashes amber, and this makes the operation inhibited.

#### Notes

Even when you inhibit operation of a cross-point button, macro attachment settings are still possible.

For details, see “Setting and Canceling a Macro Attachment” in Chapter 16 (Volume 2).

### To clear a cross-point button operation inhibit setting

Hold down the button to which “Inhibit Set” is assigned, and press the button whose operation is inhibited (flashing amber).

This clears the operation inhibit setting for the button you pressed.

### To clear all operation inhibit settings

Press the button to which “Inhibit Set” is assigned and the button to which “Inhibit All Clear” is assigned simultaneously.

## Selection of signals linked with the audio mixer

When you select a signal in a switcher bank background A row or AUX bus control block which is set to be linked with the audio mixer, the program output of the audio mixer follows the signal selection.

*For details of the setting, see “Making Settings for Audio Mixer” in Chapter 19 (Volume 2).*

### Notes

- For details of audio mixers that can be connected, contact your Sony service or sales representative.
- When the signal is switched with a snapshot, keyframe, and so on, the audio mixer is not linked.
- When bus fixed mode is selected in setup (*see page 84*), the audio mixer program output is linked to the bus output as the background.

## Signal Name Display

You can attach a name (source name) to each signal assigned to a cross-point button, with a maximum of 16 characters.

- The source name displays in the cross-point control block and auxiliary bus control block show the source names of the video signals assigned to numbers 1 to 12 (or 11).
- To display the source names for shifted numbers (13 to 24 or 12 to 22), press the [SHIFT] button to the right of the key row delegation buttons.
- To display the source names of the key signals assigned to button numbers, hold down one of the key delegation buttons [KEY1] to [KEY8] or [DSK1] to [DSK8] buttons or, for the auxiliary bus control block, hold down the [KEY] button.

### Colors of lit cross-point buttons

In a particular row of cross-point buttons, only the last pressed button is effective, and lights amber or red. The amber indicates the “low tally” state, and the red indicates

the “high tally” state, to indicate whether or not the selected signal appears in the final output video.

Significance of colors of lit cross-point buttons

| Color | State      | Significance                          |
|-------|------------|---------------------------------------|
| Amber | Low tally  | Does not appear in final output video |
| Red   | High tally | Appears in final output video         |

# Transitions

## Selecting the Next Transition

To execute a transition, it is first necessary to decide how the image will be changed as a result of the transition. This selection is carried out using the next transition selection buttons (*see page 31*) in the transition control block of each M/E or PGM/PST bank.

*For details of operations, see “Procedure for Basic Transition Operation” (page 71).*

## Transition Types

Selecting the transition type determines the way in which the transition occurs. Carry out the type selection with the transition type selection buttons in the transition control block of each M/E or PGM/PST bank.

*For details of this operation, see “Procedure for Basic Transition Operation” (page 71).*

The following are the transition types.

### Mix

This is a dissolve, in which the new video progressively fades in over the current video, with the sum of the two video outputs maintained constant. At the mid-point of the transition (when the fader lever is in the center position), the output of each is 50%.

This transition type can also be selected for an independent key transition. In this case, the key either dissolves in or dissolves out similarly, with the progress of the transition.

### NAM (non-additive mix)

In this dissolve, the current video and new video signals are compared, and the signal with the higher luminance level is given priority in the output. The current video is maintained at 100% output for the first half of the transition as the new video increases progressively to 100%, then the current video is progressively reduced from 100% to zero in the second half with the new video maintained at 100% output.

#### Notes

This transition type is not available for an independent key transition.

### Super mix

In this dissolve, the current video is maintained at 100% output for the first half of the transition as the new video is mixed while increasing progressively to 100%, then the current video is progressively reduced from 100% to zero in the second half with the new video maintained at 100% output.

#### Notes

This transition type is not available for an independent key transition.

*For details on super mix settings, see page 77.*

### Preset color mix

This is a two-stage dissolve, comprising two transitions, the first a dissolve to a color matte, and the second from the color matte to the new video.

In the first transition, the current video is replaced by the color matte in a mix (dissolve), then in the second transition the color matte is replaced by the new video also in a mix (dissolve).

#### Notes

This transition type is not available for an independent key transition.

*For details on color matte settings, see page 77.*

### Wipe

A wipe replaces the current video by the new video according to a predetermined pattern. This transition type can also be selected for an independent key transition.

*For details, see Chapter 5 “Wipes” (page 127).*

### DME wipe

Using a DME effect, it is possible to obtain a transition to a new image from the current image, as in a wipe. You can also use this transition type as an independent key transition.

*For details, see Chapter 6 “DME Wipes” (page 143).*

### Clip transitions

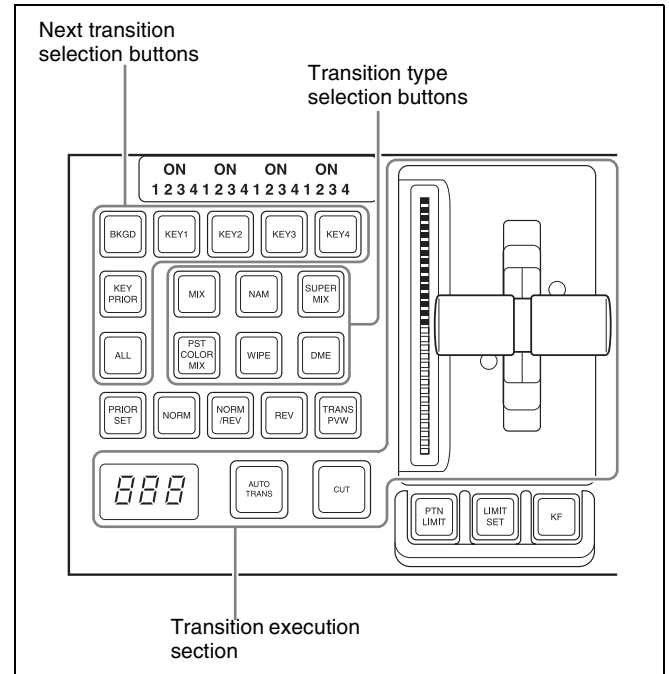
Linked to a mix (dissolve) or wipe transition, a frame memory clip (movie) is played back.

## Cut

A cut switches instantaneously from the current video to the new video. When the next transition is a key transition, the key cuts in or out instantaneously.

# Procedure for Basic Transition Operation

The positions of the principal buttons used for basic transition operation are as follows.



Transition control block

- 1 In the cross-point control block, select the background video with the background A row of cross-point buttons.
- 2 Select the way in which the transition will affect the image, using the next transition selection buttons in the transition control block.

*For an overview, see “Selecting the Next Transition” (page 70).*

**To change the background:** Press the [BKGD] button, turning it on.

**To insert or delete a key:** Press one of the [KEY1] to [KEY4] buttons (or [DSK1] to [DSK4] buttons in the PGM/PST bank), turning it on.

*For details of the operation to select [Key5] to [Key8], see “Assigning Buttons for Selection of Keys 5 to 8 in the Setup Menu” (page 352) in Appendix.*

**To enable the key priority setting, which determines the key overlay order after the transition:** Press the [KEY PRIOR] button, turning it on.

You can press more than one button at the same time.

**To change the keys and background presets in Setup menus simultaneously:** Press the [ALL] button.

*To allocate a particular next transition button to the [ALL] button function, see “Setting the Operation Mode of the [ALL] Button in the Transition Control Block” in Chapter 19 (Volume 2).*

- 3** For the transition to change the key priority, set the priority for after the transition.

*When using keys 1 to 8, see “Priority Setting for Keys 1 to 8” (page 75). For details of the key priority setting operation, see “Key Priority Setting” (page 73).*

- 4** Select the new video used for the transition.

- In the background B row of cross-point buttons, select the new background video.
- When inserting a key, select the key signal, and make any required settings.

*For details of key settings, see Chapter 4 “Keys” (page 92).*

To carry out a cut transition, skip to step **7**; otherwise continue to step **5**.

- 5** Select one of the transition type selection buttons in the transition control block.

**To carry out a dissolve to the new video:** Press one of the [MIX], [NAM], [SUPER MIX], and [PST COLOR MIX] buttons, turning it on.

**To carry out a wipe:** Press the [WIPE] or [DME] button, turning it on.

**To carry out a transition while playing back a frame memory clip:** Press one of the buttons corresponding to the clip to be used (FM1&2CLIP, FM3&4CLIP, FM5&6CLIP, and FM7&8CLIP).

You can also use the Misc > Transition menu to select a desired transition type for the M/E or PGM/PST bank. See “Selecting the Transition Type by a Menu Operation” (page 76).

*For an overview, see “Transition Types” (page 70).*

#### Notes

The transition type selection buttons in the transition control block can be interchanged in the setup menu.

*For details, see “Overall Control Panel Settings (Config Menu)” in Chapter 19 (Volume 2).*

- 6** Make the required settings, according to the selected transition type.

*For details of the settings, see the relevant section.*

**Super mix:** “Super Mix Settings” (page 77)

**Preset color mix:** “Color Matte Settings” (page 77)

**Wipe:** “Basic Procedure for Wipe Settings” (page 127)

**DME wipe:** “Basic Procedure for DME Wipe Settings” (page 147)

**Clip transition:** “Clip Transition Operations” (page 177)

Using the transition preview function (see page 85), you can check the transition on the preview monitor.

- 7** Carry out the transition in the transition execution section.

**For a gradual transition such as a mix (dissolve) or wipe:** Press the [AUTO TRANS] button, or operate the fader lever.

To execute a transition by pressing the [AUTO TRANS] button, first set the transition rate (specified as the duration of the transition).

*See “Setting the Transition Rate” (page 79).*

When you have selected a wipe or DME wipe as the transition type, you can also set the transition range. See “Pattern Limit” (page 81).

**For an instantaneous transition:** Press the [CUT] button.

*For details, see “Executing a Transition” (page 79).*

#### Transition linked to the audio mixer

If the video signal selected in the background B row is linked to the audio mixer in setup, then the audio mixer sound changes with the transition. That is, pressing the [AUTO TRANS] button gives a cross fade, and pressing the [CUT] button gives an instantaneous sound switch.

*For details of setup, see “Making Settings for Audio Mixer” in Chapter 19 (Volume 2).*

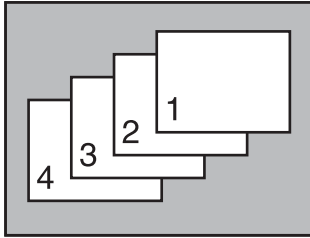
#### Notes

- The audio mixer is not linked to a snapshot or key frame transition.
- The audio mixer is not linked to a transition using the fader lever.
- If the bus-fixed mode (see page 84) is selected in the setup menu, and the fader lever is in the lowest position, there is a cross fade from the audio selected on the B row to the audio selected on the A row.
- The audio mixer is not linked to a key transition.
- In the following cases, the audio and video may be out of sync.
  - When carrying out a cross fade in some DME wipes (for example, “picture in picture”)
  - When executing a preset color mix in two-stroke mode
- For details of audio mixers that can be used, contact your Sony service or sales representative.

# Key Priority Setting

If a number of keys are already inserted in the current video, you can check or change the key priority, that is to say, the order in which the keys are overlaid. When a key priority ([KEY PRIOR]) is selected as the next transition, you can also change the key priority in the new video.

The key priority values go from 1 to 4, with a higher priority key being “in front” as seen on the screen.



Priority sequence on the screen

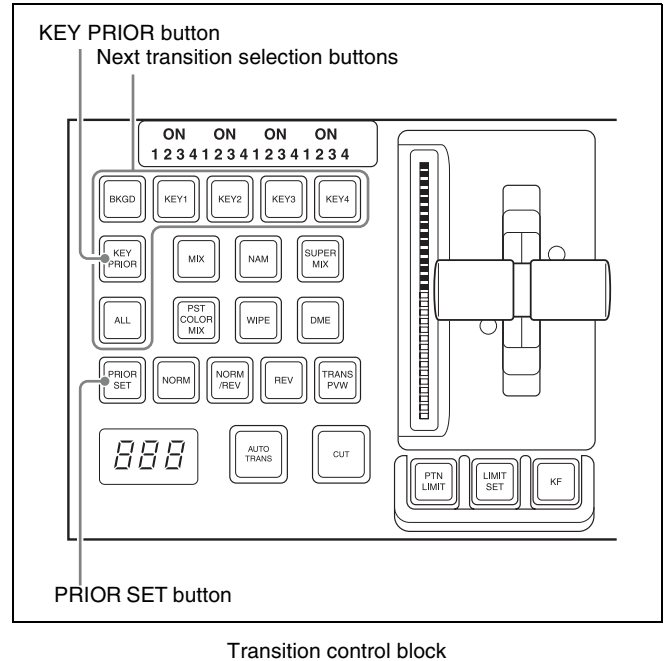
There are two ways of setting the priority: either using the [PRIOR SET] button in the transition control block, or using the Misc menu to access the Key Priority menu for the M/E or PGM/PST bank.

## Notes

When the operating mode is set to multi program, the key priority setting cannot be made.

## Setting the Key Priority in the Transition Control Block

The positions of the buttons used for the operation are as follows.



## Changing the currently inserted key priority

- 1 If the next transition selection button [KEY PRIOR] is on, press another next transition selection button to turn the [KEY PRIOR] button off.

When the [KEY PRIOR] button is on, the transition control block switches to the mode for changing the key priority for after the transition.

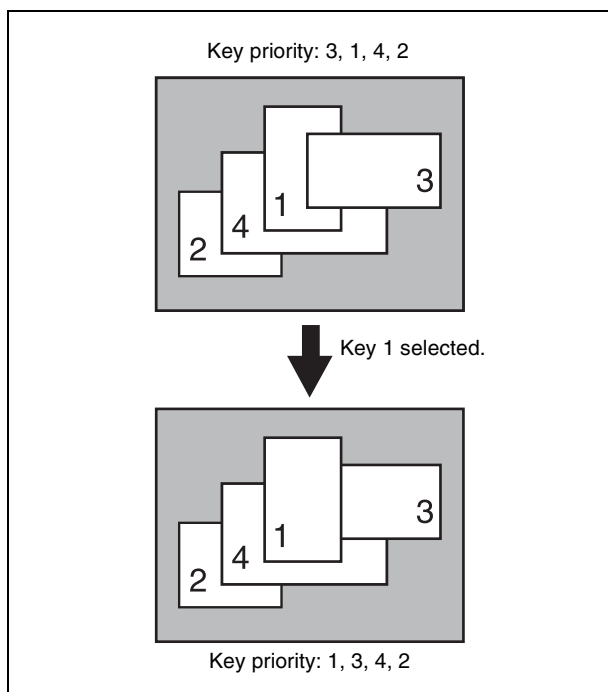
- 2 Holding down the [PRIOR SET] button, press the one of the next transition selection buttons [KEY1] to [KEY4] ([DSK1] to [DSK4] buttons in the PGM/PST bank) for the key to appear on top.

## Notes

- To select [Key5] to [Key8], or [DSK5] to [DSK8] requires an assignment (*see page 352*).
- The key priority establishes a separate priority order within each of the groups of keys 1 to 4 and keys 5 to 8. You can make any setting within the groups of keys 1 to 4 or keys 5 to 8, but not for combinations of keys from different groups. For example, it is not possible to set a priority sequence of keys 1, 5, and 2.

The selected key now appears on top, on the program monitor.

The priority of keys other than the selected one does not change.



To change the priority of more than one key, repeat this operation as required.

## Changing the key priority for after the transition

When executing a transition, turning on the next transition selection button [KEY PRIOR] causes the keys to be rearranged based on the set priority.

To set the key priority for after the transition, use the following procedure.

- 1 In the transition control block, hold down the [PRIOR SET] button and press the [KEY PRIOR] button to turn it on. Do not release the [PRIOR SET] button before advancing to step 2.

The [KEY PRIOR] button lights green, and it becomes possible to change the key priority setting for after the transition.

- 2 Hold down the [PRIOR SET] button, and press the one of the next transition selection buttons [KEY1] to [KEY4] ([DSK1] to [DSK4] buttons in the PGM/PST bank) for the key you want to bring to the front after the transition.

To set the priority to be the same as before the transition, press the [BKGD] button.

### Notes

- The [BKGD] button is only effective when in the mode for changing the key priority for after the transition.

- To select [Key5] to [Key8], or [DSK5] to [DSK8] requires an assignment (*see page 352*).
- The key priority establishes a separate priority order within each of the groups of keys 1 to 4 and keys 5 to 8. You can make any setting within the groups of keys 1 to 4 or keys 5 to 8, but not for combinations of keys from different groups. For example, it is not possible to set a priority sequence of keys 1, 5, and 2.

When the next transition selection button [KEY PRIOR] is on, the selected key appears on top on the preview monitor. The priority of keys other than the selected one does not change.

- 3 To change the priority of more than one key, repeat the previous operation as required.
- 4 Execute the transition.

## Setting the Key Priority by a Menu Operation

When using keys 1 to 8, set the priority separately for the two groups (*see page 75*).

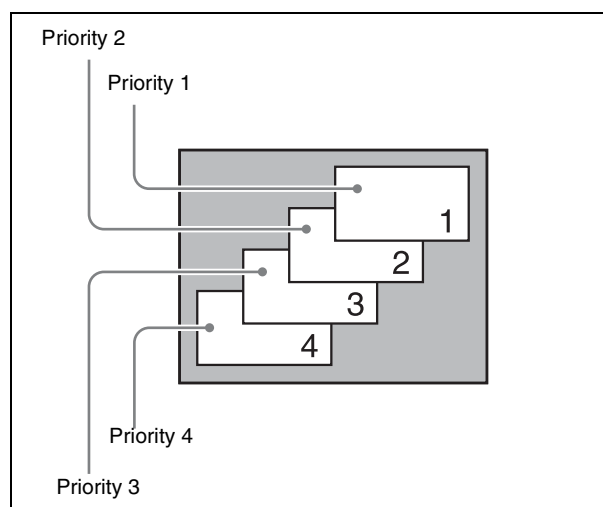
## Changing the priority of the currently inserted keys

- 1 In the M/E or PGM/PST menu, select first VF7 'Misc,' then HF3 'Key Priority.'

The Key Priority menu appears.

- 2 For each of <Priority1>, <Priority2>, <Priority3>, and <Priority4>, select a key, to determine the key priority sequence.

The keys are inserted in the key priority sequence with priority 1 at the front.





**Notes**

It is not possible to select the same key for two or more priority numbers.

The keys appear in the set order on the program monitor.

## Changing the key priority for after the transition

- 1 In the M/E or PGM/PST menu, select first VF7 'Misc,' then HF4 'Next Key Priority.'

The Next Key Priority menu appears.

- 2 For each of <Priority1>, <Priority2>, <Priority3>, and <Priority4>, select a key, to determine the key priority sequence.

*For details of the key priority sequence, see the figure shown for step 2 in the previous item (see page 74).*

The keys appear in the set order on the preview monitor.

- 3 Execute the transition.

The keys are rearranged in the set order on the program monitor.

The topmost key as seen on the program monitor is priority 1, and the keys underneath are numbered 2, 3, 4 away from the viewer (see page 74).

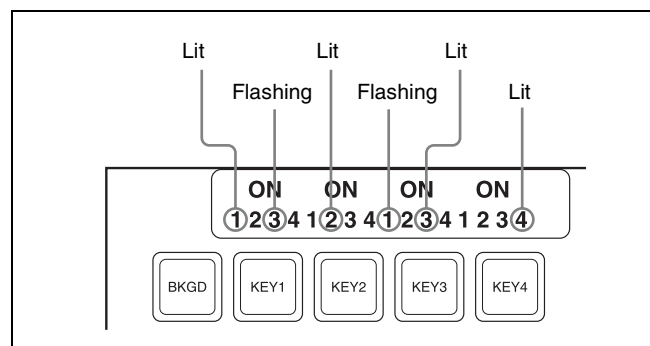
To display the key priority for after the transition, press the [KEY PRIOR] button in the transition control block, turning it on. For keys for which the priority after the transition is different from the current priority, the corresponding numerals 1 to 4 flash. For a key with the same priority, the indication remains on.

Example key status display given when the [KEY PRIOR] button is pressed:

**Current key priority:** 1, 2, 3, 4

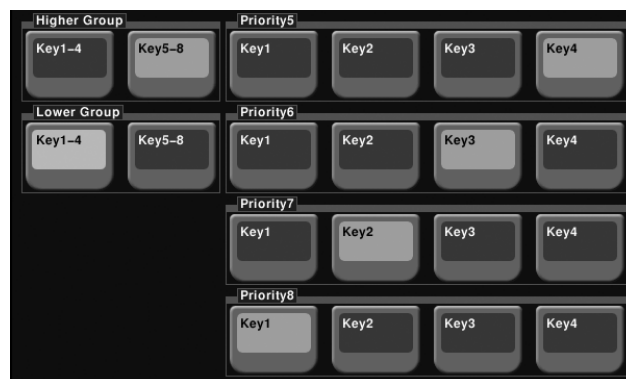
**Key priority after the transition:** 3, 2, 1, 4

**Indicators:** 1, 3 (flashing), 2, 1 (flashing), 3, 4



Example key status display  
(showing the key priority after the transition)

## Priority Setting for Keys 1 to 8



Set the priority for each of the groups consisting of keys 1 to 4 and keys 5 to 8.

- 1 In the VF7 'Misc' menu, select HF3 'Key Priority,' to display the Key Priority menu.
- 2 In <Higher Group>, press the button for the group you want to be higher.

The button you pressed lights green, and this becomes the reference group.

- 3 Set the reference group priority.

## Display of the Key Output Status and Key Priority

You can check whether keys are currently output, and the key priority setting, using the key status display in the transition control block of the M/E or PGM/PST bank. The display is above the next transition selection buttons [KEY1] to [KEY4] ([DSK1] to [DSK4] buttons in the PGM/PST bank).

**Notes**

You can change the assignment of the next transition selection buttons [KEY1] to [KEY4]. If this is changed, the output status and priority is shown for the assigned key.

### Display of the key output status

When a key is included in the output from the M/E or PGM/PST bank, the corresponding ON indicator lights.

### Key priority display

The key priority is indicated by numerals 1 to 4 lighting.

- 4 In <Lower Group>, select the other group.
- 5 Set the priority for the other group.

---

## Selecting the Transition Type by a Menu Operation

You can also select the required transition type by a menu operation.

- 1 In the M/E or PGM/PST menu, select first VF7 'Misc,' then HF1 'Transition.'

The Transition menu appears.

- 2 Select the required transition type in the <Transition Type> group.

The parameter settings can now be adjusted with the knobs according to the selected transition type.

*For details, see the following.*

- "Super Mix Settings" (page 77)
- "Color Matte Settings" (page 77)
- "Setting the Transition Rate" (page 79)

### Notes

When multi-program mode is selected in the Setup menu, there may be cases in which two or more transition types have been selected.

*For details, see "Setting the Operation Mode" in Chapter 20 (Volume 2).*

## Super Mix Settings

You can set the output levels of the current and new video signals at the mid-point of the transition, in the range 0 to 100%.

### Notes

This transition type is not available for an independent key transition.

- 1 In the M/E or PGM/PST menu, select first VF7 'Misc,' then HF1 'Transition.'

The Transition menu appears.

- 2 Select [Super Mix] in the <Transition Type> group.

- 3 Turn the knobs to adjust the output levels.

| Knob | Parameter | Adjustment                | Setting values  |
|------|-----------|---------------------------|-----------------|
| 2    | A Gain    | Background A output level | 0.00 to 100.00% |
| 3    | B Gain    | Background B output level | 0.00 to 100.00% |

## Color Matte Settings

You can specify the color matte by luminance, saturation, and hue values.

Also, in place of a color matte you can use an image selected on the utility 2 bus.

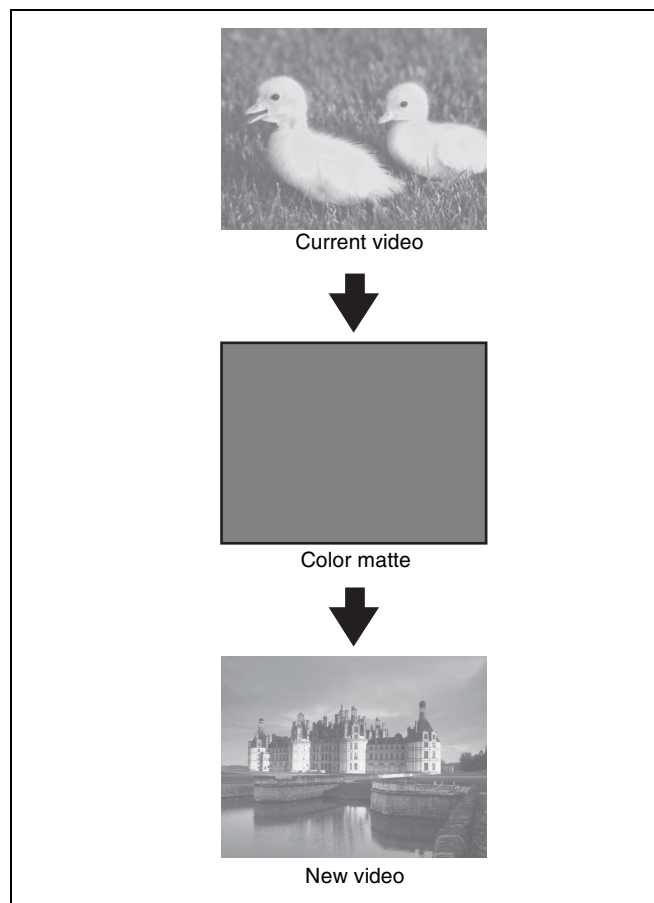
### Notes

- This transition type is not available for an independent key transition.
- In the multi-program mode, you can use a preset color mix only when selecting the background for the next transition.

### One-stroke mode and one-time mode

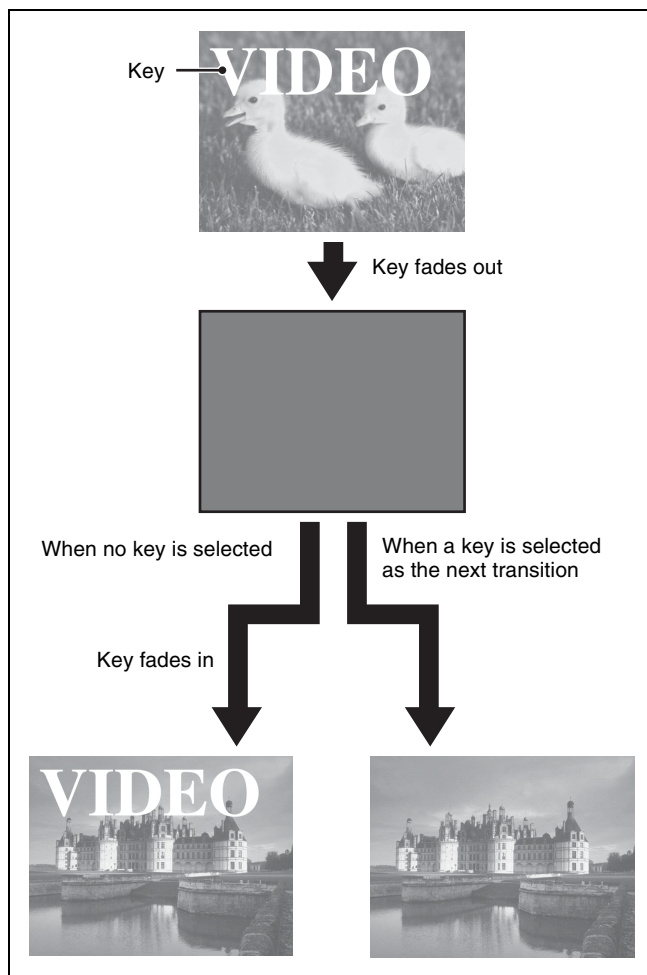
- You can make a setting such that a preset color mix is carried out in a single transition. This is called "one-stroke mode."  
When the bus fixed mode is selected with a Setup menu setting, a preset color mix is always carried out in the one-stroke mode.
- You can also make a setting such that when a preset color mix is completed, the next transition switches to the previous transition type automatically. This is called "one-time mode."

## When only the background is changed



Preset color mix (changing background only)

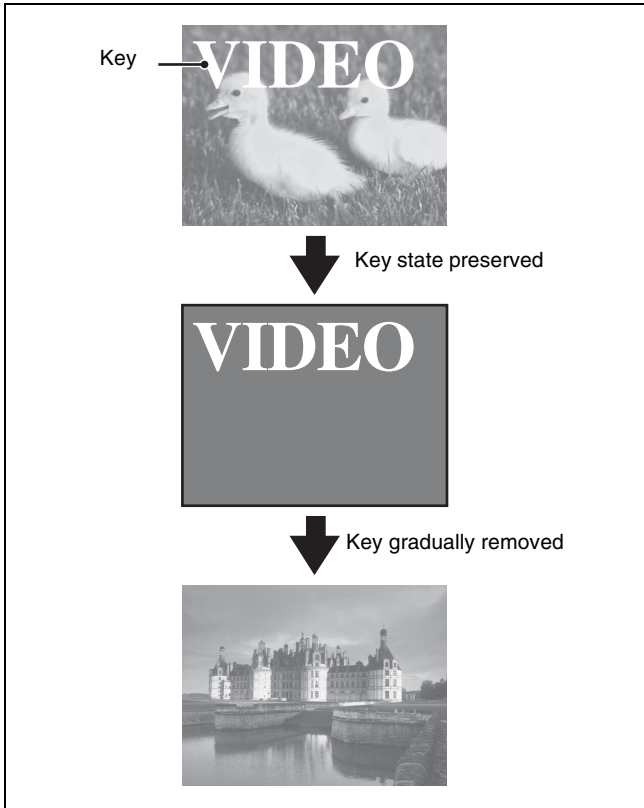
## When a key is inserted



Preset color mix (transition including key)

By means of a Setup menu setting, it is possible to preserve the key state while carrying out the color matte mix.

When, with a key inserted, a key is selected in the next transition



Preset color mix (when set to preserve key state)

## Setting the color matte

- 1 In the M/E or PGM/PST menu, select first VF7 'Misc,' then HF1 'Transition.'

The Transition menu appears.

- 2 Select [Preset Color Mix] in the <Transition Type> group.
- 3 In the <Preset Color Mix Fill> group, select one of the following.

**Flat Color:** monochrome color matte

**Utility 2 Bus:** signal selected on the utility 2 bus

- 4 When "Flat Color" is selected, turn the knobs to adjust the color matte.

| Knob | Parameter  | Adjustment | Setting values |
|------|------------|------------|----------------|
| 2    | Luminance  | Luminance  | 0.00 to 100.00 |
| 3    | Saturation | Saturation | 0.00 to 100.00 |
| 4    | Hue        | Hue        | 359.99 to 0.00 |

## Executing a Transition

There are two modes of executing a transition: an auto transition by button operation or a manual transition using the fader lever.

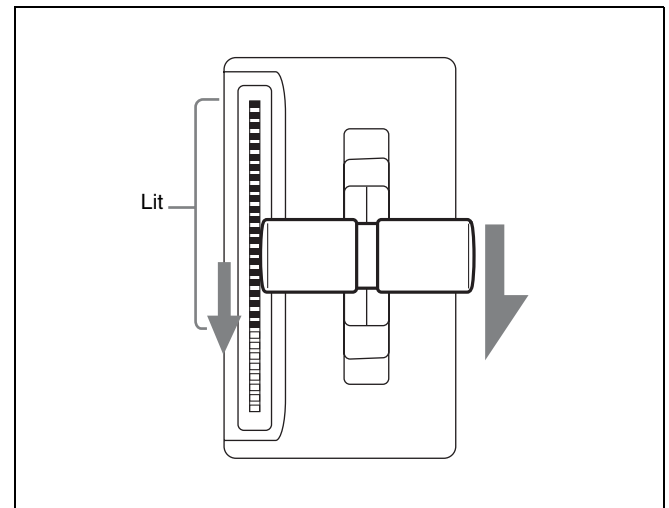
It is also possible to combine both methods, taking control with the fader lever of an auto transition which has partly completed, or complete a transition started with the fader lever as an auto transition.

By combining common transitions with independent key transitions, different transition types can be applied to the background and keys, for example allowing a key wipe combined with a background dissolve.

When the audio mixer is linked in setup, you can carry out an auto transition, and also switch the sound with the audio mixer (*see page 72*).

## Transition Indicator Function

In each of the M/E banks and PGM/PST bank, to the left of the fader lever is a transition indicator composed of multiple LEDs. This indicator shows the state of the transition, whether auto or manual, by which LEDs are lit.



Transition indicator

For example, in the previous illustration, it can be seen that the transition is more than half completed. When the transition is completed, all of the LEDs go off.

## Setting the Transition Rate

There are two ways of setting the transition rate: using the numeric keypad control block to enter a numeric value, or using the Misc menu to access the Transition menu for the M/E or PGM/PST bank.

You can also display the transition rate and independent key transition rate for each of the M/E and PGM/PST banks, and change the settings (*see page 192*).

### Notes

When a clip transition is selected as the transition type, it is not possible to set the transition rate.

## Frame input mode and timecode input mode

For numeric input of the transition rate value, there are two modes: frame input mode and timecode input mode. The frame input mode is selected automatically when the frame display mode is selected. The timecode input mode is selected automatically when the timecode display mode is selected.

**Frame input mode:** The entered value is a number of frames.

Example: Entering 123 constitutes an entry of 123 frames

**Timecode input mode:** The entered value is a timecode value.

Example: Entering 123 constitutes an entry of 1 second 23 frames.

### Notes

Whereas you can enter a value of up to 999 in frame input mode, a value not smaller than 10 seconds cannot be entered in timecode input mode.

## Frame display mode and timecode display mode

For the transition rate display in the transition control block, there are two modes: frame display mode and timecode display mode. You can select one of these modes in setup.

*For details, see “Setting the Transition Rate Display Mode” in Chapter 19 (Volume 2).*

### Notes

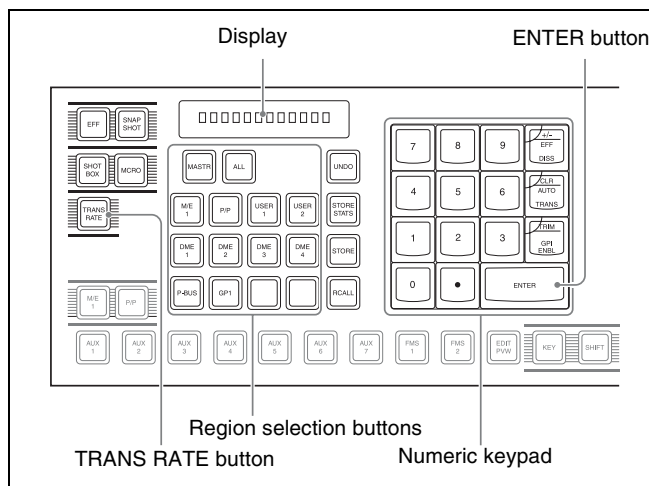
The setting is common to all banks of the switcher.

**Frame display mode:** Values are shown as from 0 to 999 frames. In this display mode, a value entered in timecode input mode is converted for display as a number of frames.

**Timecode display mode:** Values are shown as timecode values, consisting of seconds and frames. In this display mode, a value entered in frame input mode is converted for display as a timecode value. If the value consists of four or more digits, the last digit is not shown.

Example: A value of 9 seconds 23 frames appears as “9.23” and a value of 10 seconds 1 frame appears as “10.0.”

## Setting the transition rate in the numeric keypad control block



Numeric keypad control block

- 1 In the numeric keypad control block, press the [TRANS RATE] button.
- 2 Press the region selection button for the M/E or PGM/PST bank for which you want to set the transition rate, turning it on.
- 3 With the numeric keypad, enter the transition rate.
  - Enter a value of up to three digits.
  - To clear the entry, press the [CLR] button.
- 4 Press the [ENTER] button.

This confirms the entry, and the selected region name and the set transition rate appear in the numeric keypad control block display.

The transition control block display of the same bank (M/E or PGM/PST) also shows the setting.

### To enter a difference from the current value

After pressing the [+/-] button, enter the difference and press the [TRIM] button.

To change the sign (+ or -), press the [+/-] button.

## Setting the transition rate by a menu operation

- 1 In the switcher bank, select first VF7 'Misc,' then HF1 'Transition.'

The Transition menu appears.

- 2 Select any transition type in the <Transition Type> group.

- 3 Turn the knob to set the transition rate.

| Knob | Parameter       | Adjustment      | Setting values         |
|------|-----------------|-----------------|------------------------|
| 1    | Transition Rate | Transition Rate | 0 to 999 (frame count) |

## Displaying the transition rates in a menu and changing the settings

For each of the M/E and PGM/PST banks, you can display the transition rate and independent key transition rate, and change the settings (*see page 192*).

## Pattern Limit

When a wipe or DME wipe pattern is selected for the transition, you can specify the range of movement of the wipe pattern through the course of the transition, for each bank independently.

When the pattern limit function is enabled, carrying out a transition results in the following effect for example settings.

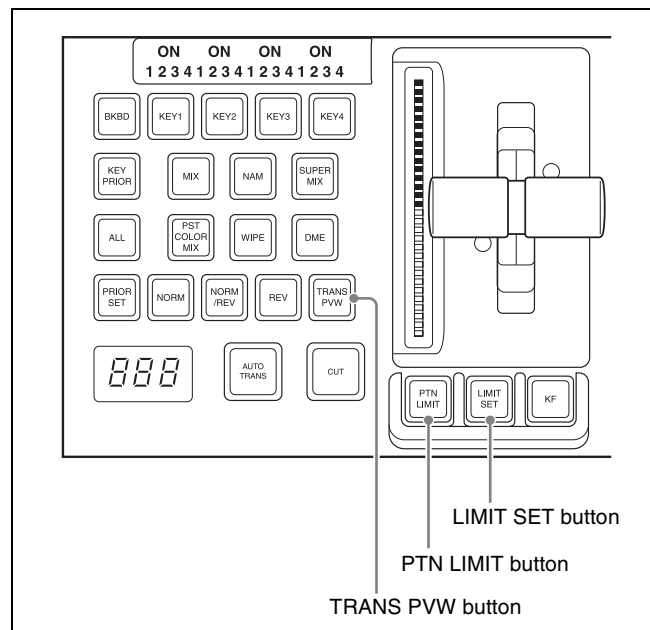
- When the limit value is set to 50%, the effect at the end of the transition is the same as when the fader lever is at the center position in the normal case (with the pattern limit function disabled); the wipe pattern does not complete.
- When the limit value is set to 0%, the wipe effect is completely disabled, and carrying out the transition produces no change in the image.
- When the limit value is set to the maximum 100%, the image changes in exactly the same way as when the pattern limit function is off, but when the transition is completed, the cross-point selections on the background A and B buses do not interchange.

There are two ways of setting a pattern limit: either by operating the fader lever to save the fader position, or by using the Wipe menu or DME Wipe menu to access the Edge/Direction menu for the M/E or PGM/PST bank.

### Notes

- A pattern limit only applies when a wipe or DME wipe is selected as the transition type.

- A pattern limit cannot be applied to an independent key transition (*see page 86*).
- In multi-program mode, pattern limits can be used only when the background transition type is a wipe or DME wipe. If a key is selected for the next transition, the pattern limit settings are reflected in the wipe or DME wipe selected for the background transition type.



Transition control block

## Setting the pattern limit with the fader lever

- 1 Move the fader lever to the position corresponding to a particular pattern size.

- First make sure that the [PTN LIMIT] button is off.
- To check the pattern size on the preview monitor, first press the [TRANS PVW] button, to select the transition preview mode (*see page 85*).

- 2 Press the [LIMIT SET] button.

This sets the current fader lever position as the pattern limit.

## Setting the pattern limit by a menu operation

- 1 When a wipe is selected as the transition type, in the M/E or PGM/PST menu, select first VF5 'Wipe,' then HF4 'Edge/Direction.'

When a DME wipe is selected as the transition type, in the M/E or PGM/PST menu, select first VF6 'DME Wipe,' then HF4 'Edge/Direction.'

The Edge/Direction menu appears.

- 2 Press the [Pattern Limit] button, turning it on.
- 3 Turn the knobs to adjust the following parameters.

| Knob | Parameter     | Adjustment    | Setting values                               |
|------|---------------|---------------|--|
| 1    | Pattern Limit | Pattern limit | 0.00 <sup>a)</sup> to 100.00 <sup>b)</sup> % |

- a) 0.00%: Executing the transition does not change the video output at all.
- b) 100.00%: The transition is the same as when no pattern limit is set, but the cross-point button selections of the background A and B buses do not interchange when the transition completes.

## Executing a pattern limit transition

- 1 Press the [PTN LIMIT] button, turning it on.  
The button you pressed lights amber.
- 2 Carry out the transition.  
The transition progresses as far as the set pattern limit. Even if the transition completes, the cross-point button assignments of the background A and B buses do not interchange.
- 3 Carry out the transition once again.  
The status before the previous transition is restored.

### To cancel the pattern limit

To cancel the pattern limit after completion of step **3** in the previous procedure, press the [PTN LIMIT] button, turning it off.

If after carrying out step **2** in the previous procedure, the pattern limit has been reached, carry out the following procedure.

- 1 Press the [PTN LIMIT] button.  
The button you pressed lights green.
- 2 Carry out the transition.  
The [PTN LIMIT] button goes off, and the pattern limit state is released.  
Depending on the way in which the transition was executed, the action will be as follows.
  - When you press the [CUT] button, the pattern limit is immediately released, and the image switches instantaneously.
  - When you press the [AUTO TRANS] button, until the state of the next transition, the transition is carried out over the duration given by the transition rate.
  - When you move the fader lever, the transition is carried out from the pattern limit state to the state before the pattern limit transition was carried out. Moving the fader lever even a little synchronizes the

fader lever position with the transition state, and you can move the fader lever either in the forward direction or in the reverse direction.

Depending on the Setup settings, the transition may be executed at the instant you press the [PTN LIMIT] button, and the button goes off. In this case, execution continues for the time specified by the dedicated transition rate in the menu setting, as far as the state of the next transition.

*For details of the setting, see “Selecting the Bank to Make the Settings” in Chapter 20 (Volume 2).*

## To set the transition rate when the pattern limit is released

- 1 In the <Pattern Limit Release> group of the Edge/Direction menu, select one of the following.  
  
**Auto Trans Rate:** Use the transition rate set in the transition rate control block  
**Independ Trans Rate:** Independent transition rate
- 2 If you selected “Independ Trans Rate” in step **1**, adjust the following parameter.

| Knob | Parameter       | Adjustment                  | Setting values    |
|------|-----------------|-----------------------------|-------------------|
| 1    | Transition Rate | Independent transition rate | 0 to 999 (frames) |

## Executing an Auto Transition

The following two modes can be used for auto transition.

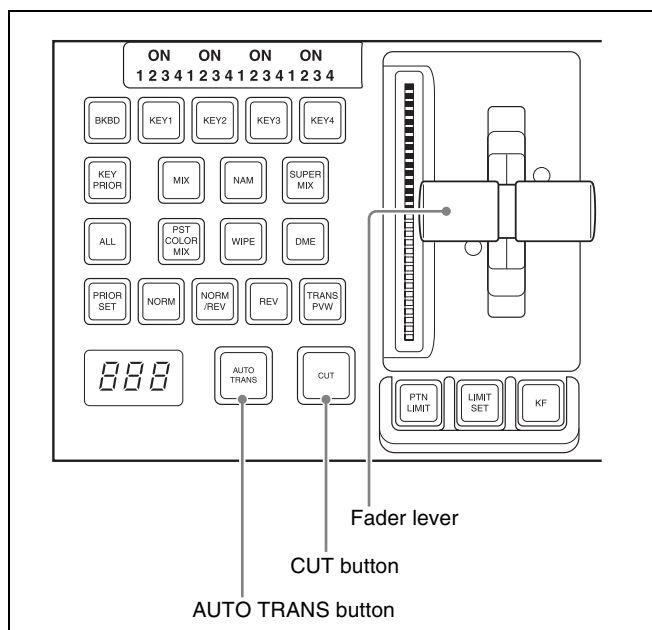
### Cut

A cut switches instantaneously from the current video to the new video. When the next transition is a key transition, the key cuts in or out instantaneously.

### Auto transition

The transition from the current video to the new video is carried out automatically at a constant rate, using the transition effect selected as the transition type. You can set the transition rate in advance (*see page 79*).





Transition control block

To execute a transition on the M/E or PGM/PST bank by a button operation, use the following procedure in the transition control block.

**To carry out an instantaneous cut transition:** Press the [CUT] button.

**To carry out a gradual transition:** Press the [AUTO TRANS] button.

This executes the transition at the preset transition rate (*see page 79*).

While the transition is executing, the [AUTO TRANS] button lights amber. When it completes the button goes off.

**To complete a partially executed transition instantaneously:** Press the [CUT] button.

The [AUTO TRANS] button goes off.

## Executing a Transition With the Fader Lever (Manual Transition)

Using the fader lever, you can manually control the progress of the transition. Moving the fader lever from one end of its travel to the other completes the transition.

To execute a manual transition with the transition control block fader lever, use the following procedure.

**To carry out the transition completely:** Move the lever over the full range of its travel.

**To pause a partly executed transition:** Stop moving the fader lever.

**To resume a paused transition:** Resume moving the fader lever.

## Combinations of Auto and Manual Transitions

Using the [AUTO TRANS] button, the [CUT] button, and the fader lever, use the following procedures.

### Moving the fader lever during an auto transition

During an auto transition started by pressing the [AUTO TRANS] button, operating the fader lever immediately enables the fader lever, and the [AUTO TRANS] button goes off. Thereafter, the fader lever controls the progress of the transition.

### Executing an auto transition after partly moving the fader lever

- Press the [CUT] button to instantaneously complete the transition.
- Press the [AUTO TRANS] button to complete the rest of the transition at the preset transition rate.

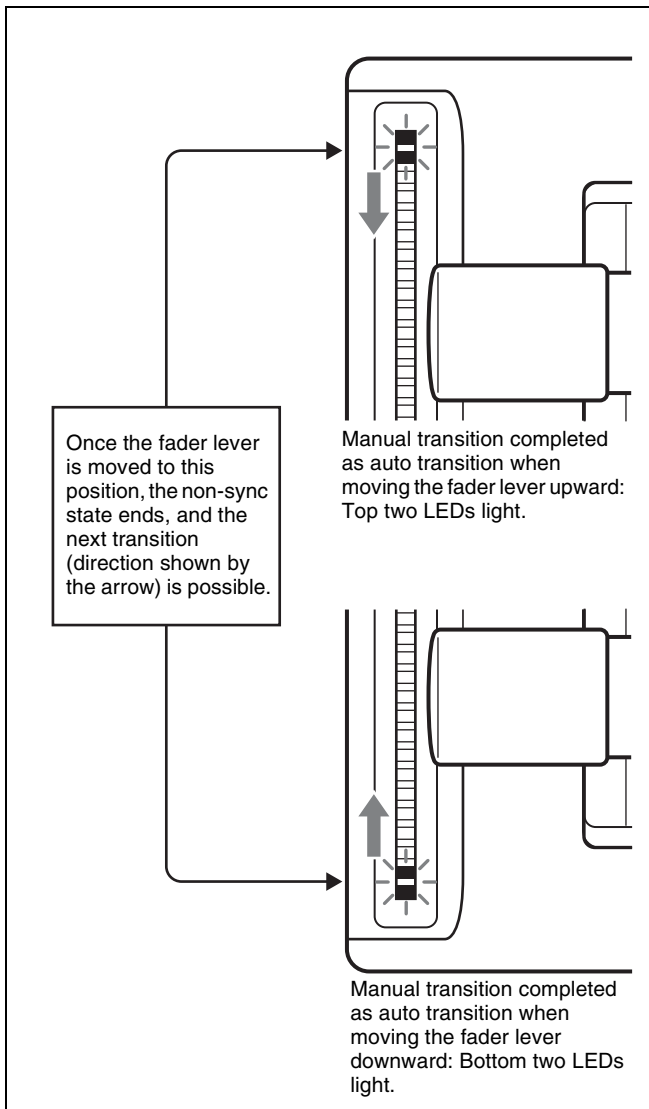
If the transition rate is set to 100 frames, and the fader lever has moved through  $\frac{1}{4}$  of the transition, then the remaining  $\frac{3}{4}$  of the transition is carried out in 100 frames.

## Non-Sync State

If the fader lever is in an intermediate position when a transition is completed as an auto transition, then the lever position no longer agrees with the transition state. This is termed a non-sync state.

In a non-sync state, two lit LEDs indicate the position from which a normal transition can be carried out. This is either at one end position or both end positions of the fader lever travel.

Moving the fader lever toward the position of the lit LEDs does not carry out a transition, but when the fader lever reaches the end position the non-sync state is released, and it is now possible to carry out the next transition.



- If the fader lever is moved in the direction away from the lit LEDs, this carries out the next transition, over the remaining part of the fader lever travel.
- Even in a non-sync state, you can carry out an auto transition by pressing the [AUTO TRANS] button. During the auto transition, the indicators show the transition progress in the usual way, but when the transition completes, they once again indicate the non-sync state.

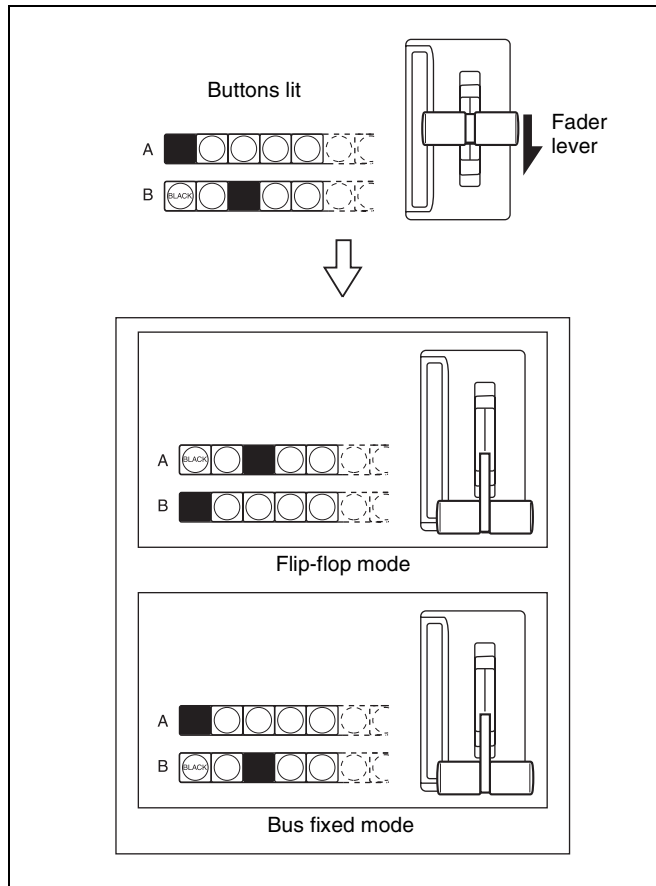
## Fader Lever Operation in Bus Fixed Mode

## Flip-flop mode and bus fixed mode

The following describes the difference between flip-flop mode and bus fixed mode, taking an M/E bank as an example; the functionality is the same, however, on the PGM/PST bank.

Normally, when a background transition is carried out on an M/E bank, the signals selected on the A and B rows of cross-point buttons are interchanged at the end of the transition. That is to say, except during a transition, the background output is always from the background A bus. This is called “flip-flop mode.”

The alternative is known as “bus fixed mode,” in which there is no bus interchange. In this mode, when the fader lever is at the top of its travel the output from the A bus is always 100%, and when the fader lever is at the bottom of its travel the output from the B bus is 100%.



### Flip-flop mode and bus fixed mode

In the bus fixed mode there is a fixed relationship between the position of the fader lever and the signal output on each bus. Depending on the direction of the transition, the fader lever must therefore always be moved in a particular direction, as shown in the following table. This does not affect an auto transition, which is executed regardless of the fader lever direction.

| Next transition                 | Transition direction             | Fader lever movement |
|---------------------------------|----------------------------------|----------------------|
| Background                      | $A \rightarrow B$                | Downward             |
|                                 | $B \rightarrow A$                | Upward               |
| Keys 1, 2, 3, 4, 5, 6, 7, and 8 | On $\rightarrow$ Off (deletion)  | Downward             |
|                                 | Off $\rightarrow$ On (insertion) | Upward               |

- When a transition applies to a combination of more than one of the background and keys 1, 2, 3, 4, 5, 6, 7, and 8, then the transition for all of these must be in the same direction complying with the above table.
- If as a result of an auto transition, for example, the fader lever position does not agree with the signal output, this is a non-sync state (*see page 83*) and LEDs light at both end positions of the fader lever travel. Moving the fader lever does not carry out a transition, but when the fader lever reaches the end position the non-sync state is released, and it is now possible to carry out the next transition. If the fader lever is moved in the direction away from the lit LEDs, this carries out the next transition, over the remaining part of the fader lever travel.

## Transition Preview

With the preview output of the M/E banks and PGM/PST bank, you can check the effect of a transition in advance. To carry out a transition preview, press the [TRANS PVW] button in the transition control block.

### Notes

In multi-program mode, DSK mode or bus fixed mode (*page 84*), it is not possible to carry out a transition preview.

### Carrying out a transition preview

- 1 In the M/E or PGM/PST bank transition control block, press the [TRANS PVW] button.

The [TRANS PVW] button lights green, and the switcher is now in the transition preview mode. At this point, the preview output is the same as the program output before the [TRANS PVW] button was pressed.

- 2 Operate the fader lever, or press the [AUTO TRANS] button or [CUT] button.

On the preview monitor, you can check the effect of the transition.

### To terminate a transition preview

There are three modes for a transition preview. To terminate a transition preview, carry out the operation according to the mode, and press the [TRANS PVW] button, turning it off.

**Lock:** Toggling the [TRANS PVW] button on and off switches between the transition preview mode and the normal mode.

**Hold:** The preview mode obtains only while the [TRANS PVW] button is held down.

**One Time:** Each time a transition ends, it reverts to the normal mode.

Set the transition preview mode in the following combinations.

*For details, see “Setting the Button Operation Mode” in Chapter 19 (Volume 2) and “Settings Relating to Video Switching (Transition Menu)” in Chapter 20 (Volume 2).*

| Transition Preview mode | Switcher setup (Transition menu)<br><Transition Preview> group | Panel setup (Operation >Custom Button menu)<br><Trans Pvw> group |
|-------------------------|--|--|
| Lock                    | Normal   | Lock   |
| Hold                    | Normal   | Hold   |

| Transition Preview mode | Switcher setup (Transition menu) <Transition Preview> group | Panel setup (Operation >Custom Button menu) <Trans Pvw> group |
|-------------------------|---|---|
| One Time                | One Time  | —   |

### Notes

- During a transition, whether executed with the [AUTO TRANS] button or the fader lever, it is not possible to press the [TRANS PVW] button.
- In bus fixed mode (*see page 84*), transition previews are not available.

## Independent Key Transitions

### What is an independent key transition?

In addition to common transitions, it is possible to carry out independent transitions on the keyers of the M/E banks and PGM/PST bank. These are called “independent key transitions.”

By carrying out an independent key transition in combination with a common transition, different transition types can be used for the background and keys. It is also possible to use different transition types for key insertion and key deletion by means of a Setup menu setting (*see page 88*).

### Combining other transitions with independent key transitions

When you set a common transition and a key independent transition for the same key, you can apply two different effects such as a wipe and mix (dissolve) (*see page 70*) to the key simultaneously.

When carrying out such a combination of transitions simultaneously on a key as auto transitions (*see page 82*), the result depends on the timing of pressing the respective [AUTO TRANS] buttons.

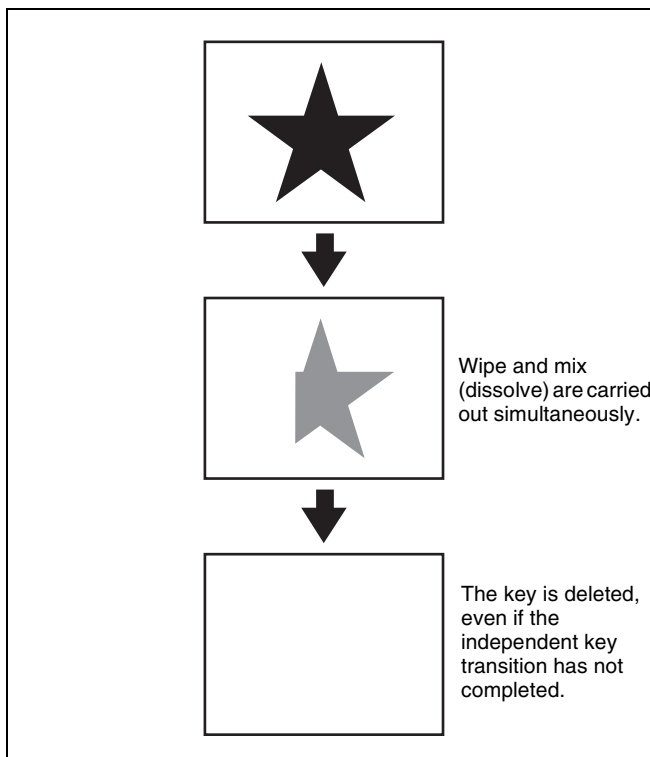
### Simultaneous execution

If the [AUTO TRANS] buttons for the two transitions are pressed simultaneously, the following is the result.

Note that in both cases the common transition is a wipe and the independent key transition is a mix (dissolve).

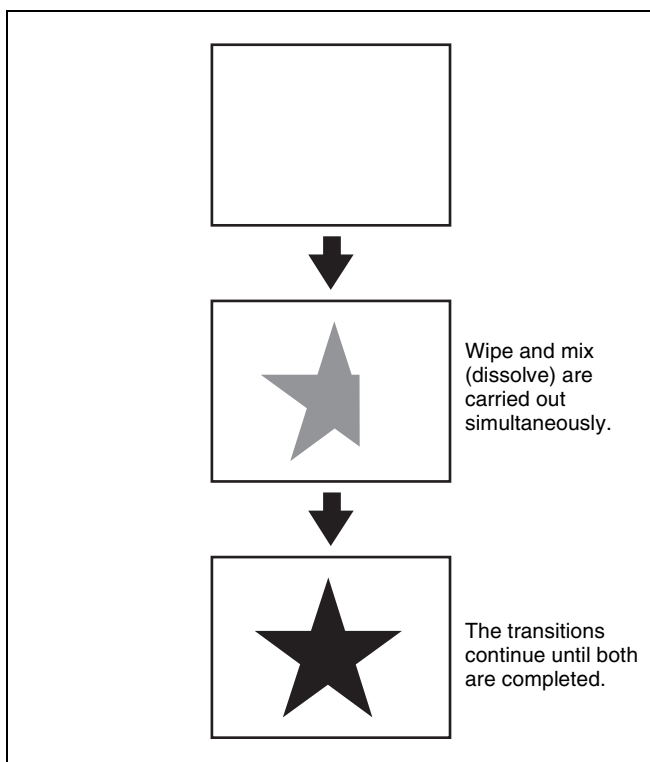
**Deleting a key with simultaneous transitions:** With the key inserted, it is deleted simultaneously with the two transitions.

When the common transition completes, even if the independent key transition is still not completed, the two end simultaneously.



Deleting a key with simultaneous transitions

**Inserting a key with simultaneous transitions:** With the key not inserted, it is inserted simultaneously with the two transitions. If the common transition or independent key transition ends first, the other continues to completion.



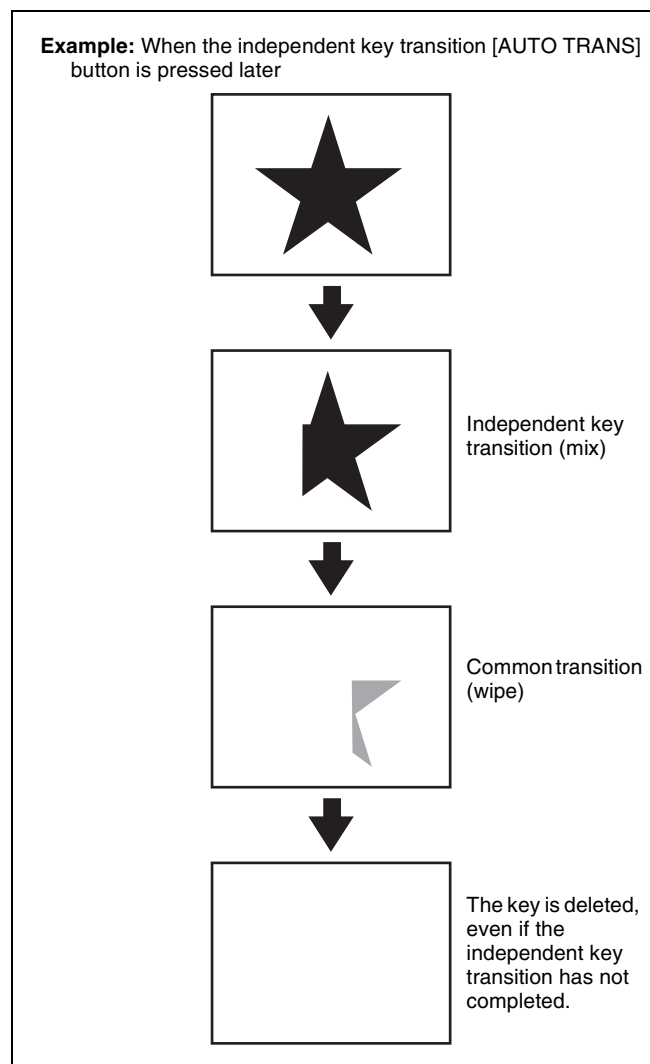
Inserting a key with simultaneous transitions

### Time offset execution

If the [AUTO TRANS] buttons for the two transitions are pressed with a time offset, the following is the result. Note that in both cases the common transition is a wipe and the independent key transition is a mix (dissolve).

**Time offset execution with the key inserted:** With the key inserted, it is deleted with the two transitions acting with a time offset.

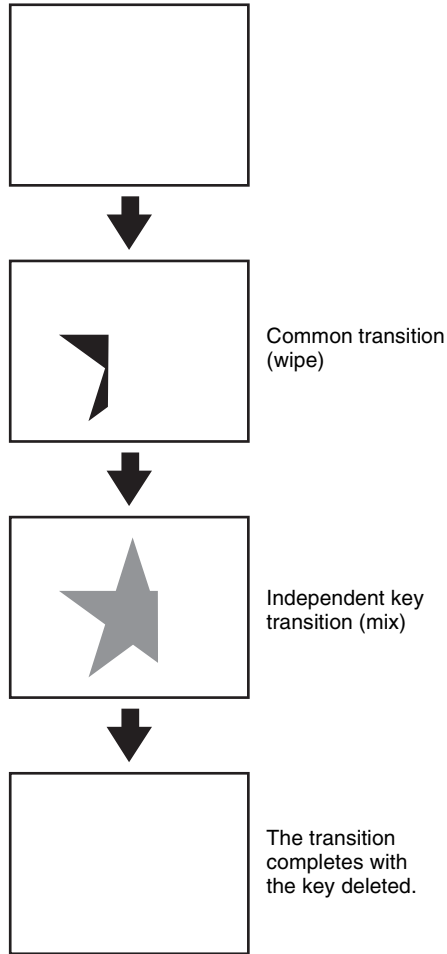
Whichever button is pressed first, when the common transition completes, even if the independent key transition is still not completed, the two end simultaneously.



Time offset execution with the key inserted

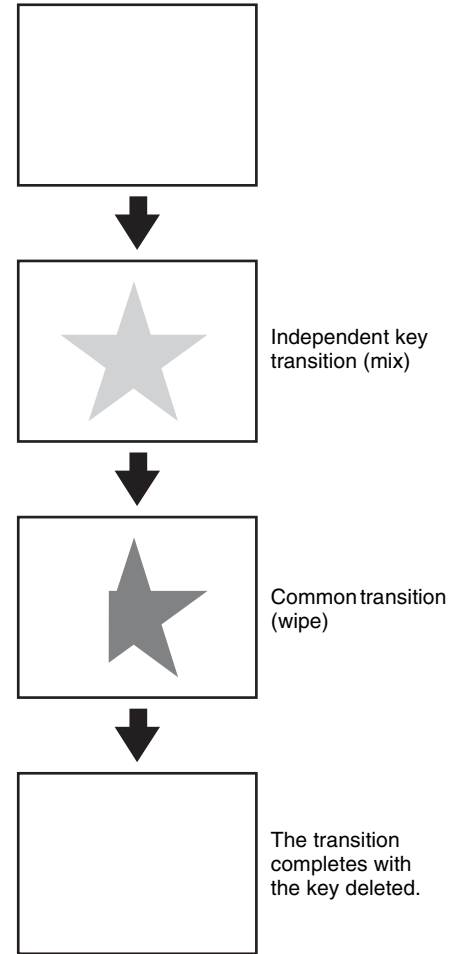
**Time offset execution with the key not inserted:** With the key not inserted, it is inserted with the transition whose [AUTO TRANS] button is pressed first. Since the key is then in the inserted state, with the transition whose [AUTO TRANS] button is pressed later, the key is deleted. When the key is completely deleted, both transitions complete.

**Example 1:** When the independent key transition [AUTO TRANS] button is pressed later



Time offset execution with the key not inserted

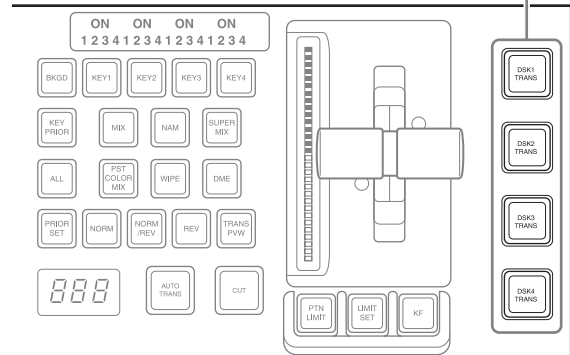
**Example 2:** When the common transition [AUTO TRANS] button is pressed later



Time offset execution with the key not inserted

## Basic Independent Key Transition Operations

Independent key/downstream key transition execution section



Transition control block

You can set independent transitions for the keyers on the M/E or PGM/PST bank.

To execute an independent key transition, press the appropriate button in the independent key/downstream key transition execution section of the transition control block. The color with which buttons are lit shows the status, as follows.

**Lit green:** During a transition

**Lit amber:** Key inserted

**Lit red:** Key inserted into final output video

**Not lit:** Key not inserted

To select the transition type and set the transition rate, use a menu operation.

#### Notes

- In an independent key transition, the pattern limit function is not available.
- The buttons for [Key5] to [Key8] and [DSK5] to [DSK8] require previous assignment in the Setup menu (*see page 352*).

## Setting the Independent Key Transition Type by a Menu Operation

You can also select the required independent key transition type by a menu operation.

- 1 In the M/E or PGM/PST menu, select first the desired one from VF1 'Key1' to VF4 'Key4,' then HF6 'Transition.'

The Transition menu for the selected appears.

- 2 Select the required transition type in the <Transition Type> group.

If, in the Setup menus, you set insertion/deletion as independent modes, make the settings for insertion in the <On Transition Type> group, and the settings for deletion in the <Off Transition Type> group.

## Setting the Independent Key Transition Rate

There are two ways of setting the transition rate: using the numeric keypad control block to enter a numeric value, or using the Key menu to access the Transition menu for the M/E or PGM/PST bank.

You can also display the transition rate and independent key transition rate for each of the M/E and PGM/PST banks, and change the settings (*see page 192*).

When the setup selection is for separate transition rates for inserting or deleting a key, you can set both rates independently. For example, with the system in the state

with the key not inserted, the transition rate setting applies to key insertion.

## Setting the independent key transition rate in the numeric keypad control block

- 1 In the numeric keypad control block, hold down the [TRANS RATE] button, and in the independent key transition control block, press the delegation button [KEY1] to [KEY8] ([DSK1] to [DSK8] in the PGM/PST bank) for the key for which you want to set the transition rate.

The numeric keypad control block changes to the mode for inputting the independent key transition rate, and its display now shows the corresponding region name and the current transition rate set for the region.

- 2 With the numeric keypad, enter the transition rate.

- Enter a value of up to three digits.
- To clear the entry value, press the [CLR] button.

*For details of frame input mode and timecode input mode, see page 80.*

- 3 Press the [ENTER] button.

This confirms the entry, and the selected region name and the set transition rate appear in the numeric keypad control block display.

### To enter a difference from the current value

After pressing the [+/-] button, enter the difference and press the [TRIM] button.

To change the sign (+ or -), press the [+/-] button.

## Setting the independent key transition rate by a menu operation

- 1 In the M/E or PGM/PST menu, select first the desired one from VF1 'Key1' to VF4 'Key4,' then HF6 'Transition.'

The Transition menu for the selected key appears.

- 2 Select any transition type in the <Transition Type> group.

If, in the Setup menus, you set insertion/deletion as independent modes, make the settings for insertion in the <On Transition Type> group, and the settings for deletion in the <Off Transition Type> group.

- 3 Turn the knob to set the transition rate.

| Knob | Parameter       | Adjustment      | Setting values         |
|------|-----------------|-----------------|------------------------|
| 1    | Transition Rate | Transition rate | 0 to 999 (frame count) |

## Displaying the independent key transition rates in a menu and changing the settings

For each of the M/E and PGM/PST banks, you can also display the transition rate and independent key transition rate, and change the settings (*see page 192*).

## Fade to Black

The PGM/PST block provides a fade-to-black function for the program output image.

### Notes

- Fade-to-black can be executed via a GPI or a macro. However, it cannot be executed by control panel button operation.
- In multi-program mode or DSK mode, it is possible to carry out a fade-to-black on a number of programs simultaneously.

You can also make a Setup menu setting such that a fade-to-black does not apply to particular programs.

*For details of the setting, see “Settings Relating to Video Switching (Transition Menu)” in Chapter 20 (Volume 2).*

## Setting the Fade to Black Transition Rate

### Setting the fade to black transition rate

- 1 In the PGM/PST menu, select first VF7 ‘Misc,’ then HF1 ‘Transition.’

The Transition menu appears.

- 2 Select [FTB].
- 3 Turn the knob to set the fade to black transition rate.

| Knob | Parameter       | Adjustment      | Setting values         |
|------|-----------------|-----------------|------------------------|
| 1    | Transition Rate | Transition rate | 0 to 999 (frame count) |

## Displaying the transition rates in a menu and changing the settings

You can also display the transition rate, independent key transition rate, and fade-to-black transition rate for each of the M/E and PGM/PST banks, and change the settings (*see page 192*).



# AUX Mix Transitions

In addition to M/E and PGM/PST, you can make transitions between two AUX buses.

## Notes

- AUX mix transitions can be executed via a macro. However, they cannot be executed by control panel button operation.  
*For details of macro events, see “Macro File Editing Rules” in Appendix (Volume 2).*
- AUX mix transitions cannot be executed in 3D mode.

## Preparations for AUX mix transitions

The following preparations are required.

| Preparations  | Refer to   |
|---|--|
| Assign the two AUX buses used for the AUX mix to consecutive odd-numbered and even-numbered output connectors (for example, Output 1 and Output 2). | <i>“Enabling AUX Mix Transitions” in Chapter 20 (Volume 2)</i> |
| Set the AUX mix transition rate.  | <i>page 192</i>  |

## Overview

A key is an effect in which a part of the background image is replaced by an image or superimposed text. The signal determining how the background is cut out is termed the “key source,” and the signal that replaces the cut-out part is termed the “key fill.”

The system component responsible for processing a key is referred to as a keyer.

Each M/E bank and the PGM/PST bank has eight keyers, and all of these keyers provide the same functions.

### Notes

- When the signal format is 1080P, four keyers can be used (keys 1 to 4).
- On the MVS-7000X, the number of available keys depends on the M/E bank.  
*For details, see “M/E Configuration Switching” (page 222).*

## Key Types

The key type indicates the manner in which the key source signal is used to cut out the background. In each bank, you can use the following key types. You can select the key type using the key type selection buttons in the key control block, or by a setting in the Type menu for the keyer (*see page 96*).

### Luminance key

The background is cut out according to the luminance (Y) of the key source signal, and at the same time the key fill signal is cut out and then added to the background signal.

### Linear key

This is a type of luminance key, but there is a reduced variability in gain, allowing more precise adjustment.

### Color vector key

The key signal is created from a combination of the luminance and chrominance components of the key source signal. When perfect keying is not possible with a luminance key, this allows a key signal to be created even if the luminance level is low, provided that the colors have high saturation.

### Clean mode

In a luminance key, linear key or color vector key, you can enable the clean mode. When the clean mode is on, the key source does not affect the key fill, which is added unchanged to the background. This improves the keyed image quality, but means that the part of the key fill signal which is not to be inserted must be completely black, or it will color the background. You set the clean mode with the Type menu of the respective keyer.

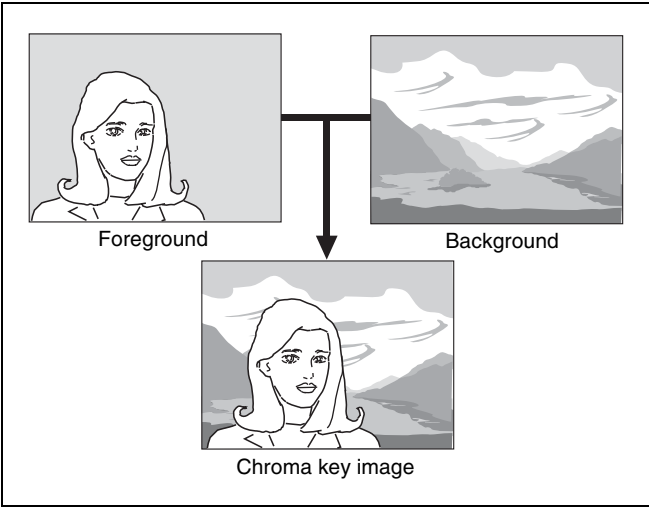
*For details, see “Setting the key type in a menu” (page 96).*

Note that in the following situations, the clean mode goes off, and cannot be turned on.

- When the key type is a pattern key
- When key inversion is on
- When the key fill is a matte
- When the key edge is an outline
- When the key edge is normal with soft edge being on
- When fine key is on
- When the key positioner is on

### Chroma key

A key signal based on a particular color is used to cut out the background, and the key fill is then inserted. The inserted signal is also referred to as the foreground, and the composite image is called a chroma key image.



For details of chroma key, see (page 99) and (page 100).

### Wipe pattern key

This uses the wipe pattern selected for a transition as the key source.

### Key wipe pattern key

This uses the wipe pattern selected for an independent key transition as the key source.

#### Note on wipe pattern modifiers

In a wipe pattern key or key wipe pattern key, you can apply various modifications, depending on the pattern used, and the modifiers in common with a wipe. However, modifiers which relate to the wipe direction and edge are not reflected.

## Key Modifiers

### Edge modifiers

You can apply borders and other effects to the edge of the key (see pages 103 and 114).

| Name   | Effect  | Image |
|--------|---|-------|
| Normal | This is the state with no key edge modifiers applied. |       |

| Name        | Effect   | Image |
|-------------|--|-------|
| Border      | This applies a uniform width border to the edge of the key. You can adjust the border width and density. You can also enable the separate edge function, and adjust the top, bottom, left, and right border widths separately.                                       |       |
| Drop border | This applies a border below and to the right for example, of the key. You can adjust the border width, position, and density.  |       |
| Shadow      | This applies a shadow below and to the right for example, of the key. You can adjust the shadow width, position, and density.  |       |
| Outline     | This uses the outline of the original key as the key. You can adjust the width and density of the outline. You can also enable the separate edge function, and adjust the top, bottom, left, and right outline widths separately.                                    |       |
| Emboss      | This applies an embossing effect to the outline of the key. You can adjust the width and position of the embossing and the density. You can adjust the density separately for key fill and key edge. When embossing is on, the Fine Key and zabton functions go off. | —     |
| Soft edge   | This softens the edge of the key.  | —     |
| Zabton      | This inserts a translucent pattern behind a key. You can adjust the pattern size, softness, density and color.   | —     |

## Edge type and key fill/key source position

The key edge modification function has two modes: a mode (“key drop ON mode”) in which the key fill/key source position moves downward, and a mode (“key drop OFF mode”) in which it does not move downward.

**Key drop ON mode:** The key fill/key source position moves downward by eight scan lines or four scan lines. When a drop border or shadow is selected, it is possible to apply a border to the top edge of the key.

**Key drop OFF mode:** The key fill/key source position does not move. When a drop border or shadow is selected, it is not possible to apply a border to the top edge of the key.

In the key drop ON mode, a menu setting selects between the mode (“4H mode”) in which the key fill/key source position is lowered by four scan lines, and the mode (“8H mode”) in which the key fill/key source position is lowered by eight scan lines.

When Fine Key is on, the edge width is forced to the range 0.00 to 4.00.

Note that in the following situations, the key drop mode is forcibly turned on.

- When the edge type is border, outline, or emboss
- When the edge type is normal with soft edge being on
- When Fine Key is on

### To fix key fill / key source in key drop off mode

Switch frame delay mode on.

Regardless of the fine key and edge type settings, key fill and key source are fixed in key drop off mode. In this mode key image has a one-frame delay.

#### Notes

This function uses the resizer, and therefore the normal effect of the setting is not obtained while using DME wipe or other effect that uses the resizer.

## Edge fill

When a border, drop border, or shadow modifier is selected, you can select a signal to fill these edge effects. The edge fill may be either the signal from the dedicated color matte generator, or the signal currently selected on the utility 1 bus.

In the case of an outline, there is no edge fill signal selection, because the key fill signal fills the outline, and the rest of the image remains as the background.

For the emboss effect, in place of the edge fill signal, the emboss fill matte 1 and emboss fill matte 2 signals are used.

## Masks

A mask is used to inhibit the effect of a key over a part of the image. This allows parts of the background which

would otherwise be keyed to be protected, or to correct the key if it is not of the desired shape.

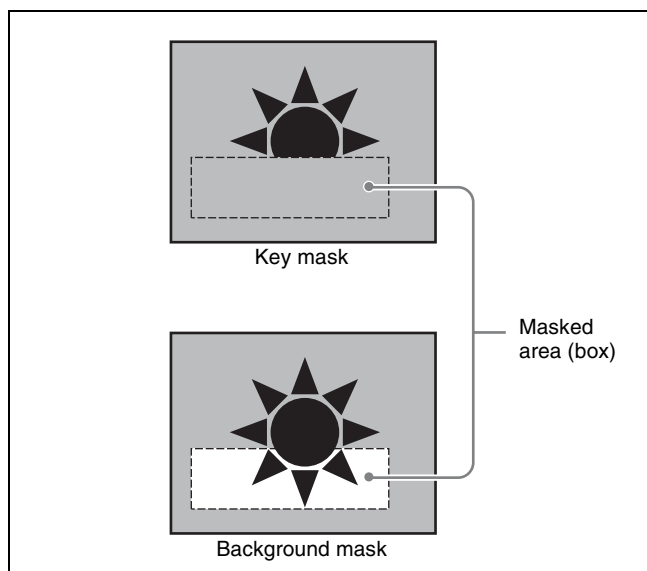
For details of masking operations, see “Masks” (pages 106 and 115).

### Key mask and background mask

There are two types of mask: a key mask and a background mask.

**Key mask:** This masks out a part of the key, which will result in the background appearing.

**Background mask:** This masks out a part of the background, which will result in the key fill appearing.



### Main mask and subsidiary (“sub”) mask

Each keyer allows two masks to be used simultaneously, and these are referred to as the main mask and the sub mask. The signal that determines the mask shape and size is termed the mask source, and different sources are used for the main mask and sub mask.

**Main mask:** This uses the signal from the dedicated box generator provided on each keyer, or the signal from the dedicated pattern generator as the mask source.

When the box generator is selected, a rectangular mask is formed. You can adjust the positions of the four sides of the box separately.

When the pattern generator is selected, you can select the pattern and apply modifiers.

**Sub mask:** This uses the wipe generator signal or the signal selected on the utility 1 bus, as the mask source. When the wipe generator is selected, the patterns and the pattern modifiers are the same as in a wipe transition.

## Key Memory

The key memory function allows the keyer settings on each cross-point button to be automatically stored, so that

the next time the same cross-point button is selected these settings are recalled automatically.

There are two modes for key memory: simple mode and full mode.

The parameters stored in each mode are as follows.

**Simple mode:** key type, clean mode (including the plane setting for chroma keying), key position, key inversion, and adjustment values for the particular key type (Clip, Gain, Density, Filter, etc. This includes color vector key, wipe pattern key, key wipe pattern key, and chroma key. However, in the case of a chroma key, it excludes color cancel, Y balance, foreground CCR, window, and shadow.)

**Full mode:** All settings except transition (the same parameters as simple mode, Fine Key, key modifiers, main and sub mask settings, chroma key detailed settings, and so on)

*For the settings for these modes, see “Selecting the Bank to Make the Settings” in Chapter 20 (Volume 2).*

## Key Default

With a simple operation you can return the key adjustment values to their defaults.

The adjustment values which can be returned to their default values are as follows.

- Adjustment values for the particular key type (Clip, Gain, Density, Filter, etc.)  
In the case of chroma keying, all adjustment values return to their default values.
- Key position
- Key inversion
- Clean mode

*For details, see “Returning the key adjustment values to their defaults” (page 117).*

*For the menu operation to return the key adjustment values to their defaults, see “Returning to Default State in Function Groupings” (page 62).*

# Key Setting Operations Using Menus

There are two ways of making key settings: either using menus, or using the key control block.

This section describes basic procedures for making key settings using the menus, taking the M/E-1 >Key1 menu as an example.

Operations in the Key menus are the same for all banks (M/E and PGM/PST).

*For details of the method of using the key control block, see “Key Setting Operations with the Key Control Block” (page 112).*

## Key Setting Menus

The key setting menus for each bank (M/E and PGM/PST) are as follows.

| Bank    | Keys set               | Menus              |
|---------|------------------------|--------------------|
| M/E-1   | Keys 1 to 8            | M/E-1 >Key1 to 8   |
| PGM/PST | Downstream keys 1 to 8 | PGM/PST >DSK1 to 8 |

### Notes

- When the signal format is 1080P, only keys 1 to 4 can be used.
- On the MVS-7000X, the number of available keys depends on the M/E bank.

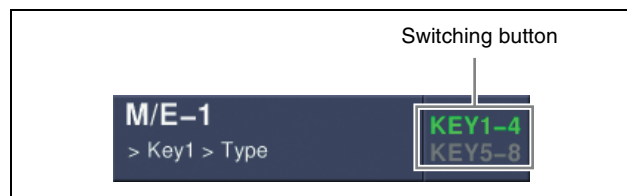
*For details, see “M/E Configuration Switching” (page 222).*

## Accessing a key setting menu

For example, to access the M/E-1 >Key1 menu, carry out any of the following procedures.

- In the menu control block, select the top menu selection button [M/E 1], then press VF1 ‘Key1.’

If VF1 ‘Key5’ is shown, press the [KEY1-4] switching button at the top of the menu, turning it on, then press VF1 ‘Key1.’



- In the M/E-1 bank transition control block, press the KEY1 next transition selection button twice in rapid succession.

- Press the [KEY1] button in the key delegation row of the M/E-1 bank twice in rapid succession.
- In the key control block, press the M/E delegation button [M/E 1], then press the key delegation button [KEY1] twice in rapid succession.

Note that you can access the DSK menus by pressing the button for the corresponding key in the downstream key control block twice in rapid succession.

#### Notes

- To select [M/E 4] or [M/E 5] with the top menu selection buttons, it is first necessary to assign a button in the Setup menu (*see page 351*).
- To select [Key5] to [Key8], and [DSK5] to [DSK8] in the key control block, a previous assignment in the Setup menu is required (*see page 352*).

## Key Type Setting

### Setting the key type in a menu

- 1 In the M/E-1 >Key1 menu, select HF1 'Type.'

The Type menu appears.

- 2 In the <Key Type> group, select the key type.

**Luminance:** luminance key

**Linear:** linear key

**Chroma:** chroma key

**Color Vector:** color vector key

**Wipe Pattern:** wipe pattern key

**Key Wipe Pattern:** key wipe pattern key

- 3 Carry out the following settings as required, depending on the key type selected in step 2.

**To enable clean mode (*see page 92*) for a luminance key, linear key or color vector key:** Select [Clean Mode] so that it is set on.

When clean mode is enabled, key fill is added to the background without cutting out with key source.

**When chroma key is selected:** Select [Chroma Adjust] to access the Chroma Adjust menu (*see page 100*), and make the required settings.

**When a wipe pattern key is selected:** In the M/E-1 >Wipe menu (*see page 127*), select the pattern and set any modifiers, then return to the M/E-1 >Key1 menu.

**When a key wipe pattern key is selected:** In the M/E-1 >Key1 >Transition >Wipe Adjust menu (*see page 139*), carry out pattern selection and modifier setting, then return to the M/E-1 >Key1 >Type menu.

#### Notes

For a wipe pattern selected for a wipe pattern key or key wipe pattern key, the [Edge] and [Direction] modifier settings are not available.

## 4 Set the parameters.

### When a luminance key or linear key is selected

| Knob | Parameter | Adjustment                                    | Setting values       |
|------|-----------|---|----------------------|
| 1    | Clip      | Reference level for generating the key signal | +109.59 to -7.31     |
| 2    | Gain      | Key sensitivity                               | -100.00 to +100.00   |
| 3    | Density   | Key density                                   | 0.00 to 100.00       |
| 4    | Filter    | Filter coefficient                            | 1 to 9 <sup>a)</sup> |

a) Setting this value to 1 activates "through" state in which no filter is applied. The larger the value, the more strongly the filter applies.

### When a chroma key is selected

| Knob | Parameter | Adjustment  | Setting values |
|------|-----------|-------------|----------------|
| 3    | Density   | Key density | 0.00 to 100.00 |

### When a color vector key is selected

Parameter group [1/2]

| Knob | Parameter | Adjustment                                      | Setting values     |
|------|-----------|---|--------------------|
| 1    | Y Clip    | Reference level for creating luminance signal   | +109.59 to -7.31   |
| 2    | Y Gain    | Luminance signal sensitivity                    | -100.00 to +100.00 |
| 3    | C Clip    | Reference level for creating chrominance signal | 100.00 to 0.00     |
| 4    | C Gain    | Chrominance signal sensitivity                  | -100.00 to +100.00 |
| 5    | Density   | Key density                                     | 0.00 to 100.00     |

Parameter group [2/2]

| Knob | Parameter | Adjustment                            | Setting values |
|------|-----------|---------------------------------------|----------------|
| 1    | Y Filter  | Luminance signal filter coefficient   | 1 to 9         |
| 2    | C Filter  | Chrominance signal filter coefficient | 1 to 9         |

### When a wipe pattern key or key wipe pattern key is selected

| Knob | Parameter | Adjustment   | Setting values |
|------|-----------|--------------|----------------|
| 1    | Size      | Pattern size | 0.00 to 100.00 |

| Knob | Parameter | Adjustment              | Setting values |
|------|-----------|-------------------------|----------------|
| 2    | Soft      | Degree of edge softness | 0.00 to 100.00 |
| 3    | Density   | Key density             | 0.00 to 100.00 |

- 5** Make the following settings as required.

**To invert the black and white sense of the key**

**source:** Press [Key Invert], turning it on.

**To adjust the horizontal position or key source width for a luminance key, linear key, or**

**chroma key:** Press [Key Position], turning it on, and set the parameters.

| Knob | Parameter | Adjustment              | Setting values |
|------|-----------|-------------------------|----------------|
| 1    | H Phase   | Key horizontal position | −4.00 to +4.00 |
| 2    | Left      | Key left edge position  | −4.00 to +4.00 |
| 3    | Right     | Key right edge position | −4.00 to +4.00 |

**To set the key priority:** Press [Key Priority] or select VF7 ‘Misc’ and HF3 ‘Key Priority’ to access the Key Priority menu.

For details, see “Setting the Key Priority by a Menu Operation” (page 74).

## Selecting Key Fill and Key Source

### Notes

In the case of the MVS-8000X, only the premium inputs (inputs to the switcher premium input connectors 1 to 20) can be selected as key signals on the M/E-4 bank.

### Selecting key fill and key source

To select key fill and key source for key 1 on the M/E-1 bank, use the following procedure.

- 1** In the M/E-1 >Key1 menu, select HF1 ‘Type.’  
The Type menu appears.
- 2** In the <Key Fill> group, select either of the following for use as key fill.  
**Key Bus:** signal selected on the key 1 fill bus  
**Matte:** signal from the dedicated color matte generator
- 3** If you selected [Key Bus] in step **2**, press the key delegation button [KEY1] in the cross-point control block and select the key fill signal in the key row.

- 4** If you selected [Matte] in step **2**, in the same Type menu, press [Matte Adjust] to display the Matte Adjust menu, then adjust the single-color or two-color combination color matte. Select whether to use a single-color matte or a two-color combination in the <Fill Matte> group.

**Flat Color:** Adjust color 1 with the following parameters.

| Knob | Parameter  | Adjustment | Setting values |
|------|------------|------------|----------------|
| 1    | Luminance  | Luminance  | 0.00 to 100.00 |
| 2    | Saturation | Saturation | 0.00 to 100.00 |
| 3    | Hue        | Hue        | 359.99 to 0.00 |

**Mix Color:** Carry out a color mix. Adjust color 1 and color 2, and select a mix pattern (*see the next section*).

- 5** In the <Key Source> group, specify the key source selection mode.

**Self:** The key fill bus signal is automatically selected as the key source.

When the key type is selected as chroma key, select [Self].

**Auto Select:** The signal allocated, being paired with the key fill bus signal, to a cross-point button is automatically selected as the key source. The setting of key fill and key source pairs is carried out in the Setup menu.

For details, see “Cross-Point Settings (Xpt Assign Menu)” in Chapter 19 (Volume 2).

**Split:** You can select a key source signal independently of the key source automatically selected in Auto Select mode.

- 6** If [Split] was selected in step **5**, hold down the [KEY1] button and press the appropriate button in the key row to select the key source signal.

To select the video signal assigned to the button, turn off the [KEY] button in the AUX bus control block, and to select the key signal, turn on the [KEY] button before pressing the button in the key row.

### Notes

- Carrying out a [KEY] button operation in the AUX bus control block requires the [KEY] button operating mode (Key Source Bus Select Mode) to be set. With the factory default setting (Key), the [KEY] button is always off, and it is only possible to select a key signal assigned to a button as the key source signal.

For details, see “Setting the Button Operation Mode” in Chapter 19 (Volume 2).

- When [Split] is selected, the key memory function (see page 94) is disabled.

### To select a video signal assigned to a cross-point button

By selecting the key source bus with an auxiliary bus control block AUX delegation button, and pressing the cross-point button, it is possible to select the video signal assigned to the cross-point button.

If you press the cross-point button with holding down [KEY], the key signal is selected.

#### Notes

In the above operation, the following settings must have been made.

- Assigning the key source bus to an AUX delegation button  
For details, see “Auxiliary Bus Control Block Settings (Aux Assign Menu)” in Chapter 19 (Volume 2).
- Setting the [KEY] button operating mode  
For details, see “Setting the Button Operation Mode” in Chapter 19 (Volume 2).

## Selecting key source and key fill in the menu

### Selecting key source

For example, to select the key source for M/E-1 key 1, use the following procedure.

- 1 In the <Key Fill> group of the M/E-1 >Key1 >Type menu, hold down [Key Bus].
- 2 Press [Signal Select].

The Signal Select menu appears.



- 3 In the <Target> group, press [Source].
- 4 In the <Key Source> group, select the key source selection mode (Self, Auto Select, or Split).

See step 5 in “Selecting Key Fill and Key Source” (page 97).

- 5 If you selected [Split], using any of the following methods, select the key source signal.

- Press directly on the list on the right.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Setting       | Values   |
|------|-----------|---------------|----------|
| 1    | No        | Button number | 1 to 300 |

- 6 In the <Assign> group, select the video signal or key signal from the V/K pair to assign to the key source.

- 7 Press [Set Xpt].

This selects the key source signal.

### Selecting key fill

For example, to select the key fill for M/E-1 key 1, use the following procedure.

- 1 In the M/E-1 >Key1 >Type menu status area, press “Fill.”

The Signal Select menu appears.

- 2 In the <Target> group, press [Fill].
- 3 Select the fill signal from the list on the right.
- 4 Press [Set Xpt].

This selects the key fill signal.

## Carrying out a color mix for key fill

When [Matte] is selected for key fill, you can combine color 1 and color 2. For the combination, you can use not only a key wipe generator pattern, but also the dedicated pattern for key edge color mix.

- 1 In the <Key Fill> group of the Type menu, select [Matte] and press [Matte Adjust].

The Matte Adjust menu appears.

- 2 Select [Mix Color] in the <Fill Matte> group.
- 3 Adjust the following parameters.

| Knob | Parameter | Adjustment                          | Setting values |
|------|-----------|-------------------------------------|----------------|
| 1    | Size      | Pattern size                        | 0.00 to 100.00 |
| 2    | Soft      | Softness of the edge of the pattern | 0.00 to 100.00 |



- 4** Select the combining pattern in the <Mix Pattern> group.

**Key Wipe:** The wipe pattern selected for an independent key transition is used for combination. You can change this pattern by pressing [Pattern Select] to open the menu for key wipe pattern selection (Pattern Select menu), and make adjustments by pressing [Pattern Adjust] to open the menu for pattern adjustment (Wipe Adjust menu).

**Key Edge Pattern:** Combine using the dedicated pattern selected for the color mix in the key edge fill. You can change this pattern by pressing [Pattern Select] to open the menu for edge color mix dedicated wipe pattern selection (Mix Pattern Select menu), and make adjustments by pressing [Pattern Adjust] to open the menu for pattern adjustment (Matte Adjust menu).

*For details, see “Carrying out a color mix for the key edge fill matte” (page 104).*

- 5** In the Type menu, adjust color 1 and color 2.

To adjust color 1, select [Color1], and to adjust color 2, select [Color2], then adjust the following parameters.

| Knob | Parameter  | Adjustment | Setting values |
|------|------------|------------|----------------|
| 1    | Luminance  | Luminance  | 0.00 to 100.00 |
| 2    | Saturation | Saturation | 0.00 to 100.00 |
| 3    | Hue        | Hue        | 359.99 to 0.00 |

- 6** To interchange color 1 and color 2, press [Color Invert], turning it on.

## Chroma Key Composition and Basic Settings

In creating a chroma key image, either a normal mix or an additive mix can be used. To select which, use the Type >Chroma Adjust menu for the keyer.

**Normal mix:** The foreground is cut out with the key signal, and then combined with the background, which has also been cut out with the key signal.

**Additive mix:** The background, which has been cut out with the key signal, is combined with the unshaped foreground. This is effective for a natural-looking composite when the scene includes glass or other translucent objects.

### Plane function

In an additive mix, the foreground is not shaped by the key signal, and variations in the (blue) background appear in the composite image. To prevent this, it is possible to set a

particular luminance level for the background, and any parts below this level are cut forcibly.

## Composing an image by chroma keying

- 1 In the M/E-1 >Key1 menu, select HF1 ‘Type.’
- 2 Select [Chroma] in the <Key Type> group.  
It becomes possible to adjust the key density (*see page 96*).
- 3 Select [Chroma Adjust].  
The Chroma Adjust menu appears.
- 4 Carry out auto chroma key adjustments.  
Also carry out manual adjustments if necessary to obtain an optimum chroma key image.
- 5 In the <Mix Mode> group, select [Normal Mix] or [Additive Mix] depending on the desired type of chroma key composition.

When using an additive mix for chroma keying, the (typically blue) background parts of the foreground video must be converted to black. For this, use the color cancel function (*see page 101*).

## Using the plane function

In an additive mix, since no key is applied to the foreground, any variations in the (typically blue) background may appear in the composite image. To avoid this, a particular luminance level can be set for the (blue) background, and regions of lower luminance forcibly cut.

- 1 In the Chroma Adjust menu, set [Plane] on.
- 2 Adjust the following parameter.

| Knob | Parameter | Adjustment      | Setting values |
|------|-----------|-----------------|----------------|
| 1    | Luminance | Luminance level | 0.00 to 100.00 |

# Key Adjustments (Menus)

This section describes key adjustments made by a menu operation.

You can adjust the following functions by a menu operation.

- Chroma Key Adjustment (page 100)
- Key Edge Modifications (page 103)
- Masks (page 106)
- Applying a DME effect to a key (page 107)
- Specifying the Key Output Destination (page 108)
- Key Modify Clear (page 109)
- Blink Function (page 109)
- Video Processing (page 109)

## Chroma Key Adjustments

Methods of adjusting the composite obtained from chroma keying include automatic adjustment with the auto chroma key function, and manual adjustment carrying out the necessary processing separately. The optimum results will be obtained by first carrying out adjustments with the auto chroma key function, then making any fine adjustments as required.

The following manual adjustments are possible.

### Key active

When this function is off, only the foreground is output and you can make adjustments of color cancel (*see the next paragraph*).

### Color cancel

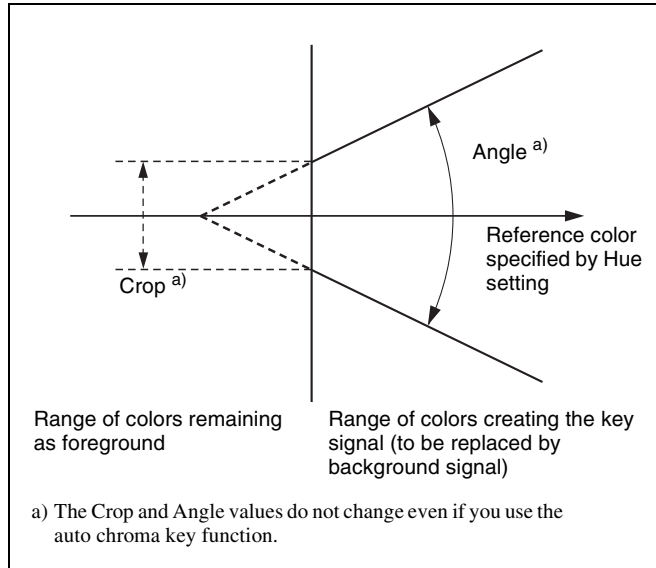
If the foreground image includes shades of the background color, turn this function on to remove the color from the foreground image.

### Chroma key window

You can adjust the range over which the key signal is determined as matching the specified hue. When this adjustment is off the default ranges are used.

Chroma keying generates a key signal based on a particular color (reference color) in the foreground (typically a plain blue background), and the “window” refers to the range of colors which are regarded as matching this specified reference color to create the key signal.

As seen on a vectorscope (that is, in the hue-saturation color space), the range for this matching corresponds to a truncated sector. This range is specified by two parameters: the “Angle” parameter, which determines the range of the hue parameter, and the “Crop” parameter, which determines the degree of truncation (*see the following figure*).



Window adjustment

### Y balance

In normal chroma keying, the key signal is based on the chrominance component only, and all elements of the foreground with the same hue are replaced by the background. Using the Y balance function, you can specify a luminance level range within which the key is active, and replace the specified part by the background.

You can use the Y balance function independently on the key signal for the composition and the key signal for the color cancel function. When applied to the key signal for the composition, this produces the foreground with the color cancel effect applied. This can therefore be used to provide an impression of smoke, for example.

When the Y balance function is applied to the color cancel key, the relevant part is output in its original color without canceling, and therefore it is possible to combine colors which are the same color as the background (i.e. typically blue) in the foreground.

### Chroma key shadow

This function provides a more realistic treatment when the shadow of an object in the field of view falls on the blue background. Since parts of the blue background darker than a specified intensity are treated as shadows, there is no effect on cutting out of the foreground.

### Video signal adjustment

You can vary the foreground signal gain, or change the hue. There are separate adjustments for the gain of the overall video signal, and Y and C components.

## Making auto chroma key adjustments

Auto chroma key is an automatic adjustment function which allows you to specify a part of the foreground video (for example, the blue background color) and use it as a reference for creating the chroma key image.

- 1 In the M/E-1 >Key1 menu, select HF1 'Type,' then select [Chroma] in the <Key Type> group.
- 2 Select [Chroma Adjust].  
The Chroma Adjust menu appears.
- 3 Select [Sample Mark] in the <Auto> group.  
The foreground video only appears on the monitor, with a white box-shaped sample selector.
- 4 Adjust the position and size of the sample selector, to specify the color to be used as the basis of chroma keying (typically a blue background).

| Knob | Parameter  | Adjustment          | Setting values                   |
|------|------------|---------------------|----------------------------------|
| 1    | Position H | Horizontal position | -100.00 to +100.00 <sup>a)</sup> |
| 2    | Position V | Vertical position   | -100.00 to +100.00 <sup>a)</sup> |
| 3    | Size       | Size                | 1.00 to 100.00                   |

a) The setting ranges depend on the signal format, screen aspect ratio, and size settings.

- 5 Select [Auto Start] in the <Auto> group.  
This executes an auto chroma key based on the color specified by the sample selector, and displays the composite image on the monitor.

### Making key active adjustments

When the key active function is on, the composite image is output to the monitor, and you can watch the monitor while manually adjusting the keying.

When the key active function is off, only the foreground image appears. Set this off when manually adjusting color cancel (*see the next section*).

- 1 In the Chroma Adjust menu, set [Key Active] on.
- 2 Adjust the following parameters.

| Knob | Parameter | Adjustment                 | Setting values     |
|------|-----------|----------------------------|--------------------|
| 1    | Clip      | Chroma key reference level | 0.00 to 100.00     |
| 2    | Gain      | Key gain                   | -100.00 to +100.00 |
| 3    | Hue       | Hue                        | 359.99 to 0.00     |
| 4    | Density   | Density                    | 0.00 to 100.00     |
| 5    | Filter    | Filter coefficient         | 1 to 9             |

### Making color cancel adjustments

If the background color is leaking into the foreground video, turning the color cancel function on allows you to eliminate this leakage.

- 1 In the Chroma Adjust menu, turn [Key Active] off.  
Only the foreground image appears on the monitor.
- 2 In the <Color Cancel> group, set [Color Cancel] on.
- 3 Adjust the following parameters.

| Knob | Parameter  | Adjustment         | Setting values |
|------|------------|--------------------|----------------|
| 1    | Luminance  | Luminance          | 0.00 to 100.00 |
| 2    | Saturation | Saturation         | 0.00 to 100.00 |
| 3    | Hue        | Hue                | 359.99 to 0.00 |
| 5    | Filter     | Filter coefficient | 1 to 9         |

- 4 Set [Key Active] on.  
The chroma key composite image now appears in the monitor.

### Making key signal adjustments for color cancel

When the color cancel function is set on, you can adjust the key signal for color cancel.

- 1 In the <Color Cancel> group of the Chroma Adjust menu, set [Color Cancel] on.
- 2 In the <Color Cancel> group, set [Cancel Key] on.  
The cancel key is now on, and you can now adjust the key signal for color cancel.

| Knob | Parameter | Adjustment                       | Setting values     |
|------|-----------|----------------------------------|--------------------|
| 1    | Clip      | Color cancel key reference level | 0.00 to 100.00     |
| 2    | Gain      | Color cancel key gain            | -100.00 to +100.00 |

- 3 Make the following settings, as required, in the <Color Cancel> group.

#### When setting [Key Position] on and adjusting the color cancel key edge position

| Knob | Parameter | Adjustment   | Setting values                 |
|------|-----------|--|--------------------------------|
| 1    | H Phase   | Move left and right edges of the color cancel key simultaneously | Left edge position value shown |

| Knob | Parameter | Adjustment                              | Setting values |
|------|-----------|---|----------------|
| 2    | Left      | Move left edge of the color cancel key  | −3.00 to +3.00 |
| 3    | Right     | Move right edge of the color cancel key | −3.00 to +3.00 |

**When setting [Window] on and adjusting the detection range of the color cancel key**

| Knob | Parameter | Adjustment  | Setting values |
|------|-----------|-------------|----------------|
| 1    | Crop      | Crop value  | 100.00 to 0.00 |
| 2    | Angle     | Angle value | 180.00 to 0.00 |

For details of the crop and angle parameters, see “Chroma key window” (page 100).

**When setting [Y Balance] on and adjusting the ratio in which Y balance is added to the color cancel key**

| Knob | Parameter | Adjustment             | Setting values |
|------|-----------|------------------------|----------------|
| 1    | Mixture   | Ratio of Y balance key | 0.00 to 100.00 |

## Adjusting the window

Setting the window (*see page 100*) function on allows you to adjust the detection range used to determine the key signal. When this function is off, the default range is used for the key.

After making sure that the values of Clip, Gain, and Hue are adjusted appropriately, use the following procedure to make the window adjustment.

- 1 In the Chroma Adjust menu, set [Window] on.
- 2 Adjust the following parameters.

| Knob | Parameter | Adjustment  | Setting values |
|------|-----------|-------------|----------------|
| 1    | Crop      | Crop value  | 100.00 to 0.00 |
| 2    | Angle     | Angle value | 180.00 to 0.00 |

## Adjusting the Y balance

Setting the Y balance (*see page 100*) on allows you to specify that, even if the hue is the same, only portions of a particular luminance will be replaced by the background.

- 1 In the Chroma Adjust menu, set [Y Balance] on.
- 2 Adjust the following parameters.

| Knob | Parameter | Adjustment      | Setting values |
|------|-----------|-----------------|----------------|
| 1    | Clip      | Luminance range | 0.00 to 100.00 |

| Knob | Parameter | Adjustment | Setting values     |
|------|-----------|------------|--------------------|
| 2    | Gain      | Key gain   | −100.00 to +100.00 |
| 3    | Luminance | Luminance  | 0.00 to 100.00     |

## Adjusting the chroma key shadow

This function allows a shadow falling on the (typically blue) background color to be rendered more realistically. Since portions of the (blue) background of less than a certain luminance are treated as shadows, there is no effect on cutting out of the foreground.

- 1 In the Chroma Adjust menu, set [Shadow] on.
- 2 Adjust the following parameters.

| Knob | Parameter | Adjustment                      | Setting values     |
|------|-----------|---------------------------------|--------------------|
| 1    | Luminance | Reference luminance for shadows | 0.00 to 100.00     |
| 2    | Gain      | Shadow key gain                 | −100.00 to +100.00 |
| 3    | Density   | Shadow opacity                  | 0.00 to 100.00     |
| 4    | Soft      | Shadow softness                 | 0.00 to 100.00     |

### Notes

When chroma key shadow is on, key edge is changed to normal, and soft edge is switched off.

## Adjusting the video signal

You can change the gain of the foreground signal, or vary the Hue. There are separate adjustments for the gain of the whole video signal, or Y and C individually.

- 1 In the Chroma Adjust menu, set [FRGD CCR] on.
- 2 Adjust the following parameters.

| Knob | Parameter  | Adjustment                   | Setting values     |
|------|------------|------------------------------|--------------------|
| 1    | Video Gain | Overall gain of video signal | −100.00 to +100.00 |
| 2    | Y Gain     | Y signal gain                | −100.00 to +100.00 |
| 3    | C Gain     | C signal gain                | −100.00 to +100.00 |
| 4    | Hue        | Hue offset amount            | −180.00 to +180.00 |

## Key Edge Modifications

To modify the key edge of key 1 on the M/E-1 bank, use the following procedure.

- 1 In the M/E-1 >Key1 menu, select HF2 'Edge.'

The Edge menu appears.

- 2 Select the edge type (*see page 93*) in the <Edge> group.

**Normal:** unadorned edge

**Border:** edge with border applied

**Drop Border:** edge with drop border applied

**Shadow:** edge with shadow applied

**Outline:** edge used as outline

**Emboss:** embossing effect applied to edge

If you select [Normal], skip to step 7.

- 3 Set the border width and other parameters.

**When border or outline is selected:** The setting parameters depend on the key type and whether the separate edge function is enabled or not. To enable the separate edge function, press [Separate Edge], setting it on.

### • Separate edge off

| Knob | Parameter | Adjustment | Setting values   |
|------|-----------|------------|--|
| 1    | Width     | Width      | 0.00 to 8.00 <sup>a)</sup><br>(0.00 to 100.00) <sup>b)</sup> |
| 3    | Density   | Density    | 0.00 to 100.00   |

a) In the "4H mode" and when [Fine Key] (*page 104*) is on, the setting value range is 0.00 to 4.00.

b) When a wipe pattern key or key wipe pattern key is selected as the key type

### • Separate edge on

The left, right, top, and bottom border or outline widths can be adjusted independently. The separate edge function is only valid when a luminance key, linear key, or chroma key is selected as the key type.

| Knob | Parameter | Adjustment        | Setting values             |
|------|-----------|-------------------|----------------------------|
| 1    | Top       | Top edge width    | 0.00 to 8.00 <sup>a)</sup> |
| 2    | Left      | Left edge width   | 0.00 to 8.00 <sup>a)</sup> |
| 3    | Right     | Right edge width  | 0.00 to 8.00 <sup>a)</sup> |
| 4    | Bottom    | Bottom edge width | 0.00 to 8.00 <sup>a)</sup> |
| 5    | Density   | Density           | 0.00 to 100.00             |

a) In the "4H mode" and when [Fine Key] (*page 104*) is on, the setting value range is 0.00 to 4.00.

**When drop border or shadow is selected:** The setting parameter values depend on the on/off setting of key drop and the selection of 4H mode/8H mode (*see page 94*).

### • "Key drop off" mode

| Knob | Parameter | Adjustment | Setting values             |
|------|-----------|------------|----------------------------|
| 1    | Width     | Width      | 0.00 to 8.00 <sup>a)</sup> |
| 2    | Position  | Position   | 359.99 to 180.00           |
| 3    | Density   | Density    | 0.00 to 100.00             |

### • "Key drop on" mode

| Knob | Parameter | Adjustment | Setting values             |
|------|-----------|------------|----------------------------|
| 1    | Width     | Width      | 0.00 to 8.00 <sup>a)</sup> |
| 2    | Position  | Position   | 359.99 to 0.00             |
| 3    | Density   | Density    | 0.00 to 100.00             |

a) In the "4H mode" and when [Fine Key] (*page 104*) is on, the setting value range is 0.00 to 4.00.

### When emboss is selected:

| Knob | Parameter             | Adjustment | Setting values |
|------|-----------------------|------------|----------------|
| 1    | Width                 | Width      | 0.00 to 4.00   |
| 2    | Position              | Position   | 359.99 to 0.00 |
| 3    | Density <sup>a)</sup> | Density    | 0.00 to 100.00 |

a) The Density adjustment only affects the key edge. This can be adjusted separately from Key Density, and if Key Density is set to 0.00, the embossed edge effect only can be applied.

To make edge fill adjustments, carry out the settings in step 6.

- 4 Select the edge fill signal in the <Edge Fill> group.

**Utility 1 Bus:** signal selected on the utility 1 bus

**Matte:** signal from dedicated color matte generator.

It becomes possible to adjust color 1.

| Knob | Parameter  | Adjustment | Setting values |
|------|------------|------------|----------------|
| 1    | Luminance  | Luminance  | 0.00 to 100.00 |
| 2    | Saturation | Saturation | 0.00 to 100.00 |
| 3    | Hue        | Hue        | 359.99 to 0.00 |

When the edge type is outline, in place of the edge fill signal, the selected key fill signal fills the outline, and elsewhere remains as the background.

- 5 Carry out the following operation, depending on the selection in step 4.

**When [Utility 1 Bus] is selected:** Press the key delegation button [UTIL1], turning it on, and select the signal in the key row.

**When [Matte] is selected:** Press [Matte Adjust] in the same EDGE menu, to display the Matte Adjust

menu, and adjust a single color or two-color combination color matte.

You can select whether to use a single color matte or a two-color combination color matte in the <Edge Matte> group.

*For the color mix operation, see “Carrying out a color mix for the key edge fill matte” (page 104).*

- 6** When emboss is selected for the edge type, adjust the color in the <Emboss Fill> group.

To adjust matte 1 press [Matte1], and to adjust matte 2 press [Matte2], then adjust the following parameters.

| Knob | Parameter  | Adjustment | Setting values |
|------|------------|------------|----------------|
| 1    | Luminance  | Luminance  | 0.00 to 100.00 |
| 2    | Saturation | Saturation | 0.00 to 100.00 |
| 3    | Hue        | Hue        | 359.99 to 0.00 |

- 7** To make the edge soft, press [Soft Edge] to set it on, and adjust the softness.

| Knob | Parameter | Adjustment    | Setting values |
|------|-----------|---------------|----------------|
| 1    | Soft      | Edge softness | 0.00 to 100.00 |

For a normal edge, when [Soft Edge] is enabled, [Key Drop] is kept on.

- 8** To make separate fine adjustments to the positions of the left, right, top, and bottom of the source edge, press [Fine Key], to set it on, and adjust the following parameters.

Parameter group [1/2]

| Knob | Parameter | Adjustment               | Setting values |
|------|-----------|--------------------------|----------------|
| 1    | Top       | Key top edge position    | -2.00 to +2.00 |
| 2    | Left      | Key left edge position   | -2.00 to +2.00 |
| 3    | Right     | Key right edge position  | -2.00 to +2.00 |
| 4    | Bottom    | Key bottom edge position | -2.00 to +2.00 |

Parameter group [2/2]

| Knob | Parameter | Adjustment              | Setting values                 |
|------|-----------|-------------------------|--------------------------------|
| 1    | H Phase   | Key horizontal position | Left edge position value shown |
| 2    | V Phase   | Key vertical position   | Top edge position value shown  |

## Notes

In the emboss function it is not possible to set [Fine Key] on.

- When the edge type is normal, drop border or shadow, enabling the [Fine Key] function keeps [Key Drop] on.
- When applying a border to the key edge, enabling the [Fine Key] function halves the border width setting range.

## Setting Key Drop Mode

- 1** In the Edge menu, press [Key Delay Mode].

The Key Delay Mode menu appears.

- 2** In the <Key Delay Mode> group, press [Key Drop] to set key drop mode.

**On:** Key drop mode on

**Off:** Key drop mode off

### To set the key fill/key source position

Press [8H Mode] is switch between 8H mode and 4H mode.

**On:** 8H mode

**Off:** 4H mode

### To fix key fill/key source to key drop off mode

In the <Key Delay Mode> group, press [Frame Delay], turning it on.

## Notes

This function uses the resizer, and therefore the expected result of the setting may not be obtained if conditions do not allow the resizer to be used.

## Carrying out a color mix for the key edge fill matte

When you select ‘Matte’ for the edge fill of a border, drop border, or shadow, you can create a combination of color 1 and color 2 using a wipe pattern generated by the dedicated pattern generator.

- 1** In the <Edge Fill> group of the Edge menu, select [Matte], then press [Matte Adjust].

The edge fill Matte Adjust menu appears.

- 2** In the <Edge Matte> group, select [Mix Color], turning it on.

- 3** Adjust the following parameters.

| Knob | Parameter | Adjustment               | Setting values        |
|------|-----------|--------------------------|-----------------------|
| 1    | Size      | Pattern size             | 0.00 to 100.00        |
| 2    | Soft      | Softness of pattern edge | 0.00 to 100.00        |
| 3    | Pattern   | Pattern number           | 1 to 24 <sup>a)</sup> |

a) The patterns are the same as standard wipes. For details, see "Wipe Pattern List" in Appendix (page 312).

To select the pattern, display the Mix Pattern Select menu by pressing [Mix Pattern] in the edge fill Matte Adjust menu.

After selecting one of the patterns (standard wipe patterns 1 to 24) displayed in the Mix Pattern Select menu, you can adjust the following parameters.

| Knob | Parameter | Adjustment               | Setting values |
|------|-----------|--------------------------|----------------|
| 1    | Size      | Pattern size             | 0.00 to 100.00 |
| 2    | Soft      | Softness of pattern edge | 0.00 to 100.00 |

#### 4 Adjust color 1 and color 2.

To adjust color 1 press [Color 1], and to adjust color 2 press [Color 2], turning it on respectively, and adjust the following parameters.

| Knob | Parameter  | Adjustment | Setting values |
|------|------------|------------|----------------|
| 1    | Luminance  | Luminance  | 0.00 to 100.00 |
| 2    | Saturation | Saturation | 0.00 to 100.00 |
| 3    | Hue        | Hue        | 359.99 to 0.00 |

#### 5 If required, set the pattern modifiers.

**When turning [Position] on and setting the pattern position**

| Knob | Parameter  | Adjustment          | Setting values                   |
|------|------------|---------------------|----------------------------------|
| 1    | Position H | Horizontal position | -200.00 to +200.00 <sup>a)</sup> |
| 2    | Position V | Vertical position   | -200.00 to +200.00 <sup>a)</sup> |

a) See page 133.

**When turning [Multi] on and replicating the pattern**

| Knob | Parameter   | Adjustment                                    | Setting values       |
|------|-------------|---|----------------------|
| 1    | H Multi     | Number of repetitions of pattern horizontally | 1 to 63              |
| 2    | V Multi     | Number of repetitions of pattern vertically   | 1 to 63              |
| 3    | Invert Type | Replication layout                            | 1 to 4 <sup>a)</sup> |

a) See page 135.

**When turning [Aspect] on and setting the aspect ratio of the pattern**

| Knob | Parameter | Adjustment   | Setting values                   |
|------|-----------|--------------|----------------------------------|
| 1    | Aspect    | Aspect ratio | -100.00 to +100.00 <sup>a)</sup> |

a) See page 135.

**When turning [Angle] on in the <Rotation> group and inclining the pattern**

| Knob | Parameter | Adjustment                | Setting values                   |
|------|-----------|---------------------------|----------------------------------|
| 1    | Angle     | Angle of pattern rotation | -100.00 to +100.00 <sup>a)</sup> |

a) See page 134.

**When turning [Speed] on in the <Rotation> group and rotating the pattern at a constant speed**

| Knob | Parameter | Adjustment               | Setting values                   |
|------|-----------|--------------------------|----------------------------------|
| 1    | Speed     | Rotation rate of pattern | -100.00 to +100.00 <sup>a)</sup> |

a) See page 134.

#### 6 To interchange color 1 and color 2, press [Color Invert], turning it on.

### Applying the zabton effects

1 In the Edge menu, press [Zabton], turning it on.

2 Adjust the following parameters.

| Knob | Parameter | Adjustment            | Setting values |
|------|-----------|-----------------------|----------------|
| 1    | Size      | Pattern size          | 0.00 to 100.00 |
| 2    | Soft      | Pattern edge softness | 0.00 to 100.00 |
| 3    | Density   | Density               | 0.00 to 100.00 |

#### Notes

If in the pattern selection described below you select "Mask Pattern," and "Box" for the main mask, the "Size" parameter here cannot be adjusted. Set "Size" in the Main Mask menu.

3 To adjust the pattern and color, press [Zabton Adjust]. The Zabton Adjust menu appears.

4 In the <Zabton Pattern> group, select the pattern.

**Key Wipe:** Use a key wipe.

You can change this pattern by pressing [Pattern Select] to open the menu for key wipe pattern selection (Pattern Select menu), and make adjustments by pressing [Pattern Adjust] to open

the menu for pattern adjustment (Wipe Adjust menu).

**Key Edge Pattern:** Use a color mixing pattern for key edge.

You can change this pattern by pressing [Pattern Select] to open the menu for edge color mix dedicated wipe pattern selection (Mix Pattern Select menu), and make adjustments by pressing [Pattern Adjust] to open the menu for pattern adjustment (Matte Adjust menu).

**Mask Pattern:** Use the main mask Box or Pattern.

You can also press [Pattern Select], and in the corresponding pattern adjustment menu, change the pattern.

- 5** To adjust the color, press [Zabton Color] and adjust the following parameters.

| Knob | Parameter  | Adjustment | Setting values |
|------|------------|------------|----------------|
| 1    | Luminance  | Luminance  | 0.00 to 100.00 |
| 2    | Saturation | Saturation | 0.00 to 100.00 |
| 3    | Hue        | Hue        | 359.99 to 0.00 |
| 4    | Density    | Density    | 0.00 to 100.00 |

## Masks

There are two masks, which can be used to mask off unneeded parts of a key or background, or to remove defects, and these are known as the main mask and subsidiary mask.

You can either use the main mask and subsidiary mask independently, or at the same time.

### Using the main mask

For example, to use the main mask for key 1 on the M/E-1 bank, use the following procedure.

- 1** In the M/E-1 >Key1 menu, select HF3 'Main Mask.'

The Main Mask menu appears.

- 2** In the <Mask Type> group, select the mask type.

**Key Mask:** Masks a part of a key.

**Bkgd Mask:** Masks a part of a background.

- 3** In the <Mask Source> group, select the mask source.

**Box:** signal from the dedicated box generator

**Pattern:** signal from the dedicated pattern generator

- 4** Set the mask source parameters.

### When a box is selected

| Knob | Parameter | Adjustment      | Setting values     |
|------|-----------|-----------------|--------------------|
| 1    | Top       | Top position    | -100.00 to +100.00 |
| 2    | Left      | Left position   | -100.00 to +100.00 |
| 3    | Right     | Right position  | -100.00 to +100.00 |
| 4    | Bottom    | Bottom position | -100.00 to +100.00 |
| 5    | Soft      | Box softness    | 0.00 to 100.00     |

### When a pattern is selected

| Knob | Parameter | Adjustment     | Setting values        |
|------|-----------|----------------|-----------------------|
| 1    | Size      | Pattern size   | 0.00 to 100.00        |
| 2    | Soft      | Edge softness  | 0.00 to 100.00        |
| 5    | Pattern   | Pattern number | 1 to 24 <sup>a)</sup> |

<sup>a)</sup> The pattern is the same as a standard wipe. See "Wipe Pattern List" in Appendix (page 312).

To select the pattern, display the Mask Ptn Select menu by pressing [Mask Ptn Select] in the Main Mask menu.

After selecting one of the patterns (standard wipe patterns 1 to 24) displayed in the Mask Ptn Select menu, you can adjust the following parameters.

| Knob | Parameter | Adjustment    | Setting values |
|------|-----------|---------------|----------------|
| 1    | Size      | Pattern size  | 0.00 to 100.00 |
| 2    | Soft      | Edge softness | 0.00 to 100.00 |

- 5** To invert the black and white sense of the mask source, press [Mask Invert], turning it on.

- 6** When a pattern is selected as the mask source, set the pattern modifiers as required.

### When turning [Position] on and setting the pattern position

| Knob | Parameter  | Adjustment          | Setting values                   |
|------|------------|---------------------|----------------------------------|
| 1    | Position H | Horizontal position | -200.00 to +200.00 <sup>a)</sup> |
| 2    | Position V | Vertical position   | -200.00 to +200.00 <sup>a)</sup> |

<sup>a)</sup> See page 133.

### When turning [Multi] on and replicating the pattern

| Knob | Parameter | Adjustment                                    | Setting values |
|------|-----------|---|----------------|
| 1    | H Multi   | Number of repetitions of pattern horizontally | 1 to 63        |



| Knob | Parameter   | Adjustment                                  | Setting values       |
|------|-------------|---|----------------------|
| 2    | V Multi     | Number of repetitions of pattern vertically | 1 to 63              |
| 3    | Invert Type | Replication layout                          | 1 to 4 <sup>a)</sup> |

a) See page 135.

#### When turning [Aspect] on and setting the aspect ratio of the pattern

| Knob | Parameter | Adjustment   | Setting values                   |
|------|-----------|--------------|----------------------------------|
| 1    | Aspect    | Aspect ratio | -100.00 to +100.00 <sup>a)</sup> |

a) See page 135.

#### When turning [Angle] on in the <Rotation> group and setting the angle of the pattern rotation

| Knob | Parameter | Adjustment    | Setting values                   |
|------|-----------|---------------|----------------------------------|
| 1    | Angle     | Pattern angle | -100.00 to +100.00 <sup>a)</sup> |

a) See page 134.

#### When turning [Speed] on in the <Rotation> group and setting the rate of pattern rotation

| Knob | Parameter | Adjustment               | Setting values                   |
|------|-----------|--------------------------|----------------------------------|
| 1    | Speed     | Rate of pattern rotation | -100.00 to +100.00 <sup>a)</sup> |

a) See page 134.

### Using the subsidiary mask

For example, to use the subsidiary mask for key 1 on the M/E-1 bank, use the following procedure.

- 1 In the M/E-1 >Key1 menu, select HF4 'Sub Mask.'

The Sub Mask menu appears.

- 2 In the <Mask Type> group, select the mask type.

**Key Mask:** Masks a part of a key.

**Bkgd Mask:** Masks a part of a background.

- 3 In the <Mask Source> group, select the mask source.

**Wipe:** wipe pattern selected for a transition

If you select [Wipe], select the pattern and make modifier settings in the M/E-1 >Wipe menu (see page 127), then return to this M/E-1 >Key1 menu. In the case of a wipe pattern selected for a mask, the modifier [Edge] and [Direction] settings are not available.

**Utility 1 Bus:** signal selected on the utility 1 bus

When you selected [Utility 1 Bus], press the key

delegation button [UTIL1], turning it on, in the M/E-1 bank and select the signal in the key row.

- 4 Set the mask source parameters.

#### When wipe is selected

| Knob | Parameter | Adjustment    | Setting values |
|------|-----------|---------------|----------------|
| 1    | Size      | Pattern size  | 0.00 to 100.00 |
| 2    | Soft      | Edge softness | 0.00 to 100.00 |

#### When utility 1 bus is selected

| Knob | Parameter | Adjustment                               | Setting values     |
|------|-----------|--|--------------------|
| 1    | Clip      | Reference level for creating mask signal | +109.59 to -7.31   |
| 2    | Gain      | Gain                                     | -100.00 to +100.00 |

- 5 To invert the black and white sense of the mask source, press [Mask Invert], turning it on.

## Applying a DME Effect to a Key

### Notes

- When the SDI interface is used to connect the DME, DME effects (including DME wipes) can be used in only one place for one M/E bank.
- When the dedicated interface is used to connect the DME, the number of keys to which DME effects (including DME wipes) can be applied simultaneously for one M/E bank varies as follows depending on the execution mode of the DME wipe pattern selected for the background.

- MVS-8000X

| Applicable block | Key to which DME effects are applied | DME wipe pattern for background | Number of keys to which DME effects can be applied simultaneously |
|------------------|--------------------------------------|---------------------------------|---|
| Other than M/E-4 | Keys 1 to 4                          | No DME wipe used                | 2   |
|                  |                                      | One-channel mode                | 1   |
|                  |                                      | Two- or three-channel mode      | 0   |
|                  | Keys 5 to 8                          | -                               | 2 <sup>a)</sup>   |

| Applicable block | Key to which DME effects are applied | DME wipe pattern for background | Number of keys to which DME effects can be applied simultaneously |
|------------------|--------------------------------------|---------------------------------|---|
| M/E-4            | Keys 1 to 4                          | No DME wipe used                | 2 <sup>b)</sup>   |
|                  |                                      | One-channel mode                | 1 <sup>c)</sup>   |
|                  |                                      | Two- or three-channel mode      | 0   |
|                  | Keys 5 to 8                          | -                               | 0   |

- MVS-7000X

| Key to which DME effects are applied | DME wipe pattern for background | Number of keys to which DME effects can be applied simultaneously |
|--------------------------------------|---------------------------------|---|
| Keys 1 to 4                          | No DME wipe used                | 2   |
|                                      | One-channel mode                | 1   |
|                                      | Two- or three-channel mode      | 0   |
| Keys 5 to 8                          | -                               | 2 <sup>a)</sup>   |

a) 0 when the system signal format is 1080P.

b) 1 when the system signal format is 1080P and the DME input/output signal format is set to dual link mode.

c) 0 when the system signal format is 1080P and the DME input/output signal format is set to dual link mode.

- When combining DMEs connected via the dedicated interface and the SDI interface, you can increase the number of keys to which DME effects are applied simultaneously (requires a setting in setup).  
For details, see “Setting DME and Switcher Interfaces” in Chapter 20 (Volume 2).

## Assigning a DME to a key

- In the M/E-1 >Key1 menu, select HF5 ‘Processed Key/Resizer.’  
The Processed Key/Resizer menu appears.
- In the <DME Select> group, select the DME channel (DME1 to DME8) to be used.  
The lit colors of [DME1] to [DME8] indicate the DME assignment.  
**Lit green:** Shows the DME assigned to the currently selected key.  
**Lit amber:** Shows the DME assigned to a key other than the currently selected key.  
**Off:** DME is not assigned.

**To select a DME being used by another keyer**  
Press [Override], turning it on, then select the DME channel.

The later selection is valid, and the button lights green.

You can check the DME operating status in the Status menu (see page 194).

## Selecting the video signal for the DME assigned to a key

For the operating procedure, see “Selecting the video signal for a DME assigned to a key” (page 111).

## Assigning a DME output signal as a monitor signal

- In the Processed Key/Resizer menu, press [Monitor].  
The Monitor menu appears.
- Press [Monitor Set], turning it on.
- In the <DME Select> group, select the DME channel (DME1 to DME8) to be used.

This assigns the selected DME output to DME MON V and DME MON K.

The colors with which [DME1] to [DME8] are lit show the key assignment status.

**Lit green:** DME currently being monitored

**Lit amber:** DME that can be monitored

**Off:** Unassigned DME

## Specifying the Key Output Destination

### Using the key processed keyer signals (external processed key)

To select the key processed keyer key fill and key source signals on the AUX bus or edit preview bus, press [Ext Proc Key] turning it on, in the Processed Key/Resizer menu.

This assigns the key fill and key source signals for M/E-1 key 1 to reentry signals PROC V and PROC K.

When a DME is selected on the keyer, the key fill and key source signals to which a DME effect is applied are assigned.

### Notes

You cannot select the PROC V and PROC K signals using the cross-point selection buttons of the M/E or PGM/PST bank.

## Using the key processed keyer key signals or signals to which a DME effect is applied in frame memory (frame memory feed)

To use the key processed keyer key fill and key source signals on the frame memory source buses, in the Processed Key/Resizer menu, press [FM Feed]. [Ext Proc Key] turns on, and the key fill and key source signals processed on the currently selected keyer are automatically assigned to frame memory source buses 1 and 2. When a DME is selected on the keyer, the key fill and key source signals to which a DME effect is applied are assigned.

## Key Modify Clear

A simple button operation or a menu operation returns the key settings to the initial status settings. Press [Default Recall] at the lower left of the menu display, turning it on, then press the corresponding VF button (VF1 to VF4) to return the key settings to their initial status.

*For details of the initial status, see “Saving User-Defined Settings” in Chapter 18 (Volume 2).*

*For the menu operation to return the key state to that set in initial status, see “Returning to Default State in Function Groupings” (page 62).*

## Blink Function

With the blink function, you can obtain the following effects.

**Key blink:** The key is alternately inserted and deleted at regular intervals. You can set the period of blinking, and the proportion of each cycle for which the key is inserted.

**Edge blink:** The key fill and key edge fill signals are interchanged at regular intervals. You can set the period of blinking, and the proportion of each cycle for which the original state holds.

The blink settings are in the Transition menu for each key.

## Using the blink function

For example, to make the required settings for key 1 on the M/E-1 bank, use the following procedure.

- 1 In the M/E-1 >Key1 menu, select HF6 ‘Transition.’  
The Transition menu appears.
- 2 In the <Blink> group, select [Key Blink] or [Edge Blink] to set it on.
- 3 Set the blink parameters.

### When key blink is selected

| Knob | Parameter  | Adjustment                                 | Setting values |
|------|------------|--|----------------|
| 1    | Blink Rate | Length of blink cycle                      | 1 to 100       |
| 2    | Duty       | Proportion of cycle for which key inserted | 0.00 to 100.00 |

### When edge blink is selected

| Knob | Parameter  | Adjustment   | Setting values |
|------|------------|--|----------------|
| 1    | Blink Rate | Length of blink cycle                              | 1 to 100       |
| 2    | Duty       | Proportion of cycle for which original state holds | 0.00 to 100.00 |

## Video Processing

You can adjust the luminance and hue of the selected key fill signal.

For example, to apply video processing to the signal selected on the M/E-1 bank key 1 fill bus, use the following procedure.

- 1 In the M/E-1 >Key1 menu, select HF7 ‘Video Process.’  
The Video Process menu appears.
- 2 Press [Video Process], turning it on.
- 3 Adjust the following parameters.

| Knob | Parameter   | Adjustment            | Setting values     |
|------|-------------|-----------------------|--------------------|
| 1    | Video Gain  | Video gain            | –200.00 to +200.00 |
| 2    | Y Gain      | Luminance gain        | –200.00 to +200.00 |
| 3    | C Gain      | Chrominance gain      | –200.00 to +200.00 |
| 4    | Hue Delay   | Hue delay             | –180.00 to +180.00 |
| 5    | Black Level | Luminance black level | –7.31 to +109.59   |

**To return adjustment values to their defaults**  
Press [Unity].

# Key Setting Operations with the Cross-Point Control Block

You can make a key signal selection using the cross-point control block of the M/E-1 or PGM/PST bank including the relevant key.

## Applying a DME Effect to a Key

### Checking the DME status

As an example, to check the DME status for M/E-1 key 1, hold down the key row delegation button [KEY1] in the M/E-1 bank.

While the button is held down, the [DME1] to [DME4] buttons light, and the colors with which they light indicate the status, as follows.

**Lit green:** A DME is assigned to M/E-1 key 1. In the M/E-1 independent key transition and transition control blocks, the transition type for KEY1 is set to a DME wipe.

**Lit amber:** A DME is assigned to an M/E-1 key other than key 1.

In the independent key transition and transition control blocks, the transition type for other than key 1 of M/E-1 is set to a DME wipe.

**Not lit:** No DME is assigned, or a DME wipe is not selected.

You can check the DME operating status in the Status menu (*see page 194*).

### Assigning DMEs to a key

As an example, to assign DME1 and DME2 to key 1, in the cross-point control block, hold down the key row delegation button [KEY1] and press the buttons ([DME1] to [DME4]) for the DME channels to be used.

In this case, press [DME1], followed by [DME2].

The buttons pressed ([DME1] and [DME2]) light green and the DMEs are assigned to key 1.

#### Notes

- If the DME is selected on another keyer, the later selection takes precedence and the button lights green. By a setting in the Setup menu, you can make the first selection take precedence.  
*For details, see “Setting the Button Operation Mode” in Chapter 18 (Volume 2).*

- When assigning two or more DMEs to a key, use consecutive channels.

#### Notes

On the MVS-800X, when the signal format is 1080P, the combination of two consecutively numbered DME channels that can be selected is DME1 and DME2, DME3 and DME4, DME5 and DME6, or DME7 and DME8. It is not possible to combine three or more DME channels.

On the MVS-7000X, when the signal format is 1080P, the above restriction also applies if using the MVE-8000A. There is no such restriction for the MKS-7470X/7471X.

- When the SDI interface is used to connect the DME, DME effects (including DME wipes) can be used in only one place for one M/E bank.
- When the dedicated interface is used to connect the DME, the number of keys to which DME effects (including DME wipes) can be applied simultaneously for one M/E bank varies as follows depending on the execution mode of the DME wipe pattern selected for the background.  
- MVS-8000X

| Applicable block | Key to which DME effects are applied | DME wipe pattern for background | Number of keys to which DME effects can be applied simultaneously |
|------------------|--------------------------------------|---------------------------------|---|
| Other than M/E-4 | Keys 1 to 4                          | No DME wipe used                | 2   |
|                  |                                      | One-channel mode                | 1   |
|                  |                                      | Two- or three-channel mode      | 0   |
|                  | Keys 5 to 8                          | -                               | 2 <sup>a)</sup>   |
| M/E-4            | Keys 1 to 4                          | No DME wipe used                | 2 <sup>b)</sup>   |
|                  |                                      | One-channel mode                | 1 <sup>c)</sup>   |
|                  |                                      | Two- or three-channel mode      | 0   |
|                  | Keys 5 to 8                          | -                               | 0   |

- MVS-7000X

| Key to which DME effects are applied | DME wipe pattern for background | Number of keys to which DME effects can be applied simultaneously |
|--------------------------------------|---------------------------------|---|
| Keys 1 to 4                          | No DME wipe used                | 2   |
|                                      | One-channel mode                | 1   |
|                                      | Two- or three-channel mode      | 0   |
| Keys 5 to 8                          | -                               | 2 <sup>a)</sup>   |

a) 0 when the system signal format is 1080P.

b) 1 when the system signal format is 1080P and the DME input/output signal format is set to dual link mode.

c) 0 when the system signal format is 1080P and the DME input/output signal format is set to dual link mode.

- When combining DMEs connected via the dedicated interface and the SDI interface, you can increase the number of keys to which DME effects are applied simultaneously (requires a setting in setup).

*For details, see “Setting DME and Switcher Interfaces” in Chapter 20 (Volume 2).*

## Ending a DME assignment

As an example, to end the assignment of a DME to key 1, in the cross-point control block, hold down the key row delegation button [KEY1] and press the DME button ([DME1] to [DME4]) that is lit green.

The button goes off, and this ends the assignment.

## Selecting the video signal for a DME assigned to a key

When using the dedicated interface, proceed as follows.

- 1 In the cross-point control block, press the key row delegation button [KEY1].  
The assigned DME button lights amber.
- 2 Press the DME button (one of [DME1] to [DME4]) lit amber, which then lights green.
- 3 To select the video signal for the side of the DME image that is currently visible, make the signal selection in the key row.
- 4 To select the video signal for the side of the DME image that is currently not visible (the back side), hold down the DME button (one of [DME1] to [DME4]) and make the signal selection in the key row.

When two or more DME channels are assigned, select the video signal for each DME in the same way.

## When using the SDI interface

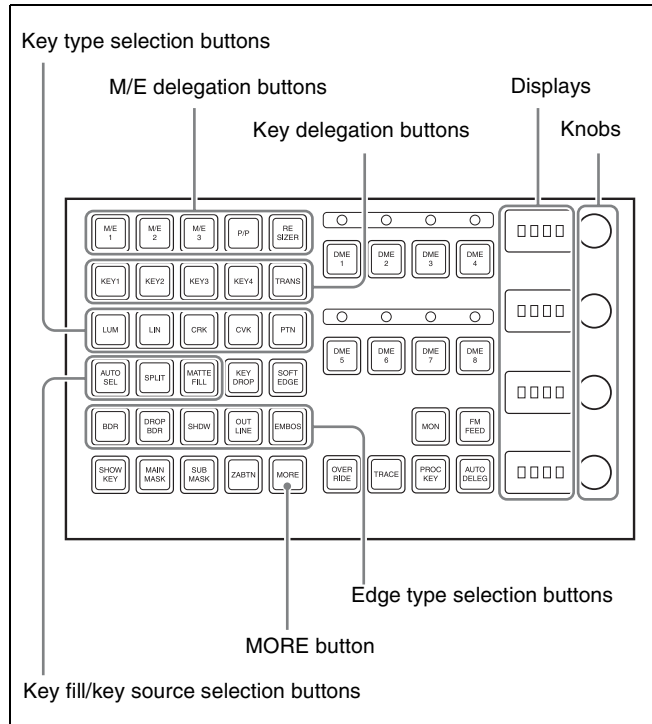
For keyer channels 3 and 4, select the video signals on the AUX bus assigned in a Setup menu (Engineering Setup >Switcher >Device Interface >DME Setting >DME SDI Interface).

In setup (Engineering Setup >Switcher >Device Interface menu), if “Dual DME units” is selected, the second channel video signal is also selected on the AUX bus.

*For details, see “Interfacing With External Devices (Device Interface Menu)” in Chapter 19 (Volume 2).*

# Key Setting Operations with the Key Control Block

This section describes the basic procedures for key settings using the key control block.



## Notes

To select [M/E 4] or [M/E 5], [Key5] to [Key8], and [DSK5] to [DSK8] in the key control block, a previous assignment in the Setup menu is required (see page 352).

## Selecting the Bank and Keyer

To make key settings, first select the bank (from M/E-1 to M/E-3 and PGM/PST) and keyer, then assign them to the key control block.

For example, to set key 1 on M/E-1 with the key control block, use the following procedure.

**1** Using the M/E delegation buttons in the key control block, press the [M/E 1] button, setting it on.

**2** Using the key delegation buttons in the key control block, press the [KEY1] button, setting it on.

This assigns the key control block to M/E-1 key 1.

## Selecting the Key Type

To select the key type, press one of the key type (see page 92) selection buttons in the key control block.

**[LUM] button:** luminance key

**[LIN] button:** linear key

**[CRK] button:** chroma key

**[CVK] button:** color vector key

**[PTN] button:** key wipe pattern key

When using a wipe pattern key as the key type, in the <Key Type> group of the Type menu for the keyer, select [Wipe Pattern] and make the settings.

The button you pressed lights green, and you can now adjust the parameters with the knobs. The display beside each knob shows the first letter of the parameter name and the three-digit setting value.

## Parameter Adjustment with the Knobs

When the button for a function requiring parameter settings is pressed (that is, on), you can set the parameters with the four knobs. If there are more than four values to be assigned to the knobs, the [MORE] button lights amber. At this point, press the [MORE] button, which turns green, to assign the fifth and subsequent parameters to the knobs, so that the parameter settings can be made.

### When the [LUM] or [LIN] button is lit green

| Knob | Parameter | Adjustment                                    | Setting values              |
|------|-----------|---|-----------------------------|
| 1    | Clip      | Reference level for generating the key signal | +109 to -7                  |
| 2    | Gain      | Key sensitivity                               | -100 (shown as -00) to +100 |
| 3    | Density   | Key density                                   | 0 to 100                    |
| 4    | Filter    | Filter coefficient                            | 1 to 9                      |

### When the [CRK] button is lit green

| Knob | Parameter | Adjustment                 | Setting values              |
|------|-----------|----------------------------|-----------------------------|
| 1    | Clip      | Chroma key reference level | 0 to 100                    |
| 2    | Gain      | Key sensitivity            | -100 (shown as -00) to +100 |
| 3    | Hue       | Hue                        | 0 to 359                    |
| 4    | Density   | Key density                | 0 to 100                    |

- When [Key Active] is off, only the parameters Hue and Density are displayed.
- When both [Key Active] and [Color Cancel] are off, only the parameter Density is displayed.

### When the [CVK] button is lit green

Parameter group [1/2]

| Knob | Parameter | Adjustment                             | Setting values              |
|------|-----------|--|-----------------------------|
| 1    | Y Clip    | Reference level for Y signal           | +109 to -7                  |
| 2    | Y Gain    | Y signal sensitivity                   | -100 (shown as -00) to +100 |
| 3    | C Clip    | Reference level for chrominance signal | 100 to 0                    |
| 4    | C Gain    | Chrominance signal sensitivity         | -100 (shown as -00) to +100 |

Parameter group [2/2]

| Knob | Parameter | Adjustment                            | Setting values |
|------|-----------|---------------------------------------|----------------|
| 1    | Y Filter  | Y signal filter coefficient           | 1 to 9         |
| 2    | C Filter  | Chrominance signal filter coefficient | 1 to 9         |
| 4    | Density   | Key density                           | 0 to 100       |

### When the [PTN] button is lit green

| Knob | Parameter | Adjustment    | Setting values |
|------|-----------|---------------|----------------|
| 1    | Size      | Pattern size  | 0 to 100       |
| 2    | Soft      | Edge softness | 0 to 100       |
| 3    | Density   | Key density   | 0 to 100       |

## Selecting Key Fill

Select whether to use a color matte as key fill, or the signal on the key fill bus.

**When using a color matte:** Press the [MATTE FILL] button, setting it on. The button lights green, and you can now set the parameters with the knobs.

| Knob | Parameter  | Adjustment         | Setting values |
|------|------------|--------------------|----------------|
| 1    | Luminance  | Color 1 luminance  | 0 to 100       |
| 2    | Saturation | Color 1 saturation | 0 to 100       |
| 3    | Hue        | Color 1 hue        | 359 to 0       |

When [Mix Color] is selected in the key fill Matte Adjust menu, you can further adjust color 2.

When [Mix Color] is on, and the [MORE] button is lit amber

| Knob | Parameter  | Adjustment         | Setting values |
|------|------------|--------------------|----------------|
| 1    | Luminance  | Color 1 luminance  | 0 to 100       |
| 2    | Saturation | Color 1 saturation | 0 to 100       |
| 3    | Hue        | Color 1 hue        | 359 to 0       |
| 4    | Size       | Pattern size       | 0 to 100       |

When [Mix Color] is on, and the [MORE] button is lit green

| Knob | Parameter  | Adjustment         | Setting values |
|------|------------|--------------------|----------------|
| 1    | Luminance  | Color 2 luminance  | 0 to 100       |
| 2    | Saturation | Color 2 saturation | 0 to 100       |
| 3    | Hue        | Color 2 hue        | 359 to 0       |
| 4    | Soft       | Edge softness      | 0 to 100       |

**When using the key fill bus signal:** Press the [MATTE FILL] button, turning it off.

To select the key fill signal, use the key row buttons in the cross-point control block.

## Selecting Key Source

- To use the key source paired with the key fill signal selected on the key fill bus, press the [AUTO SEL] button, turning it on. The pairing of the cross-point buttons for key fill and key source is carried out in the Setup menu.  
*For details, see “Cross-Point Settings (Xpt Assign Menu)” in Chapter 19 (Volume 2).*
- To select the key source independently of the key fill signal selected on the key fill bus and paired with the key source, hold down the key delegation button [KEY1], then press the desired key row button in the cross-point control block.
- To use as key source the same signal as the key fill signal selected on the key fill bus, select the SELF mode by pressing the [AUTO SEL] button and [SPLIT] button simultaneously so that both are off. When chroma key is selected as the key type, select the SELF mode.

# Key Adjustments (Key Control Block)

This section describes the various key adjustments provided by the control panel key control block.

## Key Edge Modifications

To apply a modification to the key edge (*see page 93*), press one of the edge type selection buttons in the key control block.

**[BDR] button:** border

**[DROP BDR] button:** drop border

**[SHDW] button:** shadow

**[OUTLINE] button:** outline

**[EMBOS] button:** emboss

The pressed button lights green, and you can now adjust the parameters with the knobs. The display beside each knob shows the first letter of the parameter name and the three-digit setting value.

## Setting the border parameters

When the [BDR] button is lit green, the parameter settings depend on the key type and whether the separate edge function is active. To activate the separate edge function, press [Separate Edge], setting it on, in the Edge menu for the key.

### Separate edge off

| Knob | Parameter | Adjustment     | Setting values                                   |
|------|-----------|----------------|--|
| 1    | Width     | Border width   | 0 to 8 <sup>a)</sup><br>(0 to 100) <sup>b)</sup> |
| 4    | Density   | Border density | 0 to 100   |

a) In the “4H mode” and when [Fine Key] (*page 104*) is on, the setting value range is 0 to 4.

b) When a wipe pattern key or key wipe pattern key is selected as the key type

### Separate edge on

The border width settings can be made independently for left, right, top, and bottom sides. The separate edge function is only available when luminance key, linear key, or chroma key is selected as the key type.

| Knob | Parameter | Adjustment        | Setting values       |
|------|-----------|-------------------|----------------------|
| 1    | Top       | Top edge width    | 0 to 8 <sup>a)</sup> |
| 2    | Left      | Left edge width   | 0 to 8 <sup>a)</sup> |
| 3    | Right     | Right edge width  | 0 to 8 <sup>a)</sup> |
| 4    | Bottom    | Bottom edge width | 0 to 8 <sup>a)</sup> |

a) In the “4H mode” and when [Fine Key] (*page 104*) is on, the setting value range is 0 to 4.

## To adjust the edge fill color

When [BDR] is selected, the [MORE] button lights amber. Pressing the [MORE] button to turn it green then allows you to adjust the edge fill color parameters with the knobs.

| Knob | Parameter  | Adjustment | Setting values |
|------|------------|------------|----------------|
| 1    | Luminance  | Luminance  | 0 to 100       |
| 2    | Saturation | Saturation | 0 to 100       |
| 3    | Hue        | Hue        | 359 to 0       |
| 4    | Density    | Density    | 0 to 100       |

## Setting the drop border or shadow parameters

When the [DROP BDR] or [SHDW] button is lit green, the parameter settings differ between the “key drop OFF” and “key drop ON” modes (*see page 94*) as shown below. You switch between these two modes by turning the [KEY DROP] button on or off.

### “Key drop OFF” mode

| Knob | Parameter | Adjustment | Setting values       |
|------|-----------|------------|----------------------|
| 1    | Width     | Width      | 0 to 8 <sup>a)</sup> |
| 2    | Position  | Position   | 359 to 180           |
| 4    | Density   | Density    | 0 to 100             |

a) In the “4H mode” and when [Fine Key] (*page 104*) is on, the setting value range is 0 to 4.

### “Key drop ON” mode

| Knob | Parameter | Adjustment | Setting values       |
|------|-----------|------------|----------------------|
| 1    | Width     | Width      | 0 to 8 <sup>a)</sup> |
| 2    | Position  | Position   | 359 to 0             |
| 4    | Density   | Density    | 0 to 100             |

a) In the “4H mode” and when [Fine Key] (*page 104*) is on, the setting value range is 0 to 4.

## To adjust the edge fill color

When [DROP BDR] or [SHDW] is selected, the [MORE] button lights amber. Pressing the [MORE] button to turn it green then allows you to adjust the edge fill color parameters with the knobs.

| Knob | Parameter  | Adjustment | Setting values |
|------|------------|------------|----------------|
| 1    | Luminance  | Luminance  | 0 to 100       |
| 2    | Saturation | Saturation | 0 to 100       |
| 3    | Hue        | Hue        | 359 to 0       |
| 4    | Density    | Density    | 0 to 100       |

## Setting the outline parameters

When the [OUTLINE] button is lit green, the parameter settings depend on the key type and whether the separate



edge function is active. To activate the separate edge function, press [Separate Edge], setting it on, in the Edge menu for the key.

### Separate edge off

| Knob | Parameter | Adjustment      | Setting values                                   |
|------|-----------|-----------------|--|
| 1    | Width     | Outline width   | 0 to 8 <sup>a)</sup><br>(0 to 100) <sup>b)</sup> |
| 4    | Density   | Outline density | 0 to 100   |

a) In the “4H mode” and when [Fine Key] (page 104) is on, the setting value range is 0 to 4.

b) When a wipe pattern key or key wipe pattern key is selected as the key type

### Separate edge on

The outline width settings can be made independently for left, right, top, and bottom sides. The separate edge function is only available when luminance key, linear key, or chroma key is selected as the key type.

| Knob | Parameter | Adjustment        | Setting values       |
|------|-----------|-------------------|----------------------|
| 1    | Top       | Top edge width    | 0 to 8 <sup>a)</sup> |
| 2    | Left      | Left edge width   | 0 to 8 <sup>a)</sup> |
| 3    | Right     | Right edge width  | 0 to 8 <sup>a)</sup> |
| 4    | Bottom    | Bottom edge width | 0 to 8 <sup>a)</sup> |

a) In the “4H mode” and when [Fine Key] (page 104) is on, the setting value range is 0 to 4.

When [Outline] is selected with separate edge on, the [MORE] button lights amber. Pressing the [MORE] button to turn it green then allows you to adjust the key fill density parameter with a knob.

| Knob | Parameter | Adjustment      | Setting values |
|------|-----------|-----------------|----------------|
| 4    | Density   | Outline density | 0 to 100       |

### Setting the embossing parameters

When the [EMBOS] button is lit green, adjust the following parameters.

| Knob | Parameter | Setting values |
|------|-----------|----------------|
| 1    | Width     | 0 to 4         |
| 2    | Position  | 359 to 0       |
| 4    | Density   | 0 to 100       |

### Selecting a normal edge

When all five edge type selection buttons are off, a normal edge is selected. If one of the buttons is lit, press it, turning it off.

### Softening the edge

Press the [SOFT EDGE] button, turning it on. The button lights green, and you can now adjust the softness with the knob.

| Knob | Parameter | Adjustment    | Setting values |
|------|-----------|---------------|----------------|
| 1    | Soft      | Edge softness | 0 to 100       |

- For a normal edge, when [SOFT EDGE] is enabled, “Key Drop” mode turns on.
- When a luminance key or linear key is selected as the key type, and clean mode is enabled, enabling [SOFT EDGE] ends the clean mode.

### Applying the zabton effects

When the [ZABTN] button is lit green, adjust the following parameters.

| Knob | Parameter | Adjustment            | Setting values |
|------|-----------|-----------------------|----------------|
| 1    | Size      | Pattern size          | 0 to 100       |
| 2    | Soft      | Pattern edge softness | 0 to 100       |

Press the [MORE] button lit amber, changing it to green, then adjust the following parameters.

| Knob | Parameter  | Adjustment | Setting values |
|------|------------|------------|----------------|
| 1    | Luminance  | Luminance  | 0 to 100       |
| 2    | Saturation | Saturation | 0 to 100       |
| 3    | Hue        | Hue        | 359 to 0       |
| 4    | Density    | Density    | 0 to 100       |

## Masks

### Using the main mask

In the key control block, press the [MAIN MASK] button, turning it on.

The parameter settings depend on the mask source selected as [Box] or [Pattern] in the <Mask Source> group of the Main Mask menu for the key.

#### When box is selected

| Knob | Parameter | Adjustment      | Setting values              |
|------|-----------|-----------------|-----------------------------|
| 1    | Top       | Top position    | –100 (shown as –00) to +100 |
| 2    | Left      | Left position   | –100 (shown as –00) to +100 |
| 3    | Right     | Right position  | –100 (shown as –00) to +100 |
| 4    | Bottom    | Bottom position | –100 (shown as –00) to +100 |

When box is selected and the [MORE] button is lit amber, there are more settings. Press the [MORE] button, so that it changes from amber to green to make the extra setting.

| Knob | Parameter | Adjustment   | Setting values |
|------|-----------|--------------|----------------|
| 1    | Soft      | Box softness | 0 to 100       |

### When pattern is selected

| Knob | Parameter | Adjustment     | Setting values        |
|------|-----------|----------------|-----------------------|
| 1    | Size      | Pattern size   | 0 to 100              |
| 2    | Soft      | Edge softness  | 0 to 100              |
| 3    | Pattern   | Pattern number | 1 to 24 <sup>a)</sup> |

a) The pattern is the same as a standard wipe. See “Wipe Pattern List” (page 312).

### Using the subsidiary mask

In the key control block, press the [SUB MASK] button, turning it on. The parameter settings depend on the mask source selected as [Wipe] or [Utility 1 Bus] in the <Mask Source> group of the Sub Mask menu for the key.

### When wipe is selected

| Knob | Parameter | Adjustment    | Setting values |
|------|-----------|---------------|----------------|
| 1    | Size      | Pattern size  | 0 to 100       |
| 2    | Soft      | Edge softness | 0 to 100       |

### When utility 1 bus is selected

| Knob | Parameter | Adjustment                               | Setting values              |
|------|-----------|--|-----------------------------|
| 1    | Clip      | Reference level for creating mask signal | +109 to -7                  |
| 2    | Gain      | Gain                                     | -100 (shown as -00) to +100 |

## Applying a DME Effect to a Key

#### Notes

- When the SDI interface is used to connect the DME, DME effects (including DME wipes) can be used in only one place for one M/E bank.
- When the dedicated interface is used to connect the DME, the number of keys to which DME effects (including DME wipes) can be applied simultaneously for one M/E bank varies as follows depending on the execution mode of the DME wipe pattern selected for the background.

### - MVS-8000X

| Applicable block | Key to which DME effects are applied | DME wipe pattern for background | Number of keys to which DME effects can be applied simultaneously |
|------------------|--------------------------------------|---------------------------------|---|
| Other than M/E-4 | Keys 1 to 4                          | No DME wipe used                | 2   |
|                  |                                      | One-channel mode                | 1   |
|                  |                                      | Two- or three-channel mode      | 0   |
|                  | Keys 5 to 8                          | -                               | 2 <sup>a)</sup>   |
| M/E-4            | Keys 1 to 4                          | No DME wipe used                | 2 <sup>b)</sup>   |
|                  |                                      | One-channel mode                | 1 <sup>c)</sup>   |
|                  |                                      | Two- or three-channel mode      | 0   |
|                  | Keys 5 to 8                          | -                               | 0   |

### - MVS-7000X

| Key to which DME effects are applied | DME wipe pattern for background | Number of keys to which DME effects can be applied simultaneously |
|--------------------------------------|---------------------------------|---|
| Keys 1 to 4                          | No DME wipe used                | 2   |
|                                      | One-channel mode                | 1   |
|                                      | Two- or three-channel mode      | 0   |
| Keys 5 to 8                          | -                               | 2 <sup>a)</sup>   |

a) 0 when the system signal format is 1080P.

b) 1 when the system signal format is 1080P and the DME input/output signal format is set to dual link mode.

c) 0 when the system signal format is 1080P and the DME input/output signal format is set to dual link mode.

- When combining DMEs connected via the dedicated interface and the SDI interface, you can increase the number of keys to which DME effects are applied simultaneously (requires a setting in setup).  
For details, see “Setting DME and Switcher Interfaces” in Chapter 20 (Volume 2).

### Assigning a DME to a key

- In the key control block, press the delegation buttons [M/E 1] and [KEY1].

- 2 Using the DME channel selection buttons, select the DME channel (DME1 to DME8) for applying the effect.

The lit colors of the [DME1] to [DME8] buttons indicate the DME assignment.

**Lit green:** Shows the DME assigned to the currently selected key.

**Lit amber:** Shows the DME assigned to a key other than the currently selected key.

**Off:** DME is not assigned.

#### To select a DME being used by another keyer

Press [Override], turning it on, then select the DME channel.

The later selection is valid, and the button lights green.

You can check the DME operating status in the Status menu (*see page 194*).

## Selecting the video signal for the DME assigned to a key

For the operating procedure, see “Selecting the video signal for a DME assigned to a key” (*page 111*).

## Assigning the DME output signal to a monitor signal

- 1 Holding down the output destination specification button [MON] in the key control block, use the DME channel selection buttons to select the DME channel (DME1 to DME8) you want to use.

The selected DME output is assigned to DME MON V and DME MON K.

- 2 To check the DME assignment status, hold down just the [MON] button.

While it is held down, the lit color of the [DME1] to [DME8] buttons shows the key assignment status.

**Lit green:** Shows the DME currently being monitored.

**Lit amber:** Shows a DME which can be monitored.

**Off:** DME is not assigned.

## Other Key Setting Operations

### Using an external processed key

You can select and use the key processed keyer key fill and key source signals on the AUX buses.

- 1 Select the keyer to be allocated.

- 2 In the key control block, press [PROC KEY], turning it on.

The button lights amber, and on the currently selected keyer, the key fill and key source are assigned to reentry signals PROC V and PROC K.

When a DME is selected on the currently selected keyer, the key fill and key source signals to which the DME effect is applied are assigned to PROC V and PROC K.

### Notes

You cannot select the PROC V and PROC K signals using the cross-point selection buttons of the M/E or PGM/PST bank.

## Using a frame memory feed

When you press the [FM FEED] button in the key control block, it lights momentarily amber, then the key fill and key source signals processed in the currently selected keyer are assigned to frame memory sources 1 and 2.

If a DME is selected on the currently selected keyer, then the key fill and key source signals to which a DME effect is applied are assigned to frame memory sources 1 and 2. Carrying out a frame memory feed causes the [PROC KEY] button to light amber.

## Using the show key function

While the [SHOW KEY] button is held down, the key-processed key source signal appears on the specified output (Show key mode).

Even when the [SHOW KEY] button is released, for a preset time the show key mode is maintained. You can specify the output to which the show key function is applied and set the time for which the show key mode is maintained after releasing the button in the Setup menu.

For details see “Settings for the Show Key Function” in Chapter 20 (Volume 2).

## Using the auto delegation function

To couple the selection in the key delegation buttons of the independent key transition control block so that the key control block delegation selection is automatically switched, in the key control block press the [AUTO DELEG] button, turning it on.

## Returning the key adjustment values to their defaults

Holding down a key type button ([LUM], [LIN], [CRK], [CVK], or [PTN]) recalls the key default values (*page 95*).

## Key modify clear

When an M/E delegation button is held down, holding down a key delegation button together returns the key settings to the initial status settings.

*For details of the initial status, see “Saving User-Defined Settings” in Chapter 18 (Volume 2).*

## Resizer

Resizer allows you to apply DME-like effects such as image shrinking, magnification and movement, rotation as well as change of the aspect ratio, to the processed key.

The following functions are available.

- Two-dimensional transformations of keys (*page 118*)
- Key rotation around the X- or Y-axis
- Resizer interpolation settings (*page 121*)
- Resizer crop/border settings (*page 121*)
- Resizer effect settings (*page 122*)  
(wide key border, drop shadow, edge enhance, mosaic, defocus, mask)

### Notes

- The image of the key manipulated by resizer has a one-frame delay.
- Some effects of resizer are different from what you would expect of DME effects.

## Restrictions on the use of effects

There are restrictions on combined use of resizer effects themselves and that with DME wipes.

*For details, see “Impossibility of simultaneous use within the same keyer” (page 125).*

## Relation between resizer and other effects

You cannot apply DME effects to a key for which the resizer function is enabled. When one of the three functions – resizer, DME wipe and DME effects – is enabled, the other two are disabled.

## Two-Dimensional Transformations and Rotation of Keys

### Notes

When the screen aspect ratio is 4:3 in HD format, when the resizer is used to shrink a video image, this is applied to the 16:9 screen including the added video on the left and right sides. Use the crop function as required to extract the 4:3 image.

## Menu operations for key shrinking, magnification, rotation and movement

For example, to shrink, magnify, rotate or move key 1 of the M/E-1 bank, use the following procedure.

- 1 In the M/E-1 >Key1 >Processed Key/Resizer menu, press [Resizer], turning it on.
- 2 Adjust the following parameters with the knobs.

Parameter group [1/2]

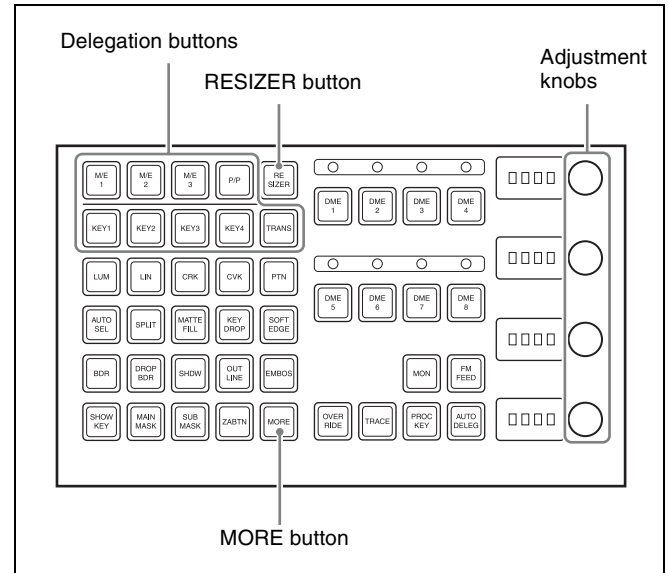
| Knob | Parameter   | Adjustment              | Setting values       |                      |
|------|-------------|-------------------------|----------------------|----------------------|
| 1    | Location X  | Move key horizontally   | HD                   | –99.9999 to +99.9999 |
|      |             |                         | SD 4:3               | –33.3333 to +33.3333 |
|      |             |                         | SD 16:9              | –24.9999 to +24.9999 |
| 2    | Location Y  | Move key vertically     | HD                   | –99.9999 to +99.9999 |
|      |             |                         | SD 4:3               | –33.3333 to +33.3333 |
|      |             |                         | SD 16:9              | –24.9999 to +24.9999 |
| 3    | Size        | Magnify or shrink key   | 0.0000 to 99.9999    |                      |
| 4 a) | Rotation X  | Rotate key horizontally | –99.9999 to +99.9999 |                      |
| 4 b) | Rotation Y  | Rotate key vertically   | –99.9999 to +99.9999 |                      |
| 5    | Perspective | Change perspective      | 0.0000 to 1.0000     |                      |

- a) [X] is turned on in the <Rotation> group of the Rotation menu.  
b) [Y] is turned on in the <Rotation> group of the Rotation menu.

Parameter group [2/2]

| Knob | Parameter    | Adjustment  | Setting values    |  |
|------|--------------|---|-------------------|--|
| 1    | Aspect X     | Change aspect ratio horizontally                          | 0.0000 to 99.9999 |  |
| 2    | Aspect Y     | Change aspect ratio vertically                            | 0.0000 to 99.9999 |  |
| 3    | Aspect Ratio | Change aspect ratio horizontally and vertically at a time | 0.0000 to 2.0000  |  |

## Key control block (MKS-8035 Key Control Module, option) operations for key shrinking, magnification, rotation and movement



- 1 Use the delegation buttons to select the key to which you want to apply a resizer function.
- 2 Press the [RESIZER] button, turning it on.
- 3 Adjust the following parameters with the knobs. To switch between displaying parameter group 1/2 and 2/2, press the [MORE] button.

Parameter group [1/2]

| Knob | Parameter | Adjustment            | Setting values |            |
|------|-----------|-----------------------|----------------|------------|
| 1    | X         | Move key horizontally | HD             | –99 to +99 |
|      |           |                       | SD 4:3         | –33 to +33 |
|      |           |                       | SD 16:9        | –24 to +24 |
| 2    | Y         | Move key vertically   | HD             | –99 to +99 |
|      |           |                       | SD 4:3         | –33 to +33 |
|      |           |                       | SD 16:9        | –24 to +24 |
| 3    | S         | Magnify or shrink key | 0.0 to 99      |            |

Parameter group [2/2]

| Knob | Parameter | Adjustment                       | Setting values |  |
|------|-----------|----------------------------------|----------------|--|
| 1    | X         | Change aspect ratio horizontally | 0.0 to 99      |  |

| Knob | Parameter | Adjustment  | Setting values |
|------|-----------|---|----------------|
| 2    | Y         | Change aspect ratio vertically                            | 0.0 to 99      |
| 3    | R         | Change aspect ratio horizontally and vertically at a time | 0.0 to 2.0     |

- 4** To specify the direction of rotation, press the [ROT X] or [ROT Y] button, turning it on.

### Notes

To enable the [ROT X] and [ROT Y] buttons, it is necessary to assign functions in advance.

For details, see “Assigning Functions to Key Control Block Buttons” in Chapter 19 (Volume 2).

- 5** Turn the knobs to adjust the following parameters.

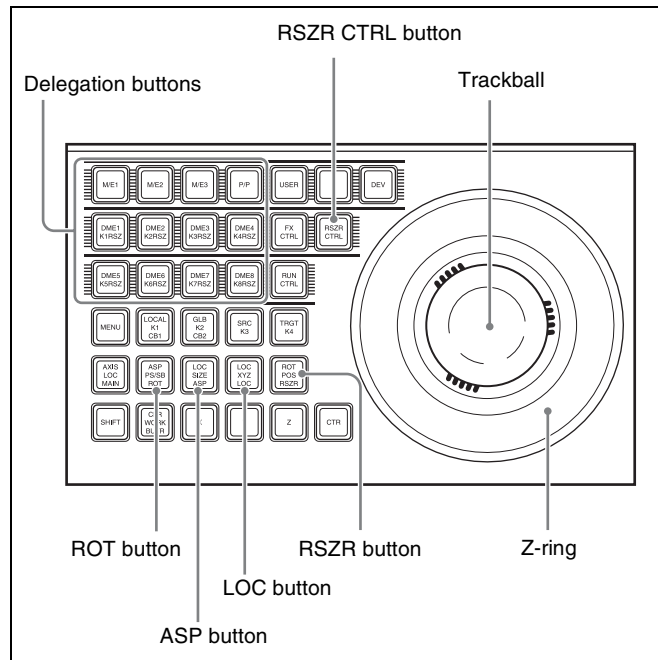
- When [ROT X] is lit

| Knob | Parameter   | Adjustment              | Setting values |
|------|-------------|-------------------------|----------------|
| 1    | Rotation X  | Rotate key horizontally | −99 to +99     |
| 4    | Perspective | Change perspective      | 0 to 99        |

- When [ROT Y] is lit

| Knob | Parameter   | Adjustment            | Setting values |
|------|-------------|-----------------------|----------------|
| 2    | Rotation Y  | Rotate key vertically | −99 to +99     |
| 4    | Perspective | Change perspective    | 0 to 99        |

## Device control block (MKS-8031TB Trackball Module, option) operations for key shrinking, magnification, rotation and movement



- 1 Press the [RSZR CTRL] button, turning it on.
- 2 Press the delegation button to select the key.
- 3 Press the [RSZR] button, turning it on.
- 4
  - To change the aspect ratio, turn on the [ASP] button.
  - To shrink, magnify, or move the key, turn on the [LOC] button.
  - To rotate the key, turn on the [ROT] button. To specify the direction of rotation, press [X] or [Y]. To adjust perspective, press [Z].

Hold these buttons down while carrying out the operation of step **5** to enable fine adjustment (fine mode).

- 5 Use the trackball for the operation.

For details of parameters, see steps **3** and **5** of “Key control block (MKS-8035 Key Control Module, option) operations for key shrinking, magnification, rotation and movement” (page 119).

## Entering parameters

This operation is the same as DME three-dimensional parameter input.

For details, see “Entering Three-Dimensional Parameter Values” (page 241).

## Resetting parameters

This operation is the same as DME three-dimensional parameter resetting.

For details, see “Entering Three-Dimensional Parameter Values” (page 241).

## Clearing resizer effects

### To clear two-dimensional transform and rotation parameters only and set the initial state

In the device control block, press the [CLR WORK BUFR] button in the operation buttons.

### To clear all resizer parameters, and set the initial state

In the device control block, press the [CLR WORK BUFR] button in the operation buttons, twice in rapid succession.

For the initial state, you can select either the factory default settings or user settings.

For details of how to make this selection, see “Selecting the State After Powering On (Start Up Menu)” in Chapter 18 (Volume 2).

## Resizer Interpolation Settings

For example, to make the interpolation settings for key 1 of the M/E-1 bank, use the following procedure.

- 1 In the M/E-1 >Key1 >Processed Key/Resizer menu, press [Resizer], turning it on.
- 2 Press [Resizer Process].  
The Resizer Process menu appears.
- 3 In the <Video Field/Frame Mode> and other groups, make the interpolation settings.

This operation is the same as when making the DME interpolation settings for MVS-8000A.

For details, see “Interpolation Settings” (page 301).

However, the following points are different from the operation for MVE-8000A.

- [Interpolation Mode] can be set for any type of signal formats.
- The anti-moiré filter cannot be set.

## Resizer Crop/Border Settings

### Making a crop setting for a key for which resizer is on

For example, to make the crop settings for key 1 of the M/E-1 bank, use the following procedure.

- 1 In the M/E-1 >Key1 >Processed Key/Resizer menu, press [Resizer], turning it on.
- 2 Press [Border/Crop].  
The Border/Crop menu appears.
- 3 Press [Crop], turning it on.
- 4 Set the parameters.

These settings are the same as those for crop of DME. For details, see “Crop Settings” (page 245).

### Notes

If mosaic or defocus is enabled, and in the <Mosaic/Defocus Mode> group you select Video/Key, then the crop is disabled.

### Applying a border to a key for which resizer is on

For example, to add the border for key 1 of the M/E-1 bank, use the following procedure.

- 1 In the M/E-1 >Key1 >Processed Key/Resizer menu, press [Resizer], turning it on.
- 2 Press [Border/Crop].  
The Border/Crop menu appears.
- 3 Press [Border], turning it on.
- 4 Set the parameters.

The valid ranges of the parameter values depend on the combination of signal format (SD/HD) and aspect ratio (4:3/16:9) selected in the system, as follows.

### SD format

| Knob | Parameter | Adjustment  | Setting values |
|------|-----------|---|----------------|
| 1    | H         | Simultaneously adjust width of left and right borders | 0.00 to 4.00   |

| Knob | Parameter | Adjustment  | Setting values                            |
|------|-----------|---|---|
| 2    | V         | Simultaneously adjust width of top and bottom borders | 0.00 to 3.00 (4:3)<br>0.00 to 2.25 (16:9) |
| 3    | All       | Simultaneously adjust width of all four borders       | Value of H shown                          |
| 4    | Density   | Density of the borders                                | 0.00 to 100.00                            |

### HD format

| Knob | Parameter | Adjustment  | Setting values                              |
|------|-----------|---|---|
| 1    | H         | Simultaneously adjust width of left and right borders | 0.00 to 12.00 (4:3)<br>0.00 to 16.00 (16:9) |
| 2    | V         | Simultaneously adjust width of top and bottom borders | 0.00 to 9.00                                |
| 3    | All       | Simultaneously adjust width of all four borders       | Value of H shown                            |
| 4    | Density   | Density of the borders                                | 0.00 to 100.00                              |

### To apply color to a border

- 1 In the <Border Mode> group of the Border/Crop menu, press [Flat Color].
- 2 Adjust the following parameters.

| Knob | Parameter  | Adjustment | Setting values |
|------|------------|------------|----------------|
| 1    | Luminance  | Luminance  | 0.00 to 100.00 |
| 2    | Saturation | Saturation | 0.00 to 100.00 |
| 3    | Hue        | Hue        | 359.99 to 0.00 |

### To soften the inner edge of a border

- 1 In the Border/Crop menu, press [Border Soft].
- 2 Adjust the following parameters.

| Knob | Parameter  | Adjustment            | Setting values |
|------|------------|-----------------------|----------------|
| 1    | Inner Soft | Border inner softness | 0.00 to 100.00 |

### To apply a beveled light edge

- 1 In the <Border Mode> group of the Border/Crop menu, press [Beveled Light Edge].
- 2 Adjust the following parameters.

| Knob | Parameter | Adjustment  | Setting values      |
|------|-----------|-------------|---------------------|
| 1    | Top       | Top edge    | -100.00 to +100.00  |
| 2    | Left      | Left edge   | -100.00 to +100.00  |
| 3    | Right     | Right edge  | -100.00 to +100.00  |
| 4    | Bottom    | Bottom edge | -100.00 to +100.00  |
| 5    | All       | Four edges  | Value of Left shown |

- 3 Press [Border Soft].
- 4 Adjust the following parameters.

| Knob | Parameter  | Adjustment               | Setting values |
|------|------------|--------------------------|----------------|
| 1    | Inner Soft | Border inner softness    | 0.00 to 100.00 |
| 2    | Bound Soft | Border boundary softness | 0.00 to 100.00 |

### To apply a beveled color edge

- 1 In the <Border Mode> group of the Border/Crop menu, press [Beveled Color Edge].
- 2 In the <Color Adjust> group, select the edges for adjustment among the [Top], [Left], [Right], and [Bottom] edges. To select all the four edges, press [All].
- 3 Set the color parameters.  
*For details, see "To apply color to a border" (page 122)*
- 4 Press [Border Soft].
- 5 Adjust the following parameters.

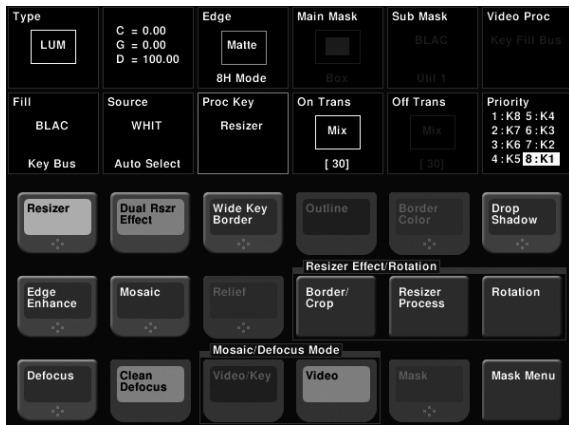
| Knob | Parameter  | Adjustment               | Setting values |
|------|------------|--------------------------|----------------|
| 1    | Inner Soft | Border inner softness    | 0.00 to 100.00 |
| 2    | Bound Soft | Border boundary softness | 0.00 to 100.00 |

## Applying Resizer Effects

For example, to apply effects to key 1 of the M/E-1 bank, use the following procedure.



- 1 In the M/E-1 >Key1 >Processed Key/Resizer menu, press [Resizer], turning it on.
- 2 Press [Enhanced Effect].  
The Enhanced Effect menu appears.



## Applying a wide key border

- 1 In the M/E-1 >Key1 >Processed Key/Resizer >Enhanced Effect menu, press [Dual Rszr Effect], turning it on.
- 2 Press [Wide Key Border], turning it on.
- 3 Adjust the following parameters.

| Knob | Parameter          | Adjustment  | Setting values   |
|------|--------------------|---|------------------|
| 1    | H                  | Simultaneously adjust border width of left and right edges  | 0.00 to 100.00   |
| 2    | V                  | Simultaneously adjust border width of upper and lower edges | 0.00 to 100.00   |
| 3    | All                | Simultaneously adjust border width of all four edges        | Value of H shown |
| 4    | Soft <sup>a)</sup> | Softness of border  | 0.00 to 100.00   |
| 5    | Density            | Density of border   | 0.00 to 100.00   |

a) Shared with the drop shadow "Soft" value.

- 4 To add an outline, press [Outline], turning it on.
- 5 To adjust the border color, press [Border Color].
- 6 Set the color parameters.

For details, see "To apply color to a border" (page 122).

## Applying a drop shadow

- 1 In the M/E-1 >Key1 >Processed Key/Resizer >Enhanced Effect menu, press [Dual Rszr Effect], turning it on.
- 2 Press [Drop Shadow], turning it on.
- 3 Set the parameters.

The valid ranges of the parameter values depend on the combination of signal format (SD/HD) and aspect ratio (4:3/16:9) selected in the system, as follows.

### SD format

| Knob | Parameter          | Adjustment                    | Setting values                                |
|------|--------------------|-------------------------------|---|
| 1    | H                  | Horizontal position of shadow | -8.00 to +8.00                                |
| 2    | V                  | Vertical position of shadow   | -6.00 to +6.00 (4:3)<br>-4.50 to +4.50 (16:9) |
| 3    | Size               | Shadow size                   | 0.00 to 2.00                                  |
| 4    | Soft <sup>a)</sup> | Softness of shadow            | 0.00 to 100.00                                |
| 5    | Density            | Density of shadow             | 0.00 to 100.00                                |

a) Shared with the wide key border "Soft" value.

### HD format

| Knob | Parameter          | Adjustment                    | Setting values                                    |
|------|--------------------|-------------------------------|---|
| 1    | H                  | Horizontal position of shadow | -24.00 to +24.00 (4:3)<br>-32.00 to +32.00 (16:9) |
| 2    | V                  | Vertical position of shadow   | -18.00 to +18.00                                  |
| 3    | Size               | Shadow size                   | 0.00 to 2.00                                      |
| 4    | Soft <sup>a)</sup> | Softness of shadow            | 0.00 to 100.00                                    |
| 5    | Density            | Density of shadow             | 0.00 to 100.00                                    |

a) Shared with the wide key border "Soft" value.

## Edge enhancement

Adjusting the gain sharpens the image.

- 1 In the M/E-1 >Key1 >Processed Key/Resizer >Enhanced Effect menu, press [Edge Enhance], turning it on.
- 2 Adjust the following parameters.

| Knob | Parameter | Adjustment                              | Setting values       |
|------|-----------|---|----------------------|
| 1    | H         | Horizontal gain adjustment              | 0.00 to 100.00       |
| 2    | V         | Vertical gain adjustment                | 0.00 to 100.00       |
| 3    | All       | Both horizontal and vertical adjustment | H value is displayed |

## Applying a mosaic

**1** In the M/E-1 >Key1 >Processed Key/Resizer >Enhanced Effect menu, press [Mosaic], turning it on.

**2** Set the parameters.

*This operation is the same as the DME mosaic setting. For more details, see “Mosaic Settings” (page 262).*

**3** In the <Mosaic/Defocus Mode> group, select the signal to which to apply the mosaic effect.

**Video/Key:** Video signal and key signal

**Video:** Video signal only

### Notes

If mosaic is enabled, and in the <Mosaic/Defocus Mode> group you select Video/Key, then the crop and mask are disabled.

## To make the mosaic like a relief pattern

**1** With [Mosaic] on, press [Relief], turning it on.

**2** In addition to the mosaic parameters, set the following parameters.

| Knob | Parameter | Adjustment                   | Setting values |
|------|-----------|------------------------------|----------------|
| 3    | Gain      | Relief depth of mosaic cells | 0.00 to 100.00 |
| 4    | Angle     | Light source direction       | −8.00 to +8.00 |

## Defocusing

**1** In the M/E-1 >Key1 >Processed Key/Resizer >Enhanced Effect menu, press [Defocus], turning it on.

**2** Set the parameters.

*This operation is the same as the defocusing setting when using the DME with the DME dedicated interface (see page 258).*

*However, <Mosaic/Defocus Mode> appears in place of <Defocus Mode>.*

### Notes

If defocus is enabled, and in the <Mosaic/Defocus Mode> group you select Video/Key, then the crop and mask are disabled.

## Applying a mask to mosaic or defocus

**1** In the M/E-1 >Key1 >Processed Key/Resizer >Enhanced Effect menu, press [Dual Rszr Effect], turning it on.

**2** Press [Mask], turning it on.

This enables the mask function.

To make the mask settings, continue with steps **3** and following.

**3** Press [Mask Menu].

The Mask menu appears.

**4** In the <Mask Source> group, select either of [Box] and [Circle].

**Box:** Use a box pattern as the mask signal.

**Circle:** Use a circle pattern as the mask signal.

**5** Set the parameters.

The valid ranges of the parameter values depend on the combination of signal format (SD/HD) and aspect ratio (4:3/16:9) selected in the system, as follows. The parameters are the same as for drop shadow.

*For more details, see “Applying a drop shadow” (page 123), except that knobs 3 and 5 are as follows.*

| Knob | Parameter | Adjustment   | Setting values     |
|------|-----------|--------------|--------------------|
| 3    | Size      | Size         | 0.00 to 100.00     |
| 5    | Aspect    | Aspect ratio | −100.00 to +100.00 |

The rotation and inversion operations are the same as for a DME mask setting.

*For more details, see “Mask Settings” (page 265).*

### Notes

- When a mask effect is applied to a border, the boundary becomes discontinuous, giving an unnatural effect. Avoid applying a mask to a border.
- If mosaic or defocus is enabled, and in the <Mosaic/Defocus Mode> group you select Video/Key, then the mask is disabled.

## Restrictions on resizer effects

### Restrictions on the use of effects

Of the resizer effects, using mask, drop shadow, or wide key border requires two units of hardware for the resizer function.

These are called “dual resizer effects”.

In a dual resizer effect, predetermined combinations, key 1 and key 2, key 3 and key 4, key 5 and key 6, key 7 and key 8 are used.

For example, if either of key 1 and key 2 has resizer set to On, the other key cannot be used for a dual resizer effect.

The same restriction applies when using a resizer DME wipe in place of resizer.

### Impossibility of simultaneous use within the same keyer

The following combinations of resizer effects cannot be simultaneously on.

- Mosaic and edge enhance
- Defocus and wide key border
- Mask and drop shadow
- Mask and wide key border

## Setting rotation of the resizer

### Notes

Either X or Y direction must be specified for rotation. You cannot make rotation by combining both directions.

When rotating key 1 of the M/E-1 bank, for example, use the following procedure.

- 1 Select M/E-1 >Key1 >Processed Key/Resizer menu, press [Resizer], turning it on.
- 2 Press [Rotation], turning it on.  
The Rotation menu appears.
- 3 Press [X] or [Y] in the <Rotation> group to select the direction of rotation.
- 4 Turn the knobs to adjust the following parameters.

- When [X] is on

| Knob | Parameter   | Adjustment              | Setting values       |
|------|-------------|-------------------------|----------------------|
| 1    | Rotation X  | Rotate key horizontally | –99.0000 to +99.0000 |
| 4    | Perspective | Change perspective      | 0.0000 to 99.9999    |

- When [Y] is on

| Knob | Parameter  | Adjustment            | Setting values       |
|------|------------|-----------------------|----------------------|
| 2    | Rotation Y | Rotate key vertically | –99.0000 to +99.0000 |

| Knob | Parameter   | Adjustment         | Setting values    |
|------|-------------|--------------------|-------------------|
| 4    | Perspective | Change perspective | 0.0000 to 99.9999 |

## Canceling Virtual Images

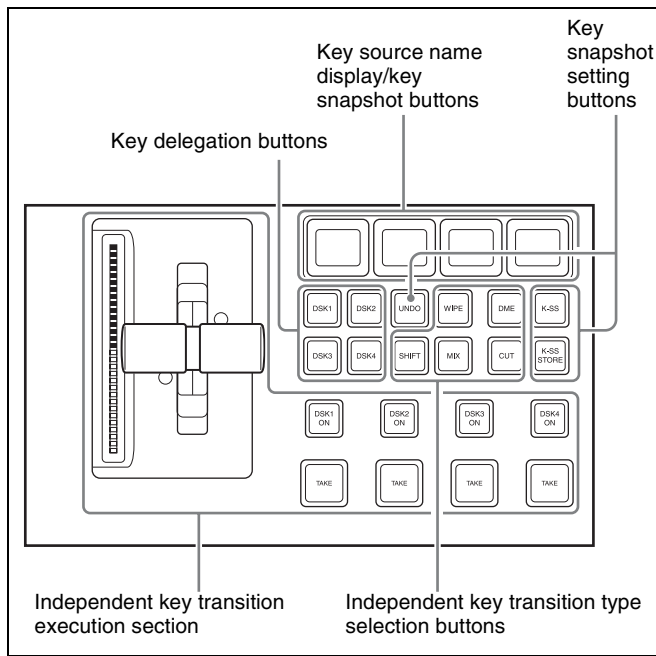
If an extreme degree of perspective is set for an image, the part of the image exceeding the virtual view point is displayed wrapped around on the monitor screen. You can press [Wrap Around], turning it on, to make a setting not to show the virtual images.

# Key Snapshots

Key settings other than the key on/off status and the key priority can all be instantaneously saved in a dedicated register, for recall when required. A key snapshot comprises three values: a cross-point button number, key memory full mode, and independent key transition, and can be called in any combination. There are four key snapshot registers for each keyer.

## Key Snapshot Operations

Key snapshot operations are carried out in the downstream key control block (MKS-8032 DSK Fader Module). Each keyer is provided with four dedicated key snapshot registers.



Downstream key control block (MKS-8032)

### Notes

To select [Key5] to [Key8] or [DSK5] to [DSK8] in the downstream key control block, a previous assignment in the Setup menu is required (*see page 352*).

## Saving a key snapshot

For example, the following procedure saves the state of the DSK1 settings.

- 1 Press the key delegation button [DSK1], turning it on.
- 2 Press the [K-SS] button, turning it on.

The system switches to key snapshot mode, and the key source name display/key snapshot buttons show the status of registers 1 to 4 for DSK1.

**Off:** Nothing is saved in the register.

**Lit orange:** Settings are saved in the register.

For a register holding a snapshot, the register name is shown as up to eight characters.

- 3 Hold down the [K-SS STORE] button, and press the key source name display/key snapshot button corresponding to the register in which you want to save the snapshot.

The key source name display/key snapshot button which you pressed lights yellow.

### Notes

If you save a key snapshot in a register for which the button is lit orange or yellow, the existing contents of the register are overwritten.

## Recalling a key snapshot

For example, the following procedure recalls the state of the DSK1 settings.

- 1 Press the key delegation button [DSK1], turning it on.
- 2 Press the [K-SS] button, turning it on.
- 3 Press the key source name display/key snapshot button corresponding to the register you want to recall.

The button you pressed lights yellow, and this recalls the key snapshot.

To cancel the recall, press the [UNDO] button.

## Overview

A wipe is a transition from the current video stream to a new video stream, using a wipe pattern. Changing the background by means of a wipe is referred to as a “background wipe,” and inserting or deleting a key with a wipe is termed a “key wipe.” There are two types of wipe: those that can be selected in a common transition, and those that can be selected in an independent key transition (*see page 139*).

## Types of Wipe Pattern

The patterns that can be used for a wipe are divided into a number of groups, as follows. Note that only the standard wipe patterns can be used for an independent key transition.

*For wipe patterns, see “Wipe Pattern List” in Appendix (page 312).*

### Standard wipe patterns

Patterns consisting of straight lines vertically, horizontally, or diagonally, and circular patterns.

### Enhanced wipes

More complex shapes such as hearts, stars, and round corners.

### Rotary wipes

These patterns involve rotation of the image about a point.

### Mosaic wipe pattern

This divides the image into small tiles.

### Random and diamond dust wipe patterns

These patterns consist of small random tiles, or fine particles.

## Basic Procedure for Wipe Settings

You carry out wipe setting operations principally using the Wipe menu for each of the M/E-1 to M/E-3 and PGM/PST banks.

This section describes the basic procedures for wipe settings, taking the M/E-1 >Wipe menu as an example.

## Wipe Settings Menu

### Accessing the wipe settings menu

To access the M/E-1 >Wipe menu, use either of the following operations.

- In the menu control block, select the top menu selection button [M/E 1], and press VF5 ‘Wipe.’

#### Notes

To select [M/E 4] or [M/E 5], a previous button assignment in the Setup menu is required (*see page 351*).

- In the transition control block of the M/E-1 bank, press the transition type selection button [WIPE] twice in rapid succession.

## Wipe Pattern Selection

### Selecting a wipe pattern by a menu operation

- 1 In the M/E-1 >Wipe menu, select HF1 ‘Main Pattern.’  
The Main Pattern menu appears.

- 2** Select the wipe pattern group with the pattern group selection button.

**Standard:** standard wipes

**Enhanced:** enhanced wipes

**Rotary:** rotary wipes

**Mosaic1 to Mosaic3:** mosaic wipes

**Random/Dust:** random/diamond dust wipes

The patterns from the selected pattern group appear on the screen.

*For details of wipe patterns, see “Types of Wipe Pattern” (page 127) and “Wipe Pattern List” (page 312) in Appendix.*

- 3** Press the button to select the desired pattern.
- 4** The parameters change according to the selected pattern, and you can adjust the pattern.

#### When a polygon wipe is selected (pattern number 49)

| Knob | Parameter | Adjustment         | Setting values                   |
|------|-----------|--------------------|----------------------------------|
| 1    | No        | Number of points   | 3 to 64                          |
| 2    | Star Rate | Angularity of star | –100.00 to +100.00 <sup>a)</sup> |

a) A value of –100.00 completely removes the star “rays,” leaving a circle; at +100.00 the “rays” are at their sharpest.

#### When a mosaic wipe is selected (pattern numbers 200 to 203, 206 to 213, 224 to 247, 250 to 257, 260 to 269)

| Knob | Parameter | Adjustment                   | Setting values |
|------|-----------|------------------------------|----------------|
| 1    | H Tile No | Number of tiles horizontally | 2 to 36        |
| 2    | V Tile No | Number of tiles vertically   | 2 to 18        |

#### When a karaoke wipe is selected (pattern numbers 220 to 223)

| Knob | Parameter | Adjustment              | Setting values                   |
|------|-----------|-------------------------|----------------------------------|
| 1    | Start     | Position of start tile  | –100.00 to +100.00 <sup>a)</sup> |
| 2    | Row No    | Number of rows of tiles | 1 to 36                          |
| 3    | Phase     | Delay for next row      | –100.00 to +100.00 <sup>b)</sup> |

a) At –100.00 tiles appear from the top (or left edge) of the screen; at +100.00 from the bottom (or right edge) of the screen.

b) At –100.00 all rows appear simultaneously; at +100.00 until one row of tiles is completely displayed, the next row does not start to appear.

#### When a random wipe is selected (pattern number 273)

| Knob | Parameter  | Adjustment              | Setting values |
|------|------------|-------------------------|----------------|
| 1    | H Size     | Tile width              | 0.00 to 100.00 |
| 2    | V Size     | Tile height             | 0.00 to 100.00 |
| 3    | Volatility | Rate of tile generation | 0.00 to 100.00 |

#### When a diamond dust wipe is selected (pattern number 274)

| Knob | Parameter  | Adjustment                      | Setting values |
|------|------------|---------------------------------|----------------|
| 1    | H Size     | Particle width                  | 0.00 to 100.00 |
| 2    | V Size     | Particle height                 | 0.00 to 100.00 |
| 3    | Flash Rate | Rate of generation of particles | 0.00 to 100.00 |

#### Notes

When Flash Rate is set to 0.00, you cannot change the pattern. In this state, adjusting H Size or V Size has no effect on the pattern.

*For details of a pattern mix, see the next section.*

*For details of applying pattern modifiers, see “Setting Wipe Modifiers” (page 130).*

## Pattern Mix

You can create a new pattern by combining two selected patterns (main and “sub”).

#### Notes

It is not possible to apply a pattern mix to an independent key transition.

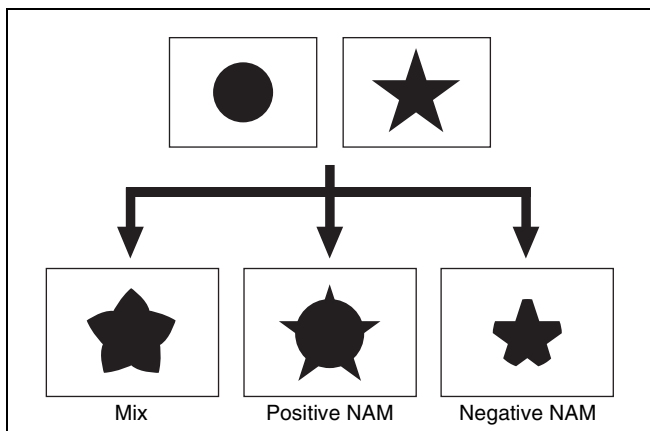
## Types of pattern mix

There are four ways in which patterns can be combined in a pattern mix, as follows.

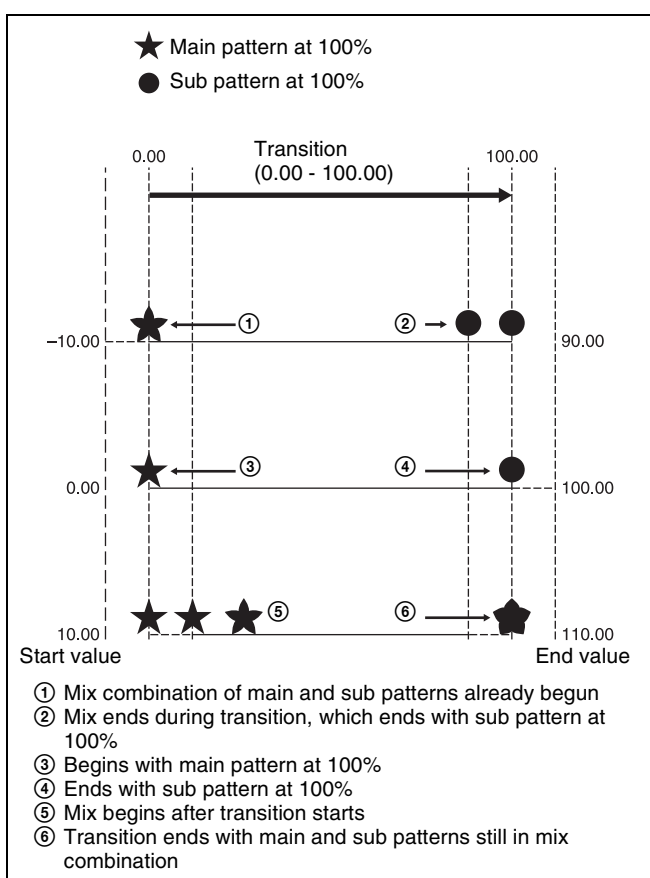
**Mix:** The effect of the sub pattern is applied to the main pattern, modifying the outline or nature of the main pattern.

**Positive NAM (+Nam):** Creates a pattern with an outline which contains all points within the outlines of either of the main pattern and the sub pattern.

**Negative NAM (–Nam):** Creates a pattern with an outline which contains all points within the outlines of both of the main pattern and the sub pattern.



**Morphing:** As the transition progresses, the pattern morphs from the main pattern, through the “mix” combination, to the sub pattern.



- Parameter settings  
**Start:** Point in the course of the transition at which the main pattern is at 100%  
**End:** Point in the course of the transition at which the sub pattern is at 100%
- A value of 0.00 corresponds to the beginning of the transition, and a value of 100.00 to the end of the transition.
- A negative Start value signifies that the main and sub patterns are already combined when the transition starts.

- An End value of 100.00 or more signifies that the main and sub patterns are still combined when the transition complete.
- If the Start and End values are the same, the main and sub patterns are interchanged instantaneously at the corresponding point in the transition.
- If End is less than Start, as the transition proceeds, it changes from the sub pattern to the main pattern.

## Dust mix

You can apply the effect of a diamond dust wipe to a selected pattern. You can also apply the diamond dust wipe effect to the pattern resulting from a pattern mix (*see page 130*).

When the pattern mix function is off, turning dust mix on results in the main pattern and the diamond dust pattern being mixed. This state is the same as a pattern mix when the diamond dust pattern is selected for the sub pattern.

## Main and sub modifier link function

When carrying out a pattern mix, it is possible to link the modifier settings for the main pattern and sub pattern. There are two modes for this function.

### FULL LINK (fully linked) mode

In this mode, all modifier settings are the same for the main pattern and sub pattern.

Changing the modifier settings for one pattern automatically changes the settings for the other.

### SEMI LINK (semi-linked) mode

Only the parameter settings of the modifiers are linked. The modifier on/off settings are not linked. When the parameter values for the modifiers of the main pattern and sub pattern are different, then after this link mode is selected, changing the value of a parameter for one pattern changes the value of the parameter for the other pattern to maintain the same difference between the two.

### Notes

When carrying out a wipe transition using a pattern mix, it is recommended that you set the modifier link function to FULL LINK mode.

If the link function is off, or SEMI LINK mode is selected, the desired effect may not be obtained at the start or end of the transition.

## Combining two patterns

Select a main pattern in the Main Pattern menu, then use the following procedure.

- 1 In the M/E-1 >Wipe menu, select HF3 ‘Sub Pattern.’

The Sub Pattern menu appears.

- 2** In the same way as for the main pattern, select the sub pattern.

The patterns that can be selected for the sub pattern depend on the pattern selected for the main pattern (*see the following table*).

**Yes:** Combination possible **No:** Combination not possible

| Main pattern        | Sub pattern |          |        |        |                     |
|---------------------|-------------|----------|--------|--------|---------------------|
|                     | Standard    | Enhanced | Rotary | Mosaic | Random/diamond dust |
| Standard            | Yes         | Yes      | No     | Yes    | Yes                 |
| Enhanced            | Yes         | Yes      | No     | Yes    | Yes                 |
| Rotary              | No          | No       | No     | No     | No                  |
| Mosaic              | Yes         | Yes      | No     | No     | Yes                 |
| Random/diamond dust | Yes         | Yes      | No     | Yes    | No                  |

- 3** Select HF2 'Pattern Mix.'

The Pattern Mix menu appears.

- 4** In the <Pattern Mix> group, select the type of pattern mix (*see page 128*).

**Mix:** mix

**+Nam:** positive Nam

**−Nam:** negative Nam

**Morphing:** morphing

- 5** Depending on the selection in step 4, set the following parameters.

**When mix, positive Nam, or negative Nam is selected**

| Knob | Parameter | Adjustment                                    | Setting values |
|------|-----------|---|----------------|
| 1    | Mix Ratio | Proportion of sub pattern to the main pattern | 0.00 to 100.00 |

**When morphing (*see page 129*) is selected**

| Knob | Parameter | Adjustment   | Setting values    |
|------|-----------|--|-------------------|
| 2    | Start     | Point in transition at which main pattern is at 100% | −50.00 to +150.00 |
| 3    | End       | Point in transition at which sub pattern is at 100%  | −50.00 to +150.00 |

- 6** In the <Main/Sub Link> group, make the main/sub modifier link function settings (*see page 129*).

**Full:** fully linked mode

**Semi:** semi-linked mode

## Applying the effect of a diamond dust wipe to the selected pattern (Dust mix)

- 1** In the Pattern Mix menu, press [Dust Mix], turning it on.

- 2** Set the following parameters as required.

| Knob | Parameter  | Adjustment                                | Setting values |
|------|------------|---|----------------|
| 1    | Mix Ratio  | Proportion of diamond dust pattern in mix | 0.00 to 100.00 |
| 2    | H Size     | Particle width                            | 0.00 to 100.00 |
| 3    | V Size     | Particle height                           | 0.00 to 100.00 |
| 4    | Flash Rate | Rate of generation of particles           | 0.00 to 100.00 |

You can also apply the dust mix function to the pattern generated by a pattern mix.

### Notes

When a random/diamond dust wipe (pattern numbers 270-274) is selected, the dust mix function is not available.

## Setting Wipe Modifiers

You can apply various modifiers to the wipe pattern: setting the wipe direction, pattern position, and so on. Note that the available modifiers may depend on the pattern you are using (*see page 138*).

### Main pattern and sub pattern modifiers

You can make independent settings of the modifiers for the main pattern and sub pattern.

- To set the modifiers for the main pattern, in the M/E-1 >Wipe menu, select HF5 'Main Modify,' and make the settings in the Main Modify menu.
- To set the modifiers for the sub pattern, select HF6 'Sub Modify,' and make the settings in the Sub Modify menu. Operations in the Main Modify menu and Sub Modify menu are the same.

### Independently set modifiers for the main pattern and sub pattern

- Positioner
- Rotation
- Aspect ratio
- Pattern replication (MULTI)
- Pairing



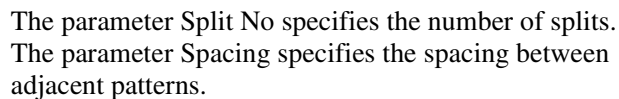
- The following sections show examples of modifying the main pattern.

You can specify the direction of the wipe: the regular direction is referred to as “normal,” and the other direction as “reverse.” You can also select alternating directions each time the transition is completed (normal/reverse mode).



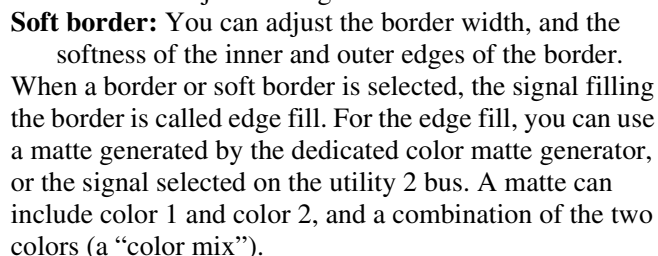
- NORM:** Normal  
**NORM/REV:** Normal/reverse  
**REV:** Reverse

This splits the pattern, making the parts of the wipe move in opposite directions.



- The Edge/Direction menu appears.

You can apply a border to the pattern, soften the edges, or soften the applied border.



- The Edge/Direction menu appears.

**Border:** border  
**Soft:** soft edge  
**Soft Border:** soft border

### 3 Set the parameters according to the selection in step 2.

#### When border is selected

| Knob | Parameter | Adjustment   | Setting values |
|------|-----------|--------------|----------------|
| 1    | Width     | Border width | 0.00 to 100.00 |

#### When soft edge is selected

| Knob | Parameter | Adjustment    | Setting values |
|------|-----------|---------------|----------------|
| 1    | Soft      | Edge softness | 0.00 to 100.00 |

#### When soft border is selected

| Knob | Parameter  | Adjustment            | Setting values |
|------|------------|-----------------------|----------------|
| 1    | Width      | Border width          | 0.00 to 100.00 |
| 2    | Inner Soft | Border inner softness | 0.00 to 100.00 |
| 3    | Outer Soft | Border outer softness | 0.00 to 100.00 |

### 4 When you selected border or soft border, select the edge fill signal in the <Edge Fill> group.

**Utility 2 Bus:** signal selected on the utility 2 bus

**Matte:** signal from the dedicated color matte generator

### 5 Depending on the operation in step 4, carry out the following operation.

**When ‘Utility 2 Bus’ is selected:** Press the key delegation button [UTIL2], turning it on, and select the signal in the key row.

**When ‘Matte’ is selected:** In the same Edge/Direction menu, press [Matte Adjust] to display the Matte Adjust menu, then adjust the single-color or two-color combination color matte. Select whether to use a single-color matte or a two-color combination in the <Edge Matte> group.

**Flat Color:** Adjust color 1 with the following parameters.

| Knob | Parameter  | Adjustment | Setting values |
|------|------------|------------|----------------|
| 1    | Luminance  | Luminance  | 0.00 to 100.00 |
| 2    | Saturation | Saturation | 0.00 to 100.00 |
| 3    | Hue        | Hue        | 359.99 to 0.00 |

When you select [Mix Color] for a two-color combination, see the next paragraph.

## Carrying out a color mix for the edge fill matte

When you selected [Matte] for the border or soft border edge fill, you can combine color 1 and color 2.

For the combination, you can use not only a normal wipe generator pattern, but also the dedicated color mix pattern.

### 1 In the <Edge Fill> group of the Edge/Direction menu, select [Matte], and press [Matte Adjust].

The Matte Adjust menu appears.

### 2 In the <Edge Matte> group, select [Mix Color], turning it on.

### 3 In the <Mix Pattern> group, make one of the following selections.

**Wipe:** Use the wipe pattern selected for the transition.

**Pattern:** Use the dedicated pattern.

### 4 Depending on the selection in step 3, set the following parameters.

#### When Wipe is selected

| Knob | Parameter | Adjustment    | Setting values |
|------|-----------|---------------|----------------|
| 1    | Size      | Pattern size  | 0.00 to 100.00 |
| 2    | Soft      | Edge softness | 0.00 to 100.00 |

#### When Pattern is selected

| Knob | Parameter | Adjustment     | Setting values        |
|------|-----------|----------------|-----------------------|
| 1    | Size      | Pattern size   | 0.00 to 100.00        |
| 2    | Soft      | Edge softness  | 0.00 to 100.00        |
| 3    | Pattern   | Pattern number | 1 to 24 <sup>a)</sup> |

a) The patterns are the same as for a standard wipe. See “Wipe Pattern List” (page 312) in Appendix.

If you selected Pattern, you can also carry out the pattern selection by pressing [Mix Pattern Select] in the Matte Adjust menu, to display the Mix Ptn Select menu. Select any pattern appearing in the Mix Ptn Select menu (wipe patterns 1 to 24) by pressing the appropriate button, and you can then adjust the following parameters.

| Knob | Parameter | Adjustment    | Setting values |
|------|-----------|---------------|----------------|
| 1    | Size      | Pattern size  | 0.00 to 100.00 |
| 2    | Soft      | Edge softness | 0.00 to 100.00 |

### 5 If you selected Pattern in step 4, if required, the following modifiers can be added. After selecting a wipe mix, skip to step 6.

### When turning [Position] on and setting the pattern position

| Knob | Parameter  | Adjustment          | Setting values                   |
|------|------------|---------------------|----------------------------------|
| 1    | Position H | Horizontal position | -200.00 to +200.00 <sup>a)</sup> |
| 2    | Position V | Vertical position   | -200.00 to +200.00 <sup>a)</sup> |

a) See page 133.

### When turning [Multi] on and using replications of the same pattern

| Knob | Parameter   | Adjustment                                    | Setting values       |
|------|-------------|---|----------------------|
| 1    | H Multi     | Number of repetitions of pattern horizontally | 1 to 63              |
| 2    | V Multi     | Number of repetitions of pattern vertically   | 1 to 63              |
| 3    | Invert Type | Replication layout                            | 1 to 4 <sup>a)</sup> |

a) See page 135.

### When turning [Aspect] on and setting the aspect ratio of the pattern

| Knob | Parameter | Adjustment   | Setting values                   |
|------|-----------|--------------|----------------------------------|
| 1    | Aspect    | Aspect ratio | -100.00 to +100.00 <sup>a)</sup> |

a) See page 135.

### When turning [Angle] on in the <Rotation> group and slanting the pattern

| Knob | Parameter | Adjustment                | Setting values                   |
|------|-----------|---------------------------|----------------------------------|
| 1    | Angle     | Angle of pattern rotation | -100.00 to +100.00 <sup>a)</sup> |

a) See page 134.

### When turning [Speed] on in the <Rotation> group and rotating the pattern at a constant rate

| Knob | Parameter | Adjustment               | Setting values                   |
|------|-----------|--------------------------|----------------------------------|
| 1    | Speed     | Rotation rate of pattern | -100.00 to +100.00 <sup>a)</sup> |

a) See page 134.

- 6** To adjust color 1, set [Color 1] on, and to adjust color 2 set [Color 2] on, then adjust the parameters.

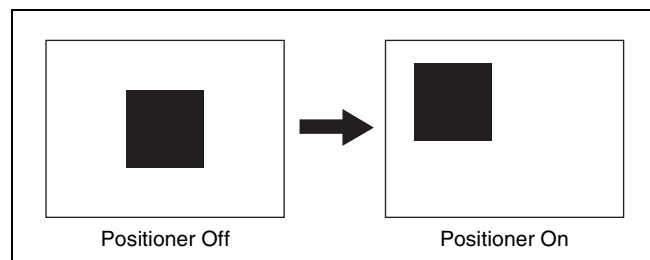
| Knob | Parameter  | Adjustment | Setting values |
|------|------------|------------|----------------|
| 1    | Luminance  | Luminance  | 0.00 to 100.00 |
| 2    | Saturation | Saturation | 0.00 to 100.00 |

| Knob | Parameter | Adjustment | Setting values |
|------|-----------|------------|----------------|
| 3    | Hue       | Hue        | 359.99 to 0.00 |

- 7** To interchange color 1 and color 2, press [Color Invert], turning it on.

### Setting the wipe position (Positioner)

When you turn on this function, you can move the wipe pattern to any position.



- The parameter H Position controls the horizontal position of the pattern.  
A negative value moves the pattern to the left, and a positive value moves the pattern to the right.
  - The parameter V Position controls the vertical position of the pattern.  
A negative value moves the pattern down, and a positive value moves the pattern up.
- You can set the position independently for the main pattern and sub pattern.

- 1** In the M/E-1 >Wipe menu, select HF5 'Main Modify.'  
The Main Modify menu appears.

- 2** In the <Position> group, press [Position], turning it on, and set the pattern position.

| Knob | Parameter  | Adjustment          | Setting values     |
|------|------------|---------------------|--------------------|
| 1    | Position H | Horizontal position | -200.00 to +200.00 |
| 2    | Position V | Vertical position   | -200.00 to +200.00 |

### To return the pattern position to the center of the screen

In the <Position> group, press [Center].

### To move the pattern from its current position to the center through the course of a transition

In the <Position> group, press [Auto Center], turning it on.

### To set the wipe position using the trackball

You can also set the wipe position using the trackball in the device control block.

- 1** In the device control block, press the [M/E1] or [P/P] button, turning it on.

The buttons in the device control block are assigned to the wipe position setting as follows.

Table 1: Buttons and assigned settings

| Button name | Setting  |
|-------------|--|
| MAIN        | Wipe position for common transition (main pattern) |
| SUB         | Wipe position for common transition (sub pattern)  |

Table 2: Buttons assigned to functions

| Button name | Function   |
|-------------|--|
| POS         | Toggle Position on or off.                               |
| X, Y        | Fix the operating direction.                             |
| CTR         | Return the pattern position to the center of the screen. |

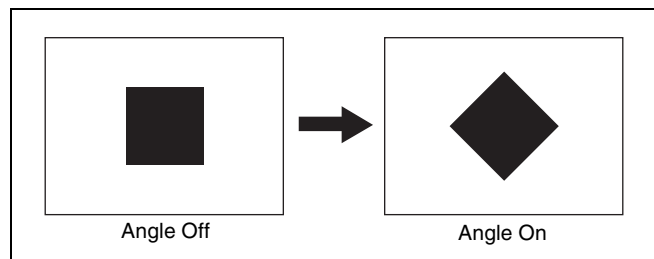
- 2 Press the [MAIN] button or [SUB] button, turning it on.
- 3 Press the [POS] button, turning Position on.
- 4 Move the trackball or joystick, to set the wipe position. By pressing the [X] button, turning it on, you can restrict movement to the horizontal direction, and by pressing the [Y] button, turning it on, you can restrict movement to the vertical direction.

## Rotating the wipe pattern (Rotation)

You can rotate the pattern. There are three rotation modes, as follows.

### Angle

This carries out a wipe with the pattern in a fixed angle.

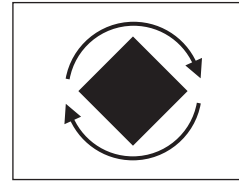


The parameter Angle determines the angle of pattern rotation.

- A value of  $-100.00$  of the parameter Angle corresponds to one whole turn counterclockwise.
- A value of  $+100.00$  corresponds to one whole turn clockwise.
- With a value of  $0.00$  there is no rotation.

### Speed

Through the course of the transition the wipe pattern rotates at a fixed specified speed.

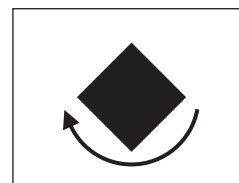


The parameter Speed determines the speed of pattern rotation.

- A value of  $-100.00$  of the parameter Speed corresponds to one turn per second counterclockwise.
- A value of  $+100.00$  corresponds to one turn per second clockwise.
- With a value of  $0.00$  the pattern is stationary.

### Magnitude

Through the course of the transition the wipe pattern rotates through the specified angle.



The parameter Angle determines an angle of pattern inclination at the beginning of the transition.

- A value of  $-100.00$  corresponds to the angle rotated one whole turn counterclockwise.
- A value of  $+100.00$  corresponds to the angle rotated one whole turn clockwise.
- With a value of  $0.00$  the pattern is stationary.

The parameter Magnitude determines an angle of pattern rotation through the course of the transition.

- A value of  $-200.00$  corresponds to a rotation of two turns counterclockwise.
- A value of  $+200.00$  corresponds to a rotation of two turns clockwise.
- With a value of  $0.00$  the pattern is stationary.

You can apply rotation independently to the main pattern and sub pattern.

- 1 In the M/E-1 >Wipe menu, select HF5 'Main Modify.'

The Main Modify menu appears.

- 2 In the <Rotation> group, select the rotation type.

**Angle:** Incline the pattern through a fixed angle.

**Speed:** Rotate at a fixed rate.

**Magnitude:** Rotate through a particular angle during the course of the transition.

- 3 According to the selection in step 2, set the following parameters.

**When Angle is selected**

| Knob | Parameter | Adjustment                | Setting values     |
|------|-----------|---------------------------|--------------------|
| 1    | Angle     | Angle of pattern rotation | -100.00 to +100.00 |

**When Speed is selected**

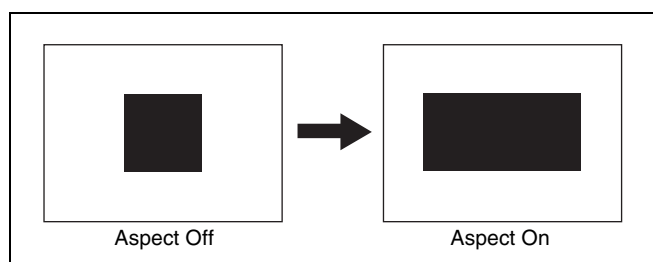
| Knob | Parameter | Adjustment               | Setting values     |
|------|-----------|--------------------------|--------------------|
| 1    | Speed     | Rotation rate of pattern | -100.00 to +100.00 |

**When Magnitude is selected**

| Knob | Parameter | Adjustment                                       | Setting values     |
|------|-----------|--|--------------------|
| 1    | Angle     | Angle of pattern rotation at start of transition | -100.00 to +100.00 |
| 2    | Magnitude | Angle of rotation through course of transition   | -200.00 to +200.00 |

**Setting the wipe pattern aspect ratio (Aspect ratio)**

You can freely change the aspect ratio of the pattern.



A negative value of the parameter Aspect stretches the pattern vertically; a positive value stretches the pattern horizontally.

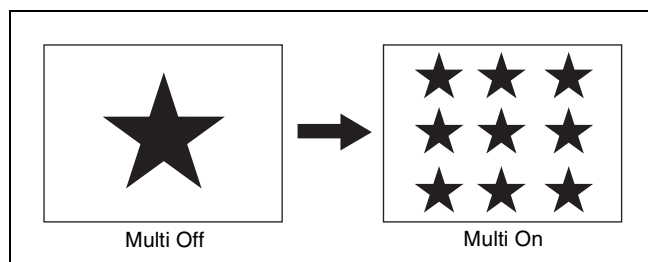
You can set the aspect ratio independently for the main pattern and sub pattern.

- 1** In the M/E-1 >Wipe menu, select HF5 'Main Modify.'  
The Main Modify menu appears.
- 2** Press [Aspect], turning it on.
- 3** Set the following parameter.

| Knob | Parameter | Adjustment   | Setting values     |
|------|-----------|--------------|--------------------|
| 1    | Aspect    | Aspect ratio | -100.00 to +100.00 |

**Setting the wipe pattern replication (Multi)**

The same pattern can be repeated horizontally and vertically or both, up to 63 times. You can also change the orientation of alternate copies, or change the position.

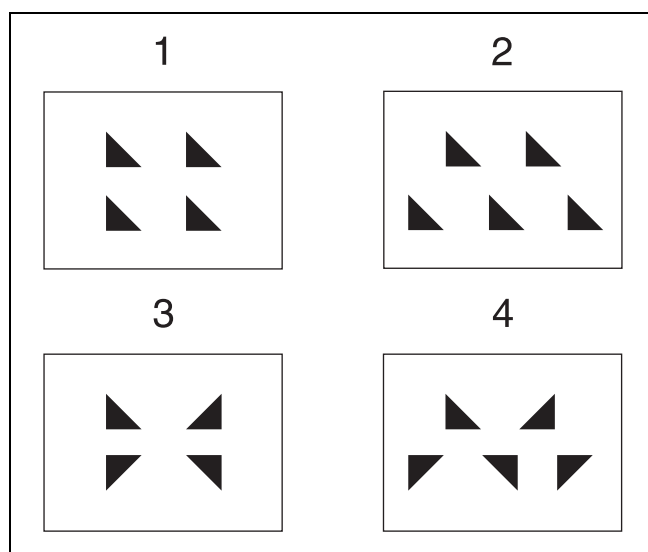


- The parameter H Multi determines the number of pattern replications horizontally, and the parameter V Multi determines the number of pattern replications vertically.
- The parameter Shift determines the manner of replication.

At a value of -100.00, the pattern of the adjacent odd-numbered column on the left lines up with the central coordinate horizontally.

At a value of +100.00, the pattern of the adjacent odd-numbered column on the right lines up with the central coordinate horizontally.

For an independent key transition wipe, you can use the "Invert Type" parameter to select from the following four types of replication pattern.



- 1:** All replications in the same orientation
- 2:** Even-numbered rows staggered
- 3:** Even-numbered columns and rows inverted
- 4:** Even-numbered columns and rows inverted, and even-numbered rows staggered

You can set pattern replication independently for the main pattern and sub pattern.

- 1** In the M/E-1 >Wipe menu, select HF5 'Main Modify.'  
The Main Modify menu appears.
- 2** Press [Multi], turning it on.
- 3** Set the following parameters.

| Knob | Parameter | Adjustment                                    | Setting values     |
|------|-----------|---|--------------------|
| 1    | H Multi   | Number of repetitions of pattern horizontally | 1 to 63            |
| 2    | V Multi   | Number of repetitions of pattern vertically   | 1 to 63            |
| 3    | Shift     | Replication layout                            | -100.00 to +100.00 |

**4** To make more adjustments, press [Multi Adjust].

The Multi Adjust menu appears.

**5** Make the following settings, as required.

**H Invert:** When this is on, alternate tiles are inverted left-to-right.

**V Invert:** When this is on, alternate tiles are inverted top-to-bottom.

**Non-Mask:** When this is on, even if the positioner function is used to move the pattern position, the pattern is always present on the screen.

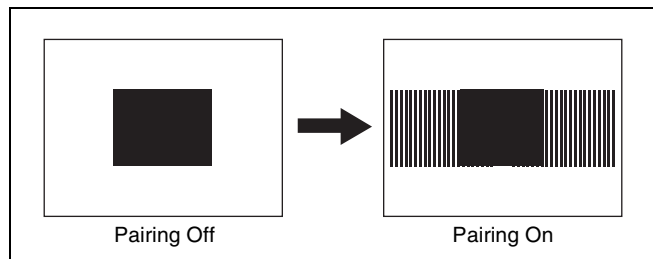
**Position:** By adjusting the following parameters, move the pattern position within the divisions determined in step 3.

| Knob | Parameter  | Adjustment                     | Setting values                   |
|------|------------|--------------------------------|----------------------------------|
| 1    | Position H | Horizontal position of pattern | -200.00 to +200.00 <sup>a)</sup> |
| 2    | Position V | Vertical position of pattern   | -200.00 to +200.00 <sup>a)</sup> |

<sup>a)</sup> See page 133.

## Making a wipe pattern like a Venetian blind (Pairing)

This slits the pattern into multiple strips in the horizontal or vertical direction, making it like a venetian blind.



- The parameter Width determines the width of the slits.
- The parameter H Offset determines the spacing in the horizontal direction.

If a negative value is set, the even-numbered pairs of strip and slit move to the left, and the odd-numbered pairs move to the right. The value -100.00 represents the maximum movement.

If a positive value is set, the even-numbered pairs of strip and slit move to the right, and the odd-numbered pairs move to the left. The value +100.00 represents the maximum movement.

- The parameter V Offset determines the spacing in the vertical direction.

If a negative value is set, the even-numbered pairs of strip and slit move upward, and the odd-numbered pairs move downward. The value -100.00 represents the maximum movement.

If a positive value is set, the even-numbered pairs of strip and slit move downward, and the odd-numbered pairs move upward. The value +100.00 represents the maximum movement.

**1** In the M/E-1 >Wipe menu, select HF5 'Main Modify.'

The Main Modify menu appears.

**2** In the <Pairing> group, select the slit direction.

**H:** Create slits in the horizontal direction.

**V:** Create slits in the vertical direction.

**3** Set the following parameters.

| Knob | Parameter | Adjustment                          | Setting values     |
|------|-----------|-------------------------------------|--------------------|
| 1    | Width     | Width of the slits                  | 1 to 128 (integer) |
| 2    | H Offset  | Spacing in the horizontal direction | -100.00 to +100.00 |
| 3    | V Offset  | Spacing in the vertical direction   | -100.00 to +100.00 |

## Applying modulation to the wipe pattern (Modulation)

The pattern signal can be modulated, creating waves in the horizontal, vertical, or radial direction along the edges. The parameter Shape determines the form of the modulation.

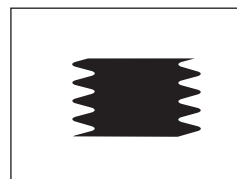
1: sine wave, 2: triangular wave, 3: rectangular wave

### Notes

When using 1080PsF mode in an HD system, the modulation function is not available.

### Horizontal modulation

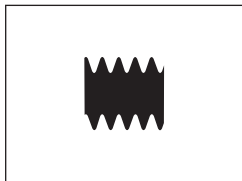
This modulates the pattern, applying waviness in the horizontal direction to edges.



The parameter Speed determines the speed of waves. A value of -100.00 generates the maximum downward speed of waves, and a value of +100.00 the maximum upward speed.

### Vertical modulation

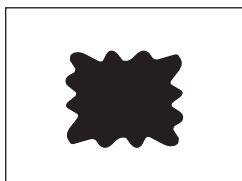
This modulates the pattern, applying waviness in the vertical direction to edges.



The parameter Speed determines the speed of waves. A value of -100.00 generates the maximum leftward speed of waves, and a value of +100.00 the maximum rightward speed.

### Fringe

This modulates the pattern, applying waviness in the radial direction to edges.



The parameter Speed determines the speed of waves. A value of -100.00 generates the maximum counterclockwise speed of waves, and a value of +100.00 the maximum clockwise speed. You can apply modulation independently to the main pattern and sub pattern.

- 1 In the M/E-1 >Wipe menu, select HF5 'Main Modify.'  
The Main Modify menu appears.

- 2 Depending on the desired effect, in the <Modulation> group select one of the following.

**H (Horizontal modulation):** Modulate the pattern, applying waviness in the horizontal direction to edges.

**V (Vertical modulation):** Modulate the pattern, applying waviness in the vertical direction to edges.

**Fringe (Radial modulation):** Modulate the pattern, applying waviness in the radial direction to edges.

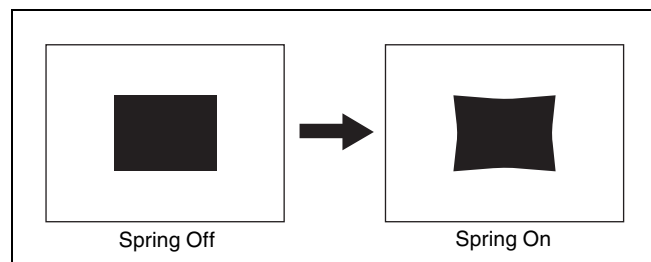
- 3 Set the following parameters.

| Knob | Parameter | Adjustment              | Setting values |
|------|-----------|-------------------------|----------------|
| 1    | Amplitude | Amplitude of modulation | 0.00 to 100.00 |

| Knob | Parameter | Adjustment              | Setting values     |
|------|-----------|-------------------------|--------------------|
| 2    | Frequency | Frequency of modulation | 0.00 to 100.00     |
| 3    | Speed     | Speed of waves          | -100.00 to +100.00 |
| 4    | Shape     | Form of the modulation  | 1 to 3             |

### Applying barrel or pincushion distortion to the edge of the wipe pattern (Spring)

As the transition progresses, the edge of the pattern is subjected to barrel or pincushion distortion.



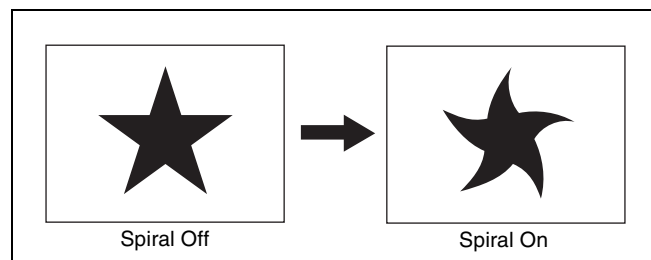
A negative parameter value produces pincushion distortion, and a positive value produces barrel distortion. You can set the spring function independently for the main and sub patterns.

- 1 In the M/E-1 >Wipe menu, select HF5 'Main Modify.'  
The Main Modify menu appears.
- 2 Press [Spring], turning it on.
- 3 Set the following parameters.

| Knob | Parameter | Adjustment                  | Setting values     |
|------|-----------|-----------------------------|--------------------|
| 1    | Gain      | Degree of barrel distortion | -100.00 to +100.00 |

### Applying a spiral effect to the wipe pattern (Spiral)

This deforms the pattern spirally.



- The parameter Magnitude determines the size and direction of the spiral.  
A value of -100.00 represents the maximum movement

in the counterclockwise direction, and a value of +100.00 represents the maximum movement in the clockwise direction.

- The parameter Wave Speed determines the speed of the lateral waves.

A value of -100.00 represents the maximum speed to the left, and a value of +100.00 represents the maximum speed to the right.

You can set the spiral function independently for the main and sub patterns.

- 1 In the M/E-1 >Wipe menu, select HF5 'Main Modify.'  
The Main Modify menu appears.

- 2 Press [Spiral], turning it on.

- 3 Set the following parameters.

| Knob | Parameter  | Adjustment                       | Setting values     |
|------|------------|----------------------------------|--------------------|
| 1    | Magnitude  | Size and direction of the spiral | -100.00 to +100.00 |
| 2    | Wave Speed | Speed of the lateral waves       | -100.00 to +100.00 |

## Possible combinations of wipe patterns and modifiers

**Yes:** Can be used    **No:** Cannot be used

| Modifiers                  | Type of wipe      |                   |                   |                   |                     |
|----------------------------|-------------------|-------------------|-------------------|-------------------|---------------------|
|                            | Standard          | Enhanced          | Rotary            | Mosaic            | Random/diamond dust |
| <b>Direction</b>           | Yes               | Yes               | Yes               | Yes               | Yes                 |
| <b>Split</b>               | Yes               | Yes               | No                | Yes               | No                  |
| <b>Edge</b>                | Yes               | Yes               | Yes               | Yes               | Yes                 |
| <b>Positioner</b>          | Yes <sup>a)</sup> | Yes <sup>b)</sup> | Yes <sup>c)</sup> | No                | No                  |
| <b>Rotation</b>            | Yes               | Yes               | Yes <sup>c)</sup> | No                | No                  |
| <b>Aspect ratio</b>        | Yes <sup>d)</sup> | Yes               | No                | No                | No                  |
| <b>Pattern replication</b> | Yes               | Yes               | Yes               | Yes <sup>e)</sup> | No                  |
| <b>Pairing</b>             | Yes <sup>f)</sup> | Yes               | No                | No                | No                  |
| <b>Modulation (H/V)</b>    | Yes               | Yes               | Yes               | No                | No                  |
| <b>Modulation (Fringe)</b> | No <sup>g)</sup>  | Yes               | No                | No                | No                  |
| <b>Spring</b>              | No <sup>g)</sup>  | Yes               | No                | No                | No                  |
| <b>Spiral</b>              | No <sup>h)</sup>  | Yes               | No                | No                | No                  |

a) Not patterns 1 to 16, 19, and 20

b) Not patterns 300 to 303

c) Not patterns 100 to 103, 150, 151, 516, 518, 604, and 606

d) Not patterns 1 to 8, 17, and 18

e) Not patterns 220 to 223

f) Not patterns 19 and 20

g) But patterns 21, 23 and 24 are possible

h) But patterns 21 and 23 are possible

## Wipe Modify Clear

Press [Default Recall] at the lower left of the menu display, turning it on, then press VF5 'Wipe' to return the wipe settings to their initial status.

*For details of the menu operation to return the wipe state to that set in initial status, see "Returning to Default State in Function Groupings" (page 62).*



# Wipe Settings for Independent Key Transitions

You carry out independent key/downstream key transition wipe setting operations using the Wipe Adjust menu for each keyer.

This section describes the independent key transition wipe settings, taking the M/E-1 >Key1 >Transition >Wipe Adjust menu as an example.

For details, see “Independent Key Transitions” (page 86).

## Basic Procedure for Independent Key Transition Wipe Settings

### Accessing the independent key transition wipe settings menu

As an example, to access the M/E-1 >Key1 >Transition >Wipe Adjust menu, carry out the following operations.

- In the menu control block, select the top menu selection button [M/E 1] and select VF1 ‘Key1’ and HF6 ‘Transition’ to display the Transition menu for key 1, then press [Wipe Adjust].
- If VF1 [Key5] is shown, press the switching button at the top of the menu, so that [Key1-4] appears, and press VF1 [Key1].

#### Notes

To select [M/E 4] or [M/E 5], a previous button assignment in the Setup menu is required (see page 351).

Carrying out the above operation displays the M/E-1 >Key1 >Transition >Wipe Adjust menu (referred to below as the Key1 Wipe Adjust menu).

### Selecting the independent key transition wipe pattern

You select the independent key wipe pattern from the list of patterns displayed in the menu.

#### Notes

In an independent key transition, you can only use the standard wipe patterns (pattern numbers 1 to 24). To select a wipe pattern for independent key1 on the M/E-1 bank, use the following procedure.

- 1 In the Key1 Wipe Adjust menu, select [Pattern Select].

The Pattern Select menu appears.

- 2 Press the button for the desired pattern.

## Setting Independent Key Transition Wipe Modifiers

### Available modifiers

You can use the following modifiers with an independent key transition wipe.

Note that the available modifiers may depend on the pattern you are using.

- Direction
- Soft edge
- Positioner
- Rotation
- Aspect ratio
- Pattern replication

### Setting the wipe direction (Direction)

In the <Direction> group of the Key1 Wipe Adjust menu, make any of the following selections.

**Normal:** regular direction

**Normal/Reverse:** alternate between regular and reverse for each transition

**Reverse:** reverse direction to normal

### Softening the wipe pattern edge (Soft edge)

- 1 Press [Soft] in the Key1 Wipe Adjust menu, turning it on.
- 2 Set the following parameter.

| Knob | Parameter | Adjustment    | Setting values |
|------|-----------|---------------|----------------|
| 1    | Soft      | Edge softness | 0.00 to 100.00 |

### Setting the wipe position (Positioner)

There are two methods of setting the wipe position: using the device control block, or in a menu.

#### To set the wipe position using the trackball

You can also set the wipe position using the trackball in the device control block.

- 1 In the device control block, press the [M/E1] or [P/P] button, turning it on.

The buttons in the device control block are assigned to the wipe position setting as follows.

Table 1: Buttons and assigned settings

| Button name | Setting  |
|-------------|--|
| K1 CB1      | Wipe position for independent key 1 transition |
| K2 CB2      | Wipe position for independent key 2 transition |
| K3          | Wipe position for independent key 3 transition |
| K4          | Wipe position for independent key 4 transition |

Table 2: Buttons assigned to functions

| Button name | Function   |
|-------------|--|
| POS         | Toggle Position on or off.                               |
| X, Y        | Fix the operating direction.                             |
| CTR         | Return the pattern position to the center of the screen. |

- 2** Press one of the buttons in Table 1 above, to select the wipe position to which the operation applies. Multiple selections are supported.

#### Notes

By setting the operation mode in setup, you can also use [K1 CB1], [K2 CB2], [K3], and [K4] to select keys 5 to 8. In this case, press [SHIFT], turning it on, then press [K1 CB1], [K2 CB2], [K3], or [K4] to select one of keys 5 to 8. However, it is not possible to select more than one key.

*For details of assignment for keys 5 to 8, see “Assigning Buttons for Selection of Keys 5 to 8 in the Setup Menu” in the Appendix (page 352).*

- 3** Press the [POS] button, turning Position on.
- 4** Move the trackball or joystick, to set the wipe position. By pressing the [X] button, turning it on, you can restrict movement to the horizontal direction, and by pressing the [Y] button, turning it on, you can restrict movement to the vertical direction.

#### To set the wipe position by a menu operation

- 1** Press [Position] in the Key1 Wipe Adjust menu, turning it on.
- 2** Set the following parameters.

| Knob | Parameter  | Adjustment          | Setting values                   |
|------|------------|---------------------|----------------------------------|
| 1    | Position H | Horizontal position | –200.00 to +200.00 <sup>a)</sup> |
| 2    | Position V | Vertical position   | –200.00 to +200.00 <sup>a)</sup> |

a) See page 133.

#### To move the pattern from its current position to the center through the course of a transition

Press [Auto Center], turning it on.

#### Rotating the wipe pattern (Rotation)

- 1** In the <Rotation> group of the Key1 Wipe Adjust menu, select the rotation type.

**Angle:** Incline the pattern through a fixed angle.

**Speed:** Rotate at a speed rate.

**Magnitude:** Rotate the pattern through a fixed angle during the course of the transition.

- 2** According to the selection in step 1, set the following parameters.

##### When Angle is selected

| Knob | Parameter | Adjustment                | Setting values                   |
|------|-----------|---------------------------|----------------------------------|
| 1    | Angle     | Angle of pattern rotation | –100.00 to +100.00 <sup>a)</sup> |

a) See page 134.

##### When Speed is selected

| Knob | Parameter | Adjustment               | Setting values                   |
|------|-----------|--------------------------|----------------------------------|
| 1    | Speed     | Rotation rate of pattern | –100.00 to +100.00 <sup>a)</sup> |

a) See page 134.

##### When Magnitude is selected

| Knob | Parameter | Adjustment                                       | Setting values                   |
|------|-----------|--|----------------------------------|
| 1    | Angle     | Angle of pattern rotation at start of transition | –100.00 to +100.00 <sup>a)</sup> |
| 2    | Magnitude | Angle of rotation through course of transition   | –200.00 to +200.00 <sup>a)</sup> |

a) See page 134.

#### Setting the wipe pattern aspect ratio (Aspect ratio)

- 1** Press [Aspect] in the Key1 Wipe Adjust menu, turning it on.
- 2** Set the following parameter.

| Knob | Parameter | Adjustment   | Setting values                   |
|------|-----------|--------------|----------------------------------|
| 1    | Aspect    | Aspect ratio | –100.00 to +100.00 <sup>a)</sup> |

a)See page 135.

## Replicating the wipe pattern (Multi)

- 1 Press [Multi] in the Key1 Wipe Adjust menu, turning it on.
- 2 Set the following parameters.

| Knob | Parameter   | Adjustment                                    | Setting values       |
|------|-------------|---|----------------------|
| 1    | H Multi     | Number of repetitions of pattern horizontally | 1 to 63              |
| 2    | V Multi     | Number of repetitions of pattern vertically   | 1 to 63              |
| 3    | Invert Type | Replication layout                            | 1 to 4 <sup>a)</sup> |

a)See page 135.

## Wipe Snapshots

You can snapshot and save a wipe pattern together with the current settings of its modifiers and pattern limit in a dedicated register for recall when required.

There are 10 wipe snapshot registers on each M/E bank and the PGM/PST bank.

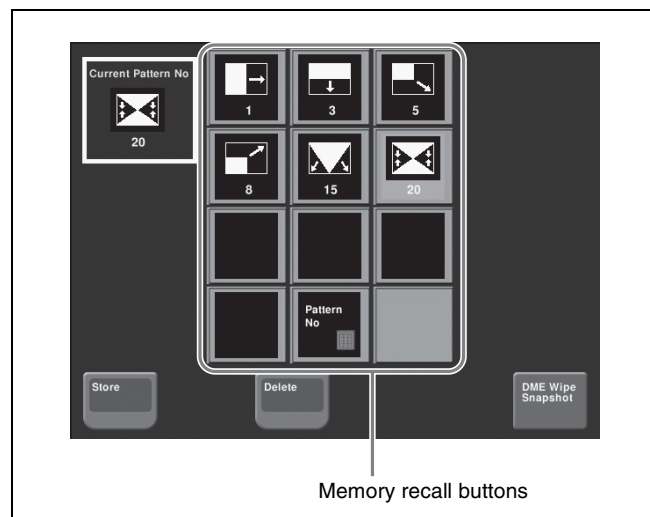
Use the menu to save and recall wipe snapshots.

### Wipe Snapshot Operations With the Menus

#### Menus used

As an example, when operating on M/E-1, select M/E-1 >Wipe >Wipe Snapshot.

The Wipe Snapshot menu appears.



#### Button displays

In setup you can select whether the memory recall buttons show the pattern number or register name.

*For details, see “Operation Settings (Operation Menu)” in Chapter 19 (Volume 2).*

### Saving a wipe snapshot from the menu

- 1 Set up the wipe you want to save.
- 2 In the Wipe Snapshot menu, press [Store], lighting it amber.
- 3 Press the memory recall button for the register in which you want to save.

## Notes

- If you press a button which is already lit, this overwrites the contents of the register.
- When both the main pattern and sub pattern are selected for a pattern mix, the button in the memory recall section shows only the main pattern.

## Recalling a wipe snapshot from the menu

In the Wipe Snapshot menu, press the memory recall button for the wipe snapshot you want to recall.

This recalls the wipe snapshot, and the button you pressed lights amber.

In the upper left is shown the currently recalled register name or number.

## Notes

A setting in setup determines whether register names or pattern numbers appear.

## Deleting a wipe snapshot from the menu

- 1 In the Wipe Snapshot menu, press [Delete].
- 2 Press the memory recall button for the wipe snapshot you want to delete.



## Overview

A DME wipe is a wipe transition that uses a DME effect to change from one video image to the next. There are two types of DME wipe: those which can be selected for a normal transition, and those which can be selected for an independent key transition (*see page 153*).

### Notes

It is also possible to carry out a DME wipe on a key using the resizer (*see page 155*).

## Types of DME Wipe Pattern

The patterns used for a DME wipe fall into two broad classes.

**Preset patterns:** predetermined fixed patterns

**User programmable DME patterns:** patterns which you can create using keyframe effects

### DME wipe execution mode and pattern numbers that can be used

There are three DME wipe execution modes, depending on the number of DME channels available: one-channel mode, two-channel mode and three-channel mode. The pattern numbers that can be used in these modes are as follows.

| Execution mode     | Preset pattern numbers that can be used | User programmable DME pattern numbers that can be used |
|--------------------|---|--|
| One-channel mode   | 1000 series                             | 1901 to 1999   |
| Two-channel mode   | 2000 series                             | 2901 to 2999   |
| Three-channel mode | 3000 series                             | 3901 to 3999   |

### Notes

- On the MVS-8000X, when the signal format is 1080P, the three-channel mode is not available.
- On the MVS-7000X, when the signal format is 1080P, the above restriction also applies if using the MVE-

8000A. There is no such restriction for the MKS-7470X/7471X.

### DME wipe pattern groups

The patterns used in DME wipes fall into the following groups.

*For each group (excluding user programmable DMEs), for schematic patterns and numbers, see “DME Wipe Pattern List” in Appendix (page 316).*

| Pattern groups     | Effects   | Pattern numbers  |  |                    |
|--------------------|---|--|--|--------------------|
|                    |   | One-channel mode   | Two-channel mode                         | Three-channel mode |
| Slide              | The new video slides in over the old video.   | 1001 to 1008   | 2601 to 2608                             | —                  |
| Squeeze            | The new video appears squeezed over the old video, and progressively expands to cover it.   | 1021 to 1031   | 2621 to 2628                             | —                  |
| Split              | The old video splits, and the new video appears in the gap.   | 1011 to 1013   | —  | —                  |
| Door               | The new video moves like a door closing, and progressively covers the old video.  | 1041 1048  | —  | —                  |
| Flip tumble        | The old video rotates about an axis and is replaced by the new video. During the transition, the signal from the utility 2 bus of the M/E bank appears as the background.   | 1101 to 1104, 1109, 1110, 1121, 1122, 1124, 1131 to 1133, 1135 | —  | —                  |
| Mirror             | The new video appears over the old video as a mirror effect slides in all four directions.  | 1355 to 1358   | —  | —                  |
| Sphere             | The new video appears wrapped around a sphere over the old video, then returns to the original video while unwrapping.  | 1365   | —  | —                  |
| Character trail    | The new video appears with a trail over the old video. Next this gradually returns to the original from the periphery.  | 1371, 1372   | —  | —                  |
| Wave               | The new video appears with a wave-like effect over the old video. Next this returns to the original video as the effect reduces.  | 1378, 1379   | —  | —                  |
| Ripple             | The new video appears over the old video like outwardly moving ripples.   | 1381   | —  | —                  |
| Page turn          | The old video moves like a page turning, and the new video appears behind it.   | 1301 to 1313, 1315 to 1318, 1341 to 1345                       | 2701 to 2713, 2715 to 2718, 2741 to 2745 | —                  |
| Page roll          | The new video unrolls like a scroll over the old video. This is a type of page turn.  | 1321 to 1333, 1335 to 1338, 1346 to 1350                       | 2721 to 2733, 2735 to 2738, 2746 to 2750 | —                  |
| Frame in-out       | Completed in two transitions. In the first transition, the new video appears, then on the second transition the new video goes out and the old video returns.   | 1201 to 1208, 1221 to 1224                                     | 2851 to 2854, 2861 to 2864               | —                  |
| Picture-in-picture | <ul style="list-style-type: none"> <li>In one-channel mode, this completes in two transitions. <ul style="list-style-type: none"> <li>In the first transition, the old video shrinks, and the new video appears behind it.</li> <li>In the second transition, the old video expands again until it is its original size.</li> </ul> </li> <li>In two-channel mode, in the first half of the transition, the old video shrinks, and the new video appears. <ul style="list-style-type: none"> <li>In the second half of the transition, the new video expands, and the old video disappears.</li> <li>You can move the pattern from the current position by a relative amount.</li> <li>During the transition, the signal from the utility 2 bus of the M/E bank appears as the background.</li> </ul> </li> </ul> | 1251   | 2651 to 2652                             | —                  |
| 2D trans           | The new video appears over the old video, while undergoing expansion, two-dimensional rotation and translation.   | 1051 to 1058, 1061 to 1064, 1068                               | —  | —                  |
| 3D trans           | <ul style="list-style-type: none"> <li>In one-channel mode, the new video appears over the old video, while undergoing expansion, three-dimensional rotation and translation.</li> <li>In two-channel mode, the old video changes to the new video while both undergo expansion, three-dimensional rotation and translation.</li> </ul>   | 1071, 1072, 1074, 1076, 1077, 1088, 1091 to 1094               | 2631 to 2634, 2642, 2644                 | —                  |

| Pattern groups        | Effects  | Pattern numbers                    |                            |                    |
|-----------------------|--|------------------------------------|----------------------------|--------------------|
|                       |  | One-channel mode                   | Two-channel mode           | Three-channel mode |
| Sparkle               | The new video appears over the old video with a nonlinear effect applied, such as broken glass, explosion, or melt. Next this returns to the original video as the effect gradually reduces.   | 1391, 1393, 1394, 1396, 1398, 1399 | —                          | —                  |
| Split slide           | The new video appears in strip form while sliding interleaved in the opposite direction over the old video.  | 1384 to 1389                       | —                          | —                  |
| Mosaic                | In the first half of the transition, a mosaic is gradually applied to the old video, then at the 50% point the inner image changes to the new video. In the second half, the mosaic effect on the new video is gradually reduced, returning to the original image at 100%.   | 1701                               | —                          | —                  |
| Defocus               | In the first half of the transition, the old video is gradually defocused, then at the 50% point the inner image changes to the new video. In the second half, the defocusing effect on the new video is gradually reduced, returning to the original image at 100%.   | 1702                               | —                          | —                  |
| Brick                 | <ul style="list-style-type: none"> <li>In two-channel mode, a brick such that the side surface is visible slides in over the old video, then rotates so that the new video can be seen.</li> <li>In three-channel mode, a brick appears over the old video as the image is expanding and rotating, and switches to the new video.</li> </ul> | —                                  | 2801 to 2804, 2811 to 2814 | 3601               |
| User programmable DME | Using a DME keyframe effect created with a keyframe operation, this executes a DME wipe.<br><i>For details of creating keyframe effects, see “Creating User Programmable DME Patterns” (page 156).</i>   | 1901 to 1999                       | 2901 to 2999               | 3901 to 3999       |

### Notes

In an independent key transition, the following patterns can be used.

| Execution mode   | DME wipe patterns that can be used  |
|------------------|---|
| One-channel mode | Slide, split, squeeze, door, 2D trans, 3D trans, frame in-out, page turn, page roll, mirror, sphere, character trail, wave, ripple, split slide, sparkle, user programmable DME |
| Two-channel mode | Page turn, page roll  |

## DME Wipe Pattern Variation and Modifiers

You can modify the selected DME wipe pattern in the same way as an ordinary wipe pattern, as follows.

*For the setting operations, see “Setting DME Wipe Modifiers” (page 149).*

**Direction:** You can set the DME wipe direction to normal, reverse, or alternating normal/reverse (*see page 149*), except for a key transition, which is always in normal/reverse mode. However, a key transition can only be specified when the following patterns are selected, and

when other patterns are selected, this is fixed, as normal/reverse.

**Patterns:** 1204, 1207, 1221 to 1224

### Notes

When pattern numbers 1201, 1202, 1203, 1205, 1206, 1208, 1251, 1701, and 1702 are selected, Direction cannot be used.

**Edge:** You can apply a border or soft border (*see page 149*).

In the case of those user programmable DME patterns for keys in which an edge has already been applied to the effect, the behavior is as follows.

- When the DME wipe edge setting is on, only part of the edge applied in the effect is enabled, and that portion can be adjusted (*see page 149*).
- When the DME wipe edge setting is off, the edge applied in the effect is enabled as is.

### Notes

When pattern numbers 1011, 1012, 1013, 1701, and 1702 are selected, Edge cannot be used.

**Positioner:** You can move the DME wipe pattern or center of the effect to an arbitrary position. Using the position select function, you can also instantaneously move the pattern.

- 1031  
When this pattern number is selected, with the progress of the transition the pattern center automatically moves initially from the set position toward the center of the screen (*see page 149*). In other words, the effect obtained is the same as in a normal wipe with the positioner set to [Auto Center].
- 1201 to 1208, 1221 to 1224, 1251  
When these pattern numbers are selected, you can set the pattern position when the first transition completes.
- 1381, 1391, 1393, 1394, 1396  
When these pattern numbers are selected, you can set the center of the transition effect.
- 2651, 2652  
When these pattern numbers are selected, you can move the pattern for each channel, or with values relative to the current position the two channels simultaneously.
- 2801 to 2804, 2811 to 2814  
When these pattern numbers are selected, you can set the vertical position as the brick slides in.
- 2851 to 2854, 2861 to 2864  
When these pattern numbers are selected, you can set the pattern position for each channel setting when the first transition completes.

**Pattern limit:** You can restrict the range of the transition as desired. However, this is not available for a DME wipe in the independent key transition control block.

*For more details, see “Pattern Limit” (page 81).*

**Size:** You can set the size of the image. This can only be used when one of the following pattern numbers is selected.

- 1201 to 1208, 1221 to 1224, 1251
- 2651, 2652, 2851 to 2854, 2861 to 2864

**Crop:** You can crop the image. It is also possible in 16:9 mode to crop both sides to convert the image to a 4:3 aspect ratio. For the execution of a DME wipe crop transition, you can select from the following three possibilities.

- Cut
- Last 5%
- Linear

When [Last 5%] is selected, you can set the [Release Transition] as follows.

- Last 30%
- Last 5%
- Off

#### Notes

When pattern numbers 1701 and 1702 are selected, crop cannot be used.

## Relation Between DME Wipes and Other Effects

The relations between DME wipes and other effects are as follows.

### Relation to ordinary wipes

- DME wipes do not use the wipe generator built into the switcher. Therefore, during the execution of a DME wipe, you can still use a pattern produced by the wipe generator as the source for a pattern key or mask.
- A DME wipe pattern cannot be used as the source for a pattern key or mask.

### Relation to processed keys

When using the DME for a processed key, if you select a DME wipe, an available DME is automatically allocated to the DME wipe. If all of the DME channels are in use, then it is not possible to select a DME wipe.

If in a Setup menu a setting has been made for DME allocation, that Setup menu setting takes precedence.

*For details, see “Setting the assignments of DME channels to use on the individual M/E banks” in Chapter 20 (Volume 2).*

### Relation to resizer

When resizer is enabled, it is not possible to select a DME wipe.

For the key 1 and key 2, key 3 and key 4, key 5 and key 6, or key 7 and key 8 combinations, if one is used for a dual resizer effect, the other key cannot be used for a DME wipe.

## Number of DME wipes that can be used simultaneously on a single M/E bank

DME wipes can be used in nine places, including the eight independent key transitions.

#### Notes

- When the signal format is 1080P, DME wipes can be used in five places, including the four independent key transitions.
- When the SDI interface is used to connect the DME, DME effects (including DME wipes) can be used in only one place for one M/E bank.
- When the dedicated interface is used to connect the DME, the number of keys to which DME effects (including DME wipes) can be applied simultaneously for one M/E bank varies as follows depending on the execution mode of the DME wipe pattern selected for the background.



| Applicable block | Key to which DME effects are applied | DME wipe pattern for background | Number of keys to which DME effects can be applied simultaneously |
|------------------|--------------------------------------|---------------------------------|---|
| Other than M/E-4 | Keys 1 to 4                          | No DME wipe used                | 2   |
|                  |                                      | One-channel mode                | 1   |
|                  |                                      | Two- or three-channel mode      | 0   |
|                  | Keys 5 to 8                          | -                               | 2 a)  |
| M/E-4            | Keys 1 to 4                          | No DME wipe used                | 2 b)  |
|                  |                                      | One-channel mode                | 1 c)  |
|                  |                                      | Two- or three-channel mode      | 0   |
|                  | Keys 5 to 8                          | -                               | 0   |

| Key to which DME effects are applied | DME wipe pattern for background | Number of keys to which DME effects can be applied simultaneously |
|--------------------------------------|---------------------------------|---|
| Keys 1 to 4                          | No DME wipe used                | 2   |
|                                      | One-channel mode                | 1   |
|                                      | Two- or three-channel mode      | 0   |
| Keys 5 to 8                          | -                               | 2 a)  |

a) 0 when the system signal format is 1080P.

b) 1 when the system signal format is 1080P and the DME input/output signal format is set to dual link mode.

c) 0 when the system signal format is 1080P and the DME input/output signal format is set to dual link mode.

## Basic Procedure for DME Wipe Settings

You carry out DME wipe setting operations principally using the DME Wipe menu for each bank. This section describes the basic procedures for DME wipe settings, taking the M/E-1 >DME Wipe menu as an example.

*For details of independent key transition DME wipe settings, see “DME Wipe Settings for Independent Key Transitions” (page 153).*

*For details of resizer DME wipe, see “Resizer DME Wipe Setting” (page 155).*

### DME Wipe Settings Menu

#### Accessing the DME Wipe menu

To access the M/E-1 >DME Wipe menu, use either of the following operations.

- In the menu control block, select the top menu selection button [M/E 1], and press VF6 ‘DME Wipe.’

#### Notes

To select [M/E 4] or [M/E 5], a previous button assignment in the Setup menu is required (*see page 351*).

- In the transition control block of the M/E-1 bank, press the transition type selection button [DME] twice in rapid succession.

### DME Wipe Pattern Selection

#### Selecting a DME wipe pattern by a menu operation

- 1 In the M/E-1 >DME Wipe menu, select HF1 ‘1ch’ for one-channel mode, HF2 ‘2ch’ for two-channel mode or HF3 ‘3ch’ for three-channel mode.
- 2 Select the desired DME wipe pattern group with one of the following buttons.
  - **Slide/Squeeze:** slide and squeeze
  - **Split/Door:** split and door
  - **Flip Tumble:** flip tumble
  - **Mirror/Sphere:** mirror and sphere
  - **Character Trail:** character trail

- **Wave/Ripple:** wave and ripple
- **Page Turn/Roll:** page turn and page roll
- **Frame I/O/P in P:** frame in/out and picture-in-picture
- **2D Trans/3D Trans:** 2D trans and 3D trans
- **Sparkle/Split Slide:** sparkle and split slide
- **Mosaic/Defocus:** mosaic and defocus
- **Brick:** brick
- **User Program:** user programmable DME

**Selectable DME wipe pattern groups in one-channel mode:** All of the above groups except for Brick.

**Selectable DME wipe pattern groups in two-channel mode:** Slide/Squeeze, Page Turn/Roll, Frame I/O, PinP, 3D Trans, Brick and User Program.

**Selectable DME wipe pattern groups in three-channel mode:** User Program and Brick.

*For details of DME wipe patterns, see “Types of DME Wipe Pattern” (page 143) and “DME Wipe Pattern List” (page 316) in Appendix.*

The patterns from the selected pattern group appear on the screen.

### 3 Press the button to select the desired pattern.

## Adjusting DME wipe pattern parameters

Of the DME wipe patterns, the following have parameters that can be adjusted.

### When Brick (for two channels) is selected (pattern numbers 2801 to 2804, 2811 to 2814)

| Knob | Parameter     | Adjustment                 | Setting values                   |
|------|---------------|----------------------------|----------------------------------|
| 1    | Side V Size X | Horizontal magnification   | 0.01 to 8.00                     |
| 2    | Side V Size Y | Vertical magnification     | 0.01 to 8.00                     |
| 3    | Height        | Height of brick            | 0.01 to 100.00                   |
| 4    | Center X      | Horizontal center position | –100.00 to +100.00 <sup>a)</sup> |
| 5    | Center Y      | Vertical center position   | –100.00 to +100.00 <sup>b)</sup> |

a) The horizontal center position of the video pasted on Side V. At –100.00 the center is at the left edge of the screen, and at +100.00 the center is at the right edge of the screen.

b) The vertical center position of the video pasted on Side V. At –100.00 the center is at the bottom edge of the screen, and at +100.00 the center is at the top edge of the screen.

### When Frame in-out (for two channels) is selected

#### • Pattern numbers 2851 to 2854

| Knob | Parameter | Adjustment   | Setting values     |
|------|-----------|--|--------------------|
| 5    | Delay     | Timing for video selected on a utility bus to appear on the screen | –100.00 to +100.00 |

#### • Pattern numbers 2861 to 2864

| Knob | Parameter | Adjustment   | Setting values     |
|------|-----------|--|--------------------|
| 1    | Rot X     | Rotation about the Y axis (horizontal direction)                   | –100.00 to +100.00 |
| 2    | Rot Y     | Rotation about the X axis (vertical direction)                     | –100.00 to +100.00 |
| 3    | Rot Z     | Rotation about the Z axis  | –100.00 to +100.00 |
| 5    | Delay     | Timing for video selected on a utility bus to appear on the screen | –100.00 to +100.00 |

### When Brick (for three channels) is selected (pattern number 3601)

Parameter group [1/2]

| Knob | Parameter       | Adjustment                        | Setting values                   |
|------|-----------------|-----------------------------------|----------------------------------|
| 1    | Side V Size X   | Side V horizontal magnification   | 0.01 to 8.00                     |
| 2    | Side V Size Y   | Side V vertical magnification     | 0.01 to 8.00                     |
| 3    | Height          | Height of brick                   | 0.01 to 100.00 <sup>a)</sup>     |
| 4    | Side V Center X | Side V horizontal center position | –100.00 to +100.00 <sup>b)</sup> |
| 5    | Side V Center Y | Side V vertical center position   | –100.00 to +100.00 <sup>c)</sup> |

a) Shared with knob 3 for parameter group 2

b) The horizontal center position of the video pasted on Side V. At –100.00 the center is at the left edge of the screen, and at +100.00 the center is at the right edge of the screen.

c) The vertical center position of the video pasted on Side V. At –100.00 the center is at the bottom edge of the screen, and at +100.00 the center is at the top edge of the screen.

Parameter group [2/2]

| Knob | Parameter     | Adjustment                      | Setting values |
|------|---------------|---------------------------------|----------------|
| 1    | Side H Size X | Side H horizontal magnification | 0.01 to 8.00   |
| 2    | Side H Size Y | Side H vertical magnification   | 0.01 to 8.00   |

| Knob | Parameter       | Adjustment                        | Setting values           |
|------|-----------------|-----------------------------------|--------------------------|
| 3    | Height          | Height of brick                   | 0.01 to 100.00<br>a)     |
| 4    | Side H Center X | Side H horizontal center position | -100.00 to +100.00<br>b) |
| 5    | Side H Center Y | Side H vertical center position   | -100.00 to +100.00<br>c) |

a) Shared with knob 3 for parameter group 1

b) The horizontal center position of the video pasted on Side H. At -100.00 the center is at the left edge of the screen, and at +100.00 the center is at the right edge of the screen.

c) The vertical center position of the video pasted on Side H. At -100.00 the center is at the bottom edge of the screen, and at +100.00 the center is at the top edge of the screen.

## Setting DME Wipe Modifiers

You can apply various modifiers to the DME wipe pattern, such as setting the DME wipe direction or pattern position.

*For an overview of the DME wipe modifiers, see “DME Wipe Pattern Variation and Modifiers” (page 145).*

## Specifying the DME wipe direction (Direction)

You can specify the DME wipe direction (normal/reverse).

### To specify the DME wipe direction in a menu

- 1 In the M/E-1 >DME Wipe menu, select HF4 ‘Edge/Direction.’

The Edge/Direction menu appears.

- 2 In the <Direction> group, specify the DME wipe direction.

**Normal:** regular direction

**Normal/Reverse:** alternate between regular and reverse for each transition

**Reverse:** reverse direction to normal

### To specify the DME wipe direction with a button in the transition control block

In the transition control block of each of the M/E-1 to M/E-3 and PGM/PST banks, press the following direction selection buttons.

**NORM:** Normal

**NORM/REV:** Normal/Reverse

**REV:** Reverse

## Modifying the DME wipe pattern edge

- 1 In the M/E-1 >DME Wipe menu, select HF4 ‘Edge/Direction.’

The Edge/Direction menu appears.

- 2 Depending on whether the selected pattern is in one-channel mode or two-channel mode, proceed as follows.

**For a pattern in one-channel mode:** press [1st Ch], turning it on.

**For a pattern in two-channel mode:** from the <Ch Select> group, select the corresponding channel. You can select more than one channel at the same time.

- 3 In the <Edge> group, select the edge type.

**Border:** border

**Soft Border:** soft border

- 4 Set the parameters according to the selection in step 3.

### When border is selected

| Knob | Parameter  | Adjustment   | Setting values |
|------|------------|--------------|----------------|
| 1    | Width      | Border width | 0.00 to 100.00 |
| 3    | Luminance  | Luminance    | 0.00 to 100.00 |
| 4    | Saturation | Saturation   | 0.00 to 100.00 |
| 5    | Hue        | Hue          | 359.99 to 0.00 |

### When soft border is selected

| Knob | Parameter  | Adjustment            | Setting values |
|------|------------|-----------------------|----------------|
| 1    | Width      | Border width          | 0.00 to 100.00 |
| 2    | Inner Soft | Border inner softness | 0.00 to 100.00 |
| 3    | Luminance  | Luminance             | 0.00 to 100.00 |
| 4    | Saturation | Saturation            | 0.00 to 100.00 |
| 5    | Hue        | Hue                   | 359.99 to 0.00 |

### Display indications when multiple channels are selected at the same time

The indications on the knobs show the settings of the lowest-numbered channel. When you turn the knobs to adjust the settings, this changes the settings on the other channels by the same amount.

## Setting the DME wipe position (Positioner)

- 1 In the M/E-1 >DME Wipe menu, select HF5 ‘Modify.’

The Modify menu appears.

- 2** Depending on whether the DME wipe pattern is in one-channel mode or two-channel mode, proceed as follows.

**For a pattern in one-channel mode:** press [1st Ch], turning it on.

**For a pattern in two-channel mode:** from the <Ch Select> group, select the corresponding channel. You can select more than one channel at the same time.

- 3** In the <Position> group, press [Position], turning it on.
- 4** Set the following parameters.

| Knob | Parameter | Adjustment          | Setting values     |
|------|-----------|---------------------|--------------------|
| 1    | H         | Horizontal position | -200.00 to +200.00 |
| 2    | V         | Vertical position   | -200.00 to +200.00 |

#### Display indications when multiple channels are selected at the same time

The indications on the knobs show the settings of the lowest-numbered channel. When you turn the knobs to adjust the settings, this changes the settings on the other channels by the same amount.

#### To return the DME wipe pattern position to the center of the screen

In the <Position> group, press [Center].

#### Displaying and moving the position of the DME wipe pattern (position select)

- 1** In the M/E-1 >DME Wipe menu, select HF5 'Modify.'
- The Modify menu appears.
- In the <Position Select> group, the one of the [Top Left], [Top Right], [Bottom Left], and [Bottom Right] buttons that is on indicates the current display position of the DME wipe pattern.
- 2** In the <Position> group, press [Position], turning it on.
- 3** Depending on whether the DME wipe pattern is in one-channel mode or two-channel mode, proceed as follows.
- In one-channel mode:** press [1st Ch], turning it on.
- In two-channel mode:** from the <Ch Select> group, select the corresponding channel. You can select more than one channel at the same time.
- 4** To move the position of the DME wipe pattern, press the button where you want to move to, turning it on.

The DME wipe pattern displayed on the screen moves to the position of the specified button.

#### Setting relative positions to move the DME wipe pattern

In two-channel mode, use the following procedure.

- 1** In the M/E-1 >DME Wipe menu, select HF5 'Modify.'
- The Modify menu appears.
- 2** In the <Ch Select> group, select the target channels.
- 3** Press [Position] in the <Position> group, turning it on.
- 4** Set the following parameters.

| Knob | Parameter  | Adjustment                                    | Setting values     |
|------|------------|---|--------------------|
| 4    | Relative H | Relative movement in the horizontal direction | -400.00 to +400.00 |
| 5    | Relative V | Relative movement in the vertical direction   | -400.00 to +400.00 |

For details of the method of DME wipe pattern selection, see "DME Wipe Pattern Selection" (page 147).

#### Setting the DME wipe pattern size (Size)

- 1** In the M/E-1 >DME Wipe menu, select HF5 'Modify.'
- The Modify menu appears.
- 2** Depending on whether the selected pattern is in one-channel mode or two-channel mode, proceed as follows.
- For a pattern in one-channel mode:** press [1st Ch], turning it on.
- For a pattern in two-channel mode:** from the <Ch Select> group, select the corresponding channel. You can select more than one channel at the same time.
- 3** Press [Size], turning it on.
- 4** Set the following parameters.

| Knob | Parameter | Adjustment         | Setting values               |
|------|-----------|--------------------|------------------------------|
| 1    | Size      | Set size of effect | 0.00 to 200.00 <sup>a)</sup> |

<sup>a)</sup> The effect size when [Size] is off is taken as 100.00%.

### Display indications when multiple channels are selected at the same time

The indications on the knobs show the settings of the lowest-numbered channel. When you turn the knobs to adjust the settings, this changes the settings on the other channels by the same amount.

## Adjusting the DME wipe pattern cropping

### Notes

When pattern numbers 1701 and 1702 are selected, crop cannot be used.

- 1 In the M/E-1 >DME Wipe menu, select HF5 'Modify.'  
The Modify menu appears.
- 2 Depending on whether the selected pattern is in one-channel mode or two-channel mode, proceed as follows.  
  
**For a pattern in one-channel mode:** press [1st Ch], turning it on.  
**For a pattern in two-channel mode:** from the <Ch Select> group, select the corresponding channel. You can select more than one channel at the same time. For some patterns, the <Ch Select> group selection is fixed and requires no setting.
- 3 In the <Crop Mode> group, press [Crop], turning it on.
- 4 Set the following parameters.

Parameter group [1/2]

| Knob | Parameter | Adjustment   | Setting values   |
|------|-----------|--|------------------|
| 1    | H         | Crop the left and right of the image               | Left value shown |
| 2    | V         | Crop the top and bottom of the image               | Top value shown  |
| 3    | All       | Crop the top, bottom, left, and right of the image | Left value shown |

Parameter group [2/2]

| Knob | Parameter | Adjustment                  | Setting values     |
|------|-----------|-----------------------------|--------------------|
| 1    | Top       | Crop the top of the image   | -100.00 to +100.00 |
| 2    | Left      | Crop the left of the image  | -100.00 to +100.00 |
| 3    | Right     | Crop the right of the image | -100.00 to +100.00 |

Parameter group [2/2]

| Knob | Parameter | Adjustment                   | Setting values     |
|------|-----------|------------------------------|--------------------|
| 4    | Bottom    | Crop the bottom of the image | -100.00 to +100.00 |

### Display indications when multiple channels are selected at the same time

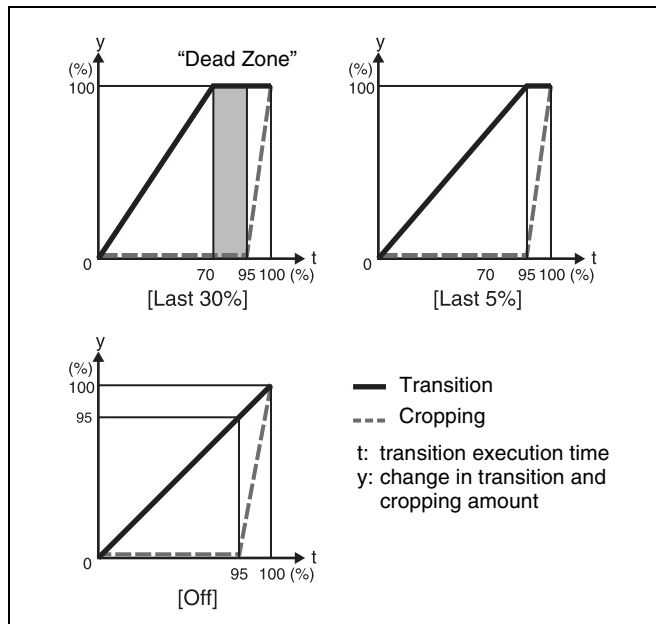
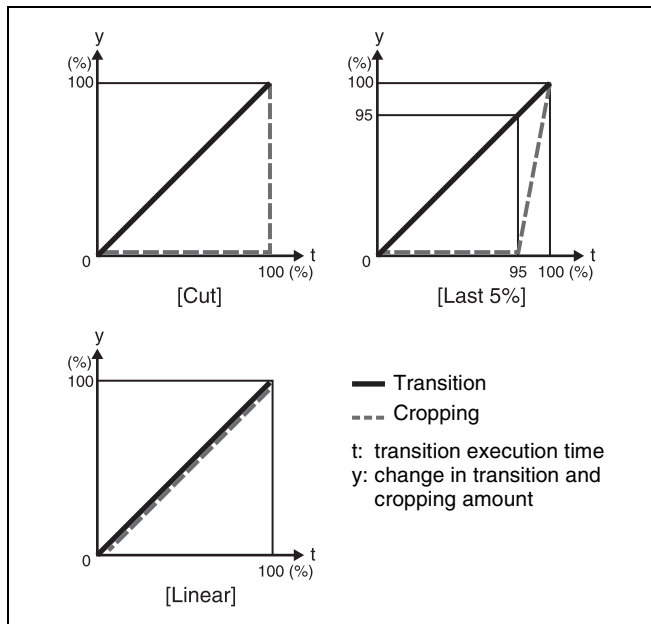
The indications on the knobs show the settings of the lowest-numbered channel. When you turn the knobs to adjust the settings, this changes the settings on the other channels by the same amount.

### To crop to 4:3 aspect ratio in 16:9 mode

In the <Crop Mode> group, press [4:3 Crop], turning it on.

### To set the action when a DME wipe crop transition is executed

- 1 In the M/E-1 >DME Wipe menu, select HF5 'Modify.'  
The Modify menu appears.
- 2 Depending on whether the selected pattern is in one-channel mode or two-channel mode, proceed as follows.  
  
**For a pattern in one-channel mode:** in the <Ch Select> group, press [1st Ch], turning it on.  
**For a pattern in two-channel mode:** from the <Ch Select> group, select the corresponding channels. You can select more than one channel at the same time.
- 3 In the <Crop Mode> group, press [Crop] or [4:3 Crop] (to crop from 16:9 to 4:3 aspect ratio), turning it on.
- 4 In the <Crop Mode> group, press [Remove From Begin].  
  
The Remove From Begin menu appears.
- 5 In the <Crop Transition> group, select the execution mode for the DME wipe crop transition.  
  
**Cut:** Cut mode. The cropping does not change during the transition, but at the end point of the transition the cropping is removed (enlarges).  
**Last 5%:** The cropping is maintained for the first 95% of the transition, and is progressively removed during the last 5% of the transition (enlarges).  
**Linear:** The cropping is removed linearly through the whole course of the transition (enlarges).



### Setting the timing of transition completion

When the execution mode for a DME wipe crop transition is set to [Last 5%], you can select the timing of transition completion from 70% ([Last 30%]), 95% ([Last 5%]), and 100% ([Off]).

- 1 In the M/E 1 >DME Wipe menu, select HF5 'Modify.'

The Modify menu appears.

- 2 In the <Crop Mode> group select [Remove From Begin].

The Remove From Begin menu appears.

- 3 In the <Release Transition> group, select the timing of transition completion.

**Last 30%:** The transition completes at the end of 70% of the transition execution time. The transition has a dead zone from 70% to 95% of the transition time.

**Last 5%:** The transition completes at the end of 95% of the transition execution time. When the transition completes, the cropping is removed during the last 5% (enlarges).

**Off:** The transition completes at the end of the transition execution time. During the last 5% of the transition, the transition and cropping removal proceed together.

### DME Wipe Modify Clear

Press [Default Recall] at the lower left of the menu display, turning it on, then press VF6 'DME Wipe' to return the DME wipe settings to their initial status.

*For details of the menu operation to return the DME wipe state to that set in initial status, see "Returning to Default State in Function Groupings" (page 62).*

# DME Wipe Settings for Independent Key Transitions

You carry out independent key/downstream key transition DME wipe setting operations using the DME Wipe Adjust menu for each keyer.

*For an overview of independent key transitions, see page 86.*

This section describes the independent key transition DME wipe settings, taking the M/E-1 >Key1 >Transition >DME Wipe Adjust menu as an example.

## Basic Procedure for Independent Key Transition DME Wipe Settings

### Accessing the independent key transition DME wipe settings menu

As an example, to access the M/E-1 >Key1 >Transition >DME Wipe Adjust menu, carry out the following operation.

- In the menu control block, select the top menu selection button [M/E 1], and select VF1 'Key1' and HF6 'Transition' to display the Transition menu for key 1. Next, press [DME Wipe Adjust].  
If VF1 [Key5] is shown, press the switching button at the top of the menu, so that [Key1-4] appears, and press VF1 [Key1].

#### Notes

To select [M/E 4] or [M/E 5], a previous button assignment in the Setup menu is required (*see page 351*).

Carrying out the above operation displays the M/E-1 >Key1 >Transition >DME Wipe Adjust menu (referred to below as the Key1 DME Wipe Adjust menu).

### Selecting the independent key transition DME wipe pattern

You select the independent key DME wipe pattern from the list of patterns displayed in the menu.  
To select a DME wipe pattern for independent key1 on the M/E-1 bank, use the following procedure.

- 1 In the <Pattern Select> group of the Key1 DME Wipe Adjust menu, press [1ch] for one-channel mode or [2ch] for two-channel mode.

The Pattern Select menu appears.

- 2 Select the desired DME wipe pattern group with one of the following buttons.

In two-channel mode, only Page Turn and Page Roll are selectable.

- **Slide/Squeeze:** slide and squeeze
- **Split/Door:** split and door
- **Mirror/Sphere:** mirror and sphere
- **Character Trail:** character trail
- **Wave/Ripple:** wave and ripple
- **Page Turn/Roll:** page turn and page roll
- **Frame I/O:** frame in/out
- **2D Trans/3D Trans:** 2D Trans and 3D Trans
- **Sparkle/Split Slide:** sparkle and split slide
- **User Program:** user programmable DME

*For details of DME wipe patterns, see "Types of DME Wipe Pattern" (page 143) and "DME Wipe Pattern List" (page 316) in Appendix.*

- 3 Press the button to select the desired pattern.

## Setting Independent Key Transition DME Wipe Modifiers

You can add modifiers such as pattern position and size for an independent key transition DME wipe.

*For introductory information, see "Setting the DME wipe position (Positioner)" (page 149) and "Setting the DME wipe pattern size (Size)" (page 150).*

### Setting the DME wipe position (Positioner)

*For applicable pattern numbers, see page 145.*

- 1 In the <Position> group of the Key1 DME Wipe Adjust menu, press [Position], turning it on.
- 2 Set the following parameters.

| Knob | Parameter | Adjustment          | Setting values     |
|------|-----------|---------------------|--------------------|
| 1    | H         | Horizontal position | -200.00 to +200.00 |
| 2    | V         | Vertical position   | -200.00 to +200.00 |

### To return the DME wipe pattern position to the center of the screen

In the <Position> group, press [Center].

### Setting the DME wipe pattern size (Size)

*For applicable pattern numbers, see page 146.*

- 1 In the Key 1 DME Wipe Adjust menu, press [Size], turning it on.
- 2 Set the following parameter.

| Knob | Parameter | Adjustment         | Setting values               |
|------|-----------|--------------------|------------------------------|
| 1    | Size      | Set size of effect | 0.00 to 200.00 <sup>a)</sup> |

a) The effect size when [Size] is off is taken as 100.00%.

## Cropping a key DME wipe

- 1 In the <Crop Mode> group of the Key1 DME Wipe Adjust menu, press [Crop], turning it on.
- 2 Set the following parameters.

Parameter group [1/2]

| Knob | Parameter | Adjustment   | Setting values   |
|------|-----------|--|------------------|
| 1    | H         | Crop the left and right of the image               | Left value shown |
| 2    | V         | Crop the top and bottom of the image               | Top value shown  |
| 3    | All       | Crop the top, bottom, left, and right of the image | Left value shown |

Parameter group [2/2]

| Knob | Parameter | Adjustment                          | Setting values     |
|------|-----------|-------------------------------------|--------------------|
| 1    | Top       | Cropping of the top of the image    | -100.00 to +100.00 |
| 2    | Left      | Cropping of the left of the image   | -100.00 to +100.00 |
| 3    | Right     | Cropping of the right of the image  | -100.00 to +100.00 |
| 4    | Bottom    | Cropping of the bottom of the image | -100.00 to +100.00 |

### To crop to 4:3 in 16:9 mode

In the <Crop Mode> group, press [4:3 Crop], turning it on.

### To set the operation for DME wipe crop transition execution

- 1 In the <Crop Mode> group of the Key1 DME Wipe Adjust menu, press [Crop], turning it on.
- 2 In the <Crop Mode> group, press [Crop] or [4:3 Crop] (to crop to 4:3 in 16:9 mode), turning it on.

- 3 In the <Crop Mode> group, press [Remove From Begin].

The Remove From Begin menu appears.

*For subsequent operations, see step 5 of “To set the action when a DME wipe crop transition is executed” (page 151).*

### To set the timing of transition completion

- 1 In the <Crop Mode> group of the Key1 DME Wipe Adjust menu, press [Crop], turning it on.
- 2 In the <Crop Mode> group, press [Remove From Begin].

*For subsequent operations, see “Setting the timing of transition completion” (page 152).*

## Applying a border to a key DME wipe

In the <Edge> group of the Key1 DME Wipe Adjust menu, press [Border], turning it on.

*For subsequent operations, use the same process as in step 4 of “Modifying the DME wipe pattern edge” (page 149).*



# Resizer DME Wipe Setting

You can carry out a DME wipe on a key using the resizer.

## Notes

When the screen aspect ratio is 4:3 in HD format, when the resizer DME wipe is used to shrink a video image, this is applied to the 16:9 screen including the added video on the left and right sides. Use the crop function as required to extract the 4:3 image.

## DME wipe patterns available for resizer DME wipe

You can use the following patterns of the DME wipe pattern one-channel mode that can be used in a resizer DME wipe (7000-series numbers).

- Slide (pattern numbers: 7001 to 7008)
- Squeeze (pattern numbers: 7021 to 7031)
- Frame in-out (pattern numbers: 7201 to 7208, 7221 to 7224)

## Relation between resizer DME wipes and other effects

The following relations hold between a resizer DME wipe and other effects.

### Relation to processed keys

It is not possible to select a resizer DME wipe for a key with processed key enabled.

### Relation to resizer

It is not possible to use a resizer DME wipe for a key with resizer enabled.

It is not possible to use a resizer DME wipe for a key forming a pair with a key with the dual resizer effect enabled. The key combinations forming pairs are keys 1 and 2, keys 3 and 4, key 5 and key 6, and key 7 and key 8. For example, when a dual resizer effect is enabled for key 1, it is not possible to use a resizer DME wipe on key 2.

## Making resizer DME wipe settings

- 1 In the <Pattern Select> group of the Key1 DME Wipe Adjust menu, press [1ch].

The 1ch Pattern Select menu appears.

- 2 Select [Resizer Slide/Squeeze] or [Resizer Frame I/O].

The patterns of the selected group appear.

The wipe patterns that can be used for a resizer DME wipe are as follows.

- **Slide** (pattern numbers: 7001 to 7008)
- **Squeeze** (pattern numbers: 7021 to 7031)

- **Frame in-out** (pattern numbers: 7201 to 7208, 7221 to 7224)

- 3 Press the desired pattern to select it.

*For more about resizer DME wipe modifiers, see “Setting Independent Key Transition DME Wipe Modifiers” (page 153).*

## DME Wipe Snapshots

You can snapshot and save a DME wipe pattern together with the current settings of its modifiers and pattern limit in a dedicated register for recall when required.

There are 10 DME wipe snapshot registers for each of the M/E and P/P banks.

Use the menu to save and recall these registers.

### DME Wipe Snapshot Operations With the Menus

In the same way as for wipe snapshots, you can save, recall, and delete DME snapshots.

*For details of the operating procedures, see “Wipe Snapshot Operations With the Menus” (page 141).*

## Creating User Programmable DME Patterns

With a user programmable DME, you can use DME effects created through the use of keyframes for a transition on the switcher system.

Note the following points when creating a keyframe effect for use as a user programmable DME pattern.

### Register numbers and pattern numbers

When saving a keyframe effect as a user programmable DME pattern, specify the register number that corresponds to the pattern number as shown in the following table.

| Execution mode     | Register number | Pattern number |
|--------------------|-----------------|----------------|
| One-channel mode   | 101 to 199      | 1901 to 1999   |
| Two-channel mode   | 201 to 299      | 2901 to 2999   |
| Three-channel mode | 301 to 399      | 3901 to 3999   |

*For details of registers and keyframe effects, see Chapter 13 “Keyframe Effects” (Volume 2), respectively.*

#### Notes

When the signal format is 1080P, three-channel mode cannot be used.

### Keyframe effects in the global channel

When the effect with the same number as the reference channel is present on the DME global (GLBL) channel, executing the user programmable DME will also execute the effect on the global channel simultaneously.

When executing a user programmable DME, take note of whether the effect is present on the global channel.

### User Programmable DME Transition Mode

To create a user programmable DME, it is necessary to set the transition mode (the way in which the effect moves). To set the transition mode, use the Key Frame >DME User PGM menu.

*For details of the operating procedures, see “Transition Mode Settings for User Programmable DME” in Chapter 13 (Volume 2).*

The following transition modes are available.

| Channels         | Transition mode                  | Effect group   |
|------------------|----------------------------------|--|
| One-channel mode | Single transition mode           | Slide, Split, Door, Page turn, Page roll, Squeeze, Mirror, Sphere, Character Trail, Wave, Ripple, 2D Trans, 3D Trans, Sparkle, Split Slide |
|                  | Flip Tumble                      | Flip Tumble, Mosaic, Defocus   |
|                  | Frame in-out                     | Frame in-out   |
|                  | Frame in-out H <sup>a)</sup>     | Frame in-out   |
|                  | Frame in-out V                   | Frame in-out   |
|                  | Picture-in-picture <sup>b)</sup> | Picture-in-picture   |
|                  | Compress <sup>c)</sup>           | Picture-in-picture   |
| Two-channel mode | Dual transition mode             | Slide, Squeeze, 3D Trans   |
|                  | Two-channel frame in-out         | Frame in-out   |
|                  | Two-channel picture-in-picture   | Picture-in-picture   |

a) Transition according to DME wipe patterns 1202, 1203, or 1204

b) Transition according to DME wipe pattern 1201

c) Transition according to DME wipe pattern 1251

For details, see “Overview” (page 143).

#### Notes

For the following group of effects available in two-channel mode, no user programmable DME wipe patterns can be created.

Page turn, Page roll, Brick

### Notes on creating keyframe effects

When creating a keyframe effect to be used as a user programmable DME pattern, note the following, depending on the transition mode used.

#### Notes on single transition mode (one-channel mode)

- Either create the first keyframe image outside the screen area, or set the image size to zero so that it cannot be seen within the screen.
- Create the last keyframe to be a full-size image.
- In the <Transition Mode> group of the Key Frame >DME User PGM menu, select [Single].

#### Notes on flip tumble (one-channel mode)

- Create the first keyframe image at full size. In the <Back> group of the DME >Input/Output >Video/Key menu, depending on the direction of the rotation you

want during the transition, press [H Invert] or [V Invert], turning it on.

- Create the last keyframe with the image inverted so the back side is visible, and with the size at full size.
- In the <Transition Mode> group of the Key Frame >DME User PGM menu, select [Flip Tumble].

#### Notes on frame in-out (one-channel mode)

Create a minimum of three keyframes.

- Either create the first keyframe image outside the screen area, or set the image size to zero so that it cannot be seen within the screen.
- Create the first transition to end such that the image can be seen within the screen. At this point, press the [PAUSE] button in the keyframe control block, turning it on, to set a pause for the keyframe.
- Either create the last keyframe image outside the screen area, or set the image size to zero so that it cannot be seen within the screen.
- In the <Transition Mode> group of the Key Frame >DME User PGM menu, select [FRAME I/O].

#### Notes on Frame in-out H (one-channel mode)

Create a minimum of three keyframe points.

- Either create the first keyframe image outside the screen area, or set the image size to zero so that it cannot be seen within the screen.
- As the state after completion of the first transition, move the image horizontally to make it visible within the screen. At this time, press the [PAUSE] button in the keyframe control block, turning it on, to set a pause for the keyframe.
- For the last keyframe move the image horizontally to place it outside the screen area or set the image size to zero, so that the image is not visible within the screen.
- In the <Transition Mode> group of the Key Frame >DME User PGM menu, select [FRAME I/O H].

#### Notes on frame in-out V (one-channel mode)

Create a minimum of three keyframe points.

- Either create the first keyframe image outside the screen area, or set the image size to zero so that it cannot be seen within the screen.
- As the state after completion of the first transition, move the image vertically to make it visible within the screen. At this time, press the [PAUSE] button in the keyframe control block, turning it on, to set a pause for the keyframe.
- For the last keyframe move the image vertically to place it outside the screen area or set the image size to zero, so that the image is not visible within the screen.
- In the <Transition Mode> group of the Key Frame >DME User PGM menu, select [FRAME I/O V].

#### Notes on picture-in-picture (one-channel mode)

Create a minimum of three keyframes.

- Either create the first keyframe image outside the screen area, or set the image size to zero so that it cannot be seen within the screen.

- Create the first transition to end such that the image can be seen within the screen. At this point, press the [PAUSE] button in the keyframe control block, turning it on, to set a pause for the keyframe.
- Either create the last keyframe image outside the screen area, or set the image size to zero so that it cannot be seen within the screen.
- In the <Transition Mode> group of the Key Frame >DME User PGM menu, select [P In P].

### Notes on compress (one-channel mode)

Create a minimum of three keyframe points.

- Create the first keyframe with the image at full size.
- In the state at completion of the first transition, create the image to be visible within the screen. At this time, press the [PAUSE] button in the keyframe control block, turning it on, to set a pause for the keyframe.
- For the last keyframe, once again set the image size to full size.
- In the <Transition Mode> group of the Key Frame >DME User PGM menu, select [Compress].

### Notes on dual transition mode (two-channel mode)

- Create the first keyframe for each channel as follows.
  - **Channel 1:** create the image full-size.
  - **Channel 2:** either create the image outside the screen area, or set the image size to zero so that it cannot be seen within the screen.
- Create the last keyframe for each channel as follows.
  - **Channel 1:** either create the image outside the screen area, or set the image size to zero so that it cannot be seen within the screen.
  - **Channel 2:** create the image full-size.
- In the <Transition Mode> group of the Key Frame >DME User PGM menu, select [Dual].

### Notes on frame in-out (two-channel mode)

Create a minimum of three keyframe points.

- Create the first keyframe for each channel as follows.
  - **Channel 1:** either create the image outside the screen area, or set the image size to zero so that it cannot be seen within the screen.
  - **Channel 2:** either create the image outside the screen area, or set the image size to zero so that it cannot be seen within the screen.
- Create the first transition to end such that the image can be seen within the screen. At this point, press the [PAUSE] button in the keyframe control block, turning it on, to set a pause for the keyframe.
- Create the last keyframe for each channel as follows.
  - **Channel 1:** either create the image outside the screen area, or set the image size to zero so that it cannot be seen within the screen.
  - **Channel 2:** either create the image outside the screen area, or set the image size to zero so that it cannot be seen within the screen.

- In the <Transition Mode> group of the Key Frame >DME User PGM menu, select [Frame I/O].

### Notes on picture-in-picture (two-channel mode)

Create a minimum of three keyframes.

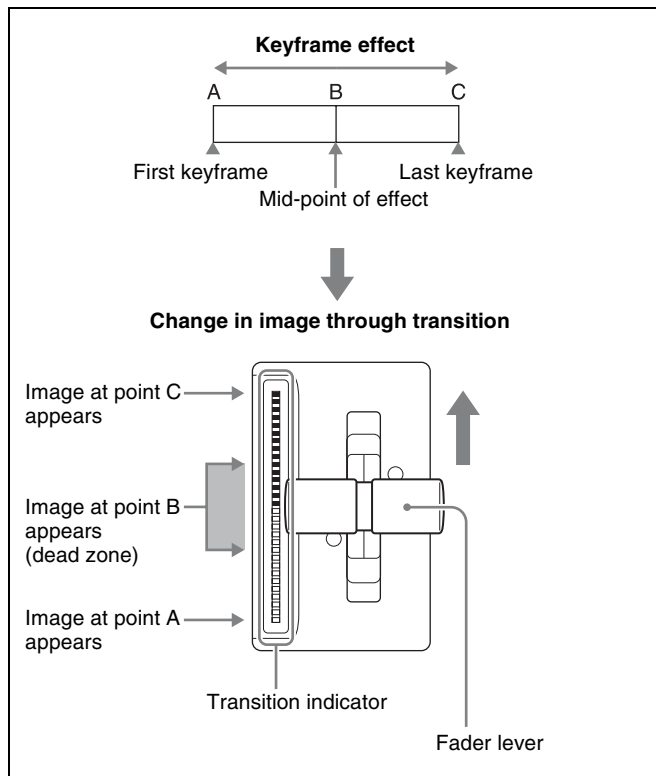
- Create the first keyframe for each channel as follows.
  - **Channel 1:** create the image full-size.
  - **Channel 2:** since the priority is low, it will not be visible on the screen, so no particular restrictions apply.

In the Global Effect >Ch1 to Ch4 >Combiner menu, when setting the priority of channel 1 and channel 2, set the channel 1 priority higher.

- In the intermediate part of the transition, create the two images so that both are visible within the screen. In the Global Effect >Ch1 to Ch4 >Combiner menu, when setting the priority of channel 1 and channel 2, set the channel 2 priority higher.

It is recommended to make the priority settings at a keyframe point at which the two images are not overlapping.

- During the course of a transition, there is a “dead zone” corresponding to the intermediate point of the whole effect (*see following figure*), during which the image does not change. Therefore, it is necessary to create the effect so that the image in the intermediate part of the transition is the keyframe for the mid-point of the whole effect. The range of this “dead zone” corresponds to the central one-third of the range of the transition indicator. This also applies to an auto transition.



- Create the last keyframe for each channel as follows.

- **Channel 1:** since the priority is low, it will not be visible on the screen, so no particular restrictions apply.
- **Channel 2:** create the image full-size.
- In the <Transition Mode> group of the Key Frame >DME User PGM menu, select [P In P].

## Overview

Frame memory is a function whereby a frame of input video can be frozen and written to memory, for further use as material for editing.

You can also play recorded frame memory clips (movies).

### Frame capacity

The frame memory board has two blocks of memory, and the following table shows the maximum number of images that can be written to each block. Of the two, one is reserved for storing frame memory clips.

#### HD system:

(Without ancillary data)

| Video format   | Memory capacity     |
|----------------|---------------------|
| 1080i/50       | Approx. 1000 frames |
| 1080i/59.94    |                     |
| 1080PsF/23.976 |                     |
| 1080PsF/24     |                     |
| 1080PsF/25     |                     |
| 1080PsF/29.97  |                     |
| 1080PsF/50     | Approx. 2000 frames |
| 1080P/59.94    |                     |
| 720P/50        | Approx. 2300 frames |
| 720P/59.94     |                     |

(With ancillary data)

| Video format   | Memory capacity    |
|----------------|--------------------|
| 1080i/50       | Approx. 700 frames |
| 1080i/59.94    | Approx. 800 frames |
| 1080PsF/23.976 | Approx. 600 frames |
| 1080PsF/24     |                    |
| 1080PsF/25     | Approx. 700 frames |
| 1080PsF/29.97  | Approx. 800 frames |

| Video format | Memory capacity     |
|--------------|---------------------|
| 720P/50      | Approx. 1400 frames |
| 720P/59.94   | Approx. 1700 frames |

#### SD system:

(Without ancillary data)

| Video format | Memory capacity     |
|--------------|---------------------|
| 480i/59.94   | Approx. 5600 frames |
| 576i/50      | Approx. 4800 frames |

(With ancillary data)

| Video format | Memory capacity     |
|--------------|---------------------|
| 480i/59.94   | Approx. 4700 frames |
| 576i/50      | Approx. 3900 frames |

For details of operating procedures, see “Still Image Operations” (page 162).

### Types of image and terminology used

The following types of image are handled in frame memory.

**Freeze image:** An input image that has been frozen, but not saved to memory.

**Still image:** A freeze frame that has been saved to memory as a file. Each file (still file) holds just one still image.

**Frame memory clip:** A clip consists of a sequence of still images, which appears as a movie on playback. In this manual this is also referred to simply as a “clip.” The files (still files) constituting clips are referred to as a “clip file.”

When the above distinctions are not being made, an image is simply referred to as an “image.”

#### About extended clips

Of the two memory blocks for saving a clip, the clip saved in the memory block which is not combined with a still image is called an “extended clip.”

However, when the signal format is 1080P, since both a still image and a clip are saved in both memory blocks, there is no extended clip.

## Use of frame memory

There are eight frame memory channels, FM1 to FM8, and each channel independently allows a freeze image to be saved or recalled.

By allocating FM1 to FM8 to cross-point buttons you can use the still image output or clip output from each channel as input material.

### Notes

However, when the signal format is 1080P, only the four options of FM1 to FM4 can be used.

## Correspondence between input and output

There are two buses for capturing frame memory material: the frame memory source bus 1 and the frame memory source bus 2.

These input buses are used by allocation to one of the pairs of output, FM1&2, FM3&4, FM5&6, and FM7&8. You can freeze a frame in each channel separately, or freeze in the two channels simultaneously.

The source buses allocated to FM1 to FM8 are as follows.

| Input  | Frame memory source bus 1 | Frame memory source bus 2 |
|--------|---------------------------|---------------------------|
| Output | FM1                       | FM2                       |
|        | FM3                       | FM4                       |
|        | FM5                       | FM6                       |
|        | FM7                       | FM8                       |

## Pair mode

By enabling the pair mode, you can link FM1 and FM2, FM3 and FM4, FM5 and FM6, and FM7 and FM8. For example, when a freeze or image processing is carried out on FM1, the same operation is carried out on FM2. The same applies to the other pairs. When a pair of images are captured in pair mode, the image frozen in FM1 (3, 5, or 7) is referred to as the main file and the other frozen in FM2 (4, 6, or 8) is referred to as the sub file.

## Pair files and single files

A file that can be recalled in pair mode is termed a “pair file.” A pair file can be created by setting pair mode and capturing an image, or by using the coupling function (*see page 179*) to combine two single files.

A file other than a pair file is termed a “single file.” A single file can be created by switching off pair mode and capturing an image, or by using the separation function (*see page 179*) to split a pair file.

## Operation modes

The frame memory has the following operation mode.

**V/K mode:** When the pair mode is active, the key signal is automatically selected on frame memory source bus 2.

This is convenient for handling the video and key signals together in frame memory. For example, when you select a video signal on frame memory source bus 1, the key signal assigned to it is automatically selected on frame memory source bus 2. You can also use the signal automatically selected on frame memory source bus 2 as a key signal when processing keyframe memory 1.

To change the pair mode or operation mode, use the Frame Memory menu.

## Frame memory folders

Still images and clips can be managed in a maximum of twelve groups.

Such a group is called a “frame memory folder.” Folders can be added or deleted, and can be given a name of up to 8 characters.

### Notes

- When the system is powered off, the folder names are deleted. The folder names need to be saved on media.
- The following names cannot be used for folders.  
Flash1, Flash2  
CON, PRN, AUX, CLOCK\$, NUL, COM0, COM1, COM2, COM3, COM4, COM5, COM6, COM7, COM8, COM9  
LPT0, LPT1, LPT2, LPT3, LPT4, LPT5, LPT6, LPT7, LPT8, LPT9  
A folder named “Default” is provided, and this folder cannot be renamed or deleted.
- Still images and clips in different frame memory folders cannot have the same name.

---

# Still Image Operations

The frame memory functions provides the following still image file functions.

- Capturing and Saving an Input Image (*page 165*)
- Recalling Still Images (*page 167*)
- Image Output (*page 168*)
- Continuously Capturing Still Images (Record) (*page 169*)
- Recalling a Continuous Sequence of Still Images (Animation) (*page 169*)

## Notes

During playback of a frame memory clip of the pair assigned to either of the target FM selection buttons (*see page 173*), frame memory operations may not be performed properly. Carry out frame memory operations after stopping clip playback.

---

## Preparations

### Allocating the frame memory outputs (FM1 to FM8) to cross-point buttons

To output a frame memory image to a monitor, for example, the output signal from the frame memory (FM1 to FM8) must be allocated to a cross-point button. Carry out this allocation in the Setup menu.

## Notes

When the signal format is 1080P, only the four options of FM1 to FM4 can be used.

### Accessing the Frame Memory menu

Most frame memory operations are carried out using the Frame Memory menu.

To access the Frame Memory menu, use either of the following procedures.

- In the menu control block, select the top menu selection button [FRAME MEM].
- Press the cross-point button to which the frame memory output is allocated twice in rapid succession.

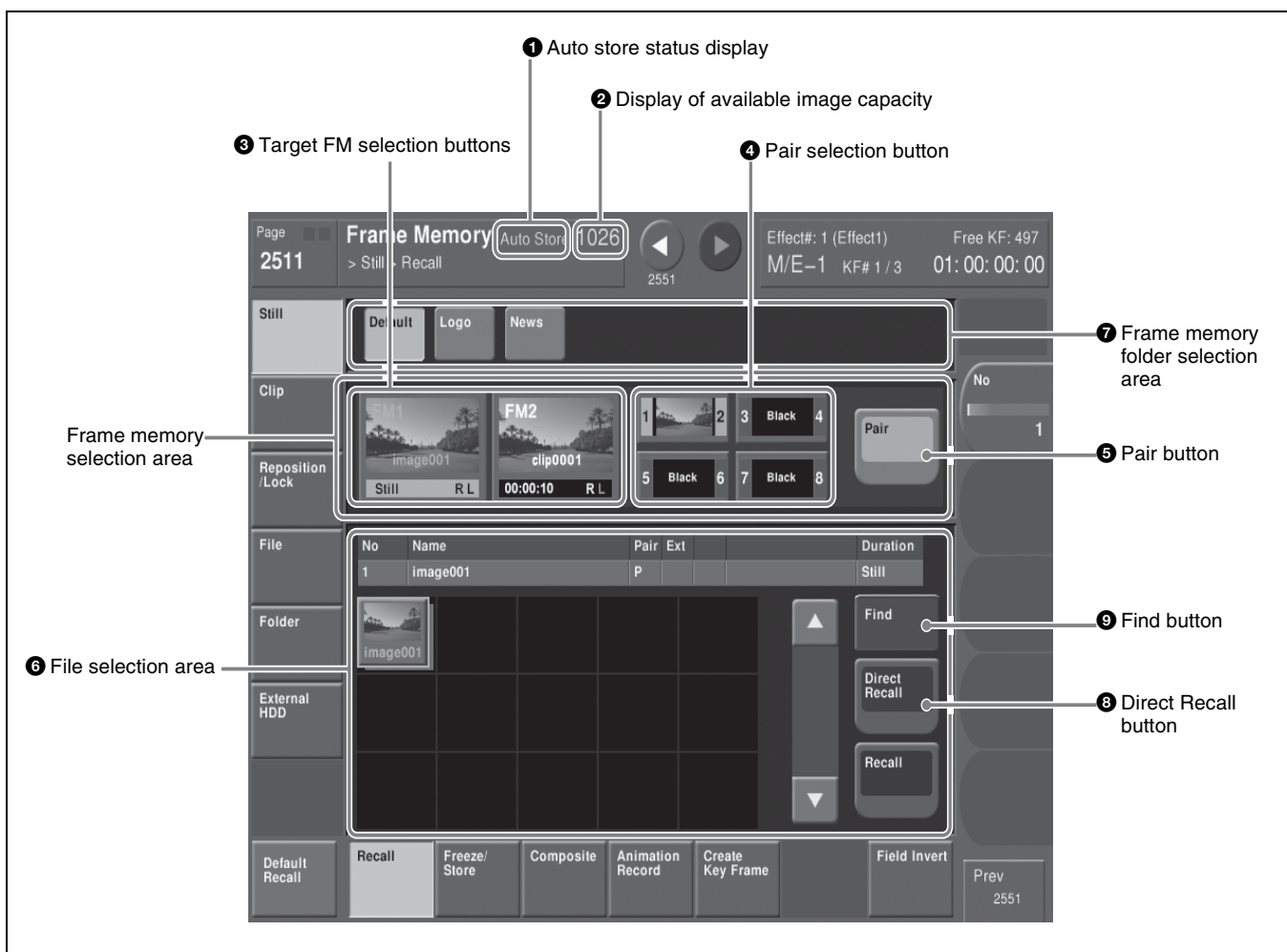
---

## Interpreting the Frame Memory Menu

The menu screen consists of the following principal parts. The frame memory selection area display is the same for all menus, excluding the File (excluding Pair Recombination menu), Folder, and External Device menus.







Frame Memory menu

**1 Auto store status display**

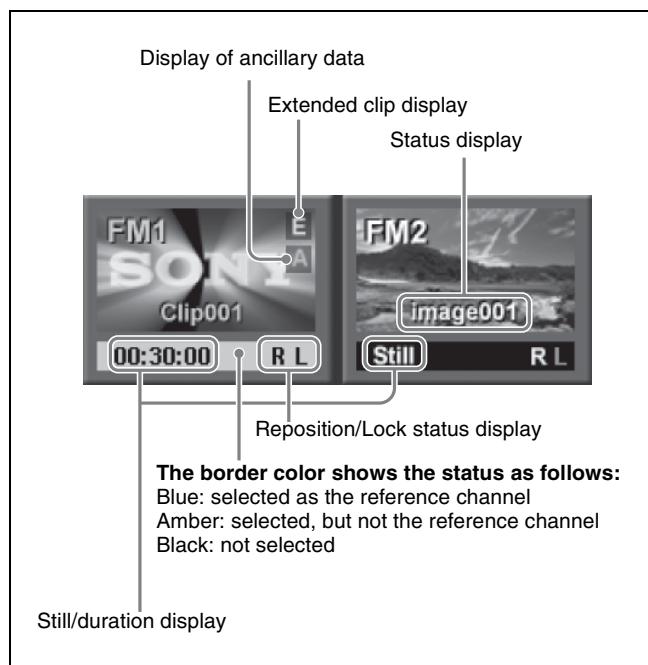
Depending on the setup settings, this appears when the auto store function is enabled.

**2 Display of available image capacity**

This shows the remaining number of frames. When no more frames can be stored, in pair mode “1” or “0” appears in red, and in single mode “0” appears in red. The lower figure shows the remaining number of frames that can be used as extended clips.

**Notes**

When the signal format is 1080P, each time a still image is saved the remaining space is reduced by two frames.

**3 Target FM selection buttons**

Press one of these to select which of the selected outputs (FM1 and FM2 in the example shown) the operation applies to.  
The following information appears on the button.

**Status display**

**File name (e.g. image001) and thumbnail:** when a file is output

**Black:** when a black signal is output

**Through:** when the input image is output

**Freeze:** when a freeze is output

**Record:** when continuously capturing images (record)

**Still/duration display**

When a still image is selected, “Still” is shown. When a clip is selected, a duration indication such as “00:00:10” is shown.

**Reposition/Lock status display**

This shows “R” when the reposition function (*see page 168*) is on, and shows “L” when the lock function (*see page 168*) is on.

**Extended clip display**

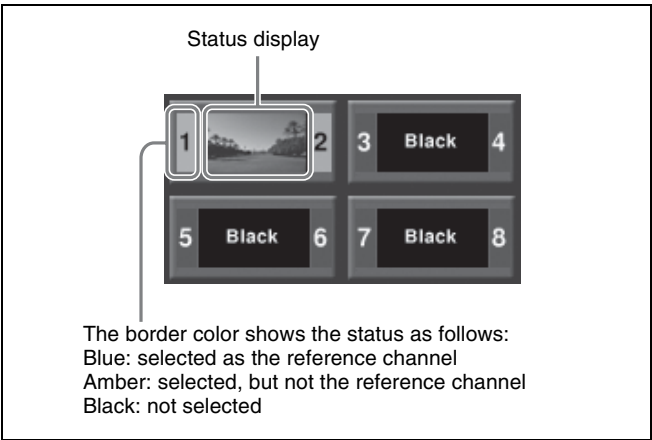
For an extended clip, an “E” appears.

**Ancillary data-attached clip display**

For an ancillary data attached clip, an “A” appears.

**4 Pair selection button**

Select the pair to be displayed in the target FM selection buttons (in the following figure, the pair of FM1 and FM2 is selected).



The following information appears on the button.

**Status display**

For a pair, shows the status for the reference.

**Thumbnail:** when a file is output

**Black:** when a black signal is output

**Through:** when the input image is output

**Freeze:** when a freeze is output

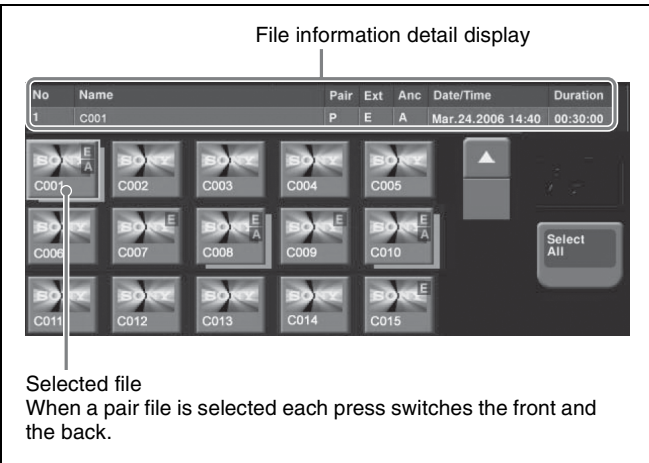
**Record:** when continuously capturing images (record)

**5 Pair button**

Press this button, turning it on, to enable pair mode.

**6 File selection area**

You can select from the displayed still image files or clip files.



**Thumbnail indications**

**Still image files and clip files:** Still image files are displayed as gray buttons and clip files are displayed as yellow buttons.

**Single files and pair files:** Single files are displayed with shadow and pair files are displayed with no shadow.

**Selected file:** Pale blue border. When more than one file is selected, only the first is pale blue, and the remainders are amber. If the pair file was selected, each press switches the front and the back.

**File information detail display**

For the selected file, this shows the file name, “P” if a pair file, “E” if an extended clip, “A” if an ancillary data attached clip, and the duration.

**7 Frame memory folder selection area**

Select the frame memory folder to be displayed.

**8 Direct Recall button**

Toggle on and off the direct recall mode in which pressing a thumbnail immediately recalls the file.

**9 Find button**

Pressing this button displays a popup window, in which you can enter a file name to carry out a search.

**Selecting an Input Image**

For the input image to frame memory, you can use either the signal selected on one of the two frame memory source buses or a dedicated color matte signal.

When using the signal on frame memory source bus 1 or 2 for the input image, select the signal as described below.

## Selecting the signal on a frame memory source bus

As an example, to select a signal on frame memory source bus 1, use the following procedure.

- 1 Using the bank selection buttons in the auxiliary bus control block, select the desired bank.
- 2 In the auxiliary bus control block, press the AUX delegation button to which frame memory source bus 1 is allocated, turning it on.

*For allocation of buses to the AUX delegation buttons, see “Assigning a Bus to an AUX Delegation Button” in Chapter 19 (Volume 2).*

- 3 In the key row of the bank selected in step 1, select the signal to be used for the input image.

### To select a signal with a key or DME effect applied on the frame memory source bus

Press the [FM FEED] button in the key control block or press [FM Feed] in the Processed Key/Resizer menu (*see page 109*).

This automatically assigns the key fill and key source signals being keyed by the currently selected keyer to frame memory source buses 1 and 2.

When DME is selected on the keyer, the key fill and key source signals to which a DME effect is applied are assigned.

## Selecting Outputs and Target Frame Memory

### Selecting outputs (FM) and target frame memory

The following description applies to the case of settings for FM1&2, but the procedures are similar for the other cases.

- 1 In the Frame Memory menu, press one of VF1 to VF4, and select the required HF menu.

The current status of frame memory appears (*see page 162*).

- 2 From the pair selection buttons, press the buttons corresponding to FM1 and FM2.

This assigns the signals to FM1 and FM2.  
To the right of the target FM selection buttons, the FM1 and FM2 output status appears (*see page 163*).

- 3 If required, press [Pair] to select the FM operation mode (pair mode).

**On:** Operate on FM1 (3, 5, 7) and FM2 (4, 6, 8) as a pair.

**Off:** Operate on FM1 (3, 5, 7) and FM2 (4, 6, 8) individually.

*For more details, see “Pair mode” (page 161).*

### Notes

In the Pair Recombination menu, the [Pair] operation is not possible.

- 4 Press the target FM selection button [FM1] or [FM2] (*see page 163*) to select the FM operations apply to.

**When [Pair] is On:** Whichever of FM1 and FM2 you press, the pair is selected.

**When [Pair] is Off:** One of the targets must be selected. However, in the Clip >Play menu you can also select both FM1 and FM2.

## Selecting a frame memory folder

Press a button in the frame memory folder selection area (*see page 164*).

By pressing [More] to switch the display, you can select from a maximum of 12 folders.

Thumbnails of the files within the selected folder appear.

## Capturing and Saving an Input Image

As the input material for the frame memory, you can use the signal selected on the frame memory source bus. For this signal you can use video processing (video levels or hue value adjustment) or masking.

Allocating a frame memory source bus signal to one of FM1 to FM8, then carrying out a freeze captures a still image in the corresponding frame memory output image, and saves it in temporary memory.

For a freeze, an image can be captured either as video frame (a “frame freeze”) or a video field (“field freeze”).

### Notes

When the system is powered off, any freeze images written to temporary memory are lost.

## Freezing an image and writing it to memory

To freeze the signal selected as input material, and write it to memory, use the following procedure.

- 1 In the Frame Memory menu, select VF1 ‘Still’ and HF2 ‘Freeze/Store.’

The Freeze/Store menu appears.

## 2 Select the target frame memory.

For the procedure, see “Selecting outputs (FM) and target frame memory” (page 165).

## 3 To enable V/K mode, press [V/K Mode] turning it on.

## 4 Press a button in the frame memory folder selection area, to select the folder to hold the freeze image (see page 165).

### Notes

The folder selected here is the destination folder for writing the freeze image.

It is not possible to change the selection of this folder after the following step 5.

An orange bar appears on the selection button for the destination folder.

## 5 Press [Freeze Enable], turning it on.

The signals of frame memory source buses 1 and 2 are assigned to the pair of FMs selected in step 2, a freeze is now possible.

## 6 If necessary, make the video process settings (see page 166) or mask settings (see page 167) for application to the selected signal.

## 7 In the state in which you want to freeze, press one of the following in the <Freeze> group, to write the freeze image to temporary memory.

**Frame:** Freeze one frame.

**Field:** Freeze one field.

**Off:** Release the freeze, and delete the recorded freeze image.

After carrying out the freeze, to return to the state immediately before the freeze, press [Undo] in the <Freeze> group.

### Notes

- All freeze images written to temporary memory are lost when the system is powered off.
- If you change the frame memory to use as in step 2 before saving the freeze images written to temporary memory, all the freeze images in temporary memory are lost, unless the auto store function has been enabled in setup. With the auto store function enabled, the freeze images written to temporary memory are saved automatically when the frame memory selection is changed.
- For the following signal formats, a field freeze is not possible.

1080P/50, 1080P/59.94, 1080PsF/23.976,  
1080PsF/24, 1080PsF/25, 1080PsF/29.97, 720P/  
50, 720P/59.94

## Saving a freeze image (Store)

You can save an image in temporary memory which has been placed with the freeze function as a file in memory. You can save a single image in a single file and apply a name of up to eight characters to the file.

### Notes

- When the system is powered off, all the files saved in memory are lost.
- When the signal format is 1080P, the file name is limited to seven characters.  
Each time a still image is saved, the remaining space is reduced by two frames.

To save a captured still image in a file, use the following procedure in the Still >Freeze/Store menu.

## 1 Press [Store].

The keyboard window (see page 59) appears.

## 2 In the keyboard window, enter the file name.

### Notes

The following names cannot be used:

CON, PRN, AUX, CLOCK\$, NUL, COM0, COM1,  
COM2, COM3, COM4, COM5, COM6, COM7,  
COM8, COM9  
LPT0, LPT1, LPT2, LPT3, LPT4, LPT5, LPT6, LPT7,  
LPT8, LPT9

## 3 In the keyboard window, press [Enter].

This saves the still image file in memory.

The destination folder is the folder selected in step 4 of “Freezing an image and writing it to memory.”

If the entered folder name already exists, a message to confirm overwriting appears.

When the system is powered off, the file saved in memory is erased.

### To carry out a freeze and store simultaneously (Freeze and Store)

Press [Freeze & Store], turning it on.

In this state, if you press [Frame] or [Field], this carries out a freeze, and simultaneously stores in a still image file.

## Setting video processing

To set video processing for the signal selected on a frame memory source bus, use the following procedure in the Still >Freeze/Store menu.

## 1 In the <Video Process> group, press [Video Process], turning it on.

## 2 Use the knobs to adjust the following parameters.

| Knob | Parameter   | Adjustment                       | Setting values     |
|------|-------------|----------------------------------|--------------------|
| 1    | Video Gain  | Overall gain of the video signal | −200.00 to +200.00 |
| 2    | Y Gain      | Y signal gain                    | −200.00 to +200.00 |
| 3    | C Gain      | Chrominance signal gain          | −200.00 to +200.00 |
| 4    | Hue Delay   | Hue delay                        | −180.00 to +180.00 |
| 5    | Black Level | Y signal black level             | −7.31 to +109.59   |

To return the settings to the default values, press [Unity] in the <Video Process> group.

### Notes

When a pair setting is active, it is coupled to the video process on/off setting, but the above parameter settings are only valid for frame memory source bus 1. The pair setting cannot be used to set the frame memory source bus 2. If you want to set video process for frame memory source bus 1 only with the pair setting when old settings for frame memory source bus 2 remain, return the frame memory source bus 2 settings to their default values. When setting video process for the frame memory source bus 2, disable the pair setting.

## Setting a mask

Masks can be set separately for frame memory source buses 1 and 2. To apply a mask to the signal selected on frame memory source bus 1, for example, use the following procedure in the Still >Freeze/Store menu.

- 1 Press [Box Mask], turning it on.
- 2 Use the knobs to adjust the following parameters.

| Knob | Parameter | Adjustment      | Setting values     |
|------|-----------|-----------------|--------------------|
| 1    | Top       | Top position    | −100.00 to +100.00 |
| 2    | Left      | Left position   | −100.00 to +100.00 |
| 3    | Right     | Right position  | −100.00 to +100.00 |
| 4    | Bottom    | Bottom position | −100.00 to +100.00 |

- 3 To link the masks on frame memory source buses 1 and 2, press [Mask Link], turning it on.

## Recalling Still Images

You can recall an image file saved in memory, and allocate to any of the FM1 to FM8 outputs.

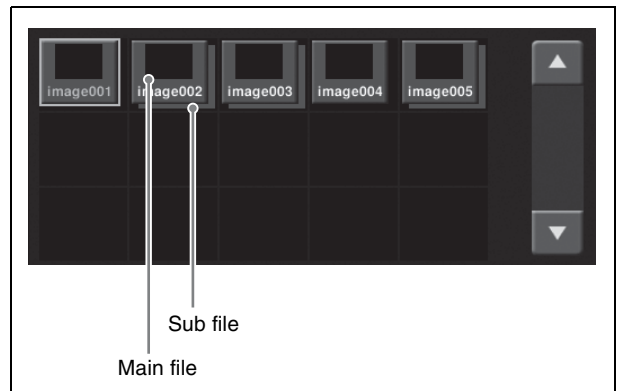
### Recalling a still image

To recall a still image file saved in memory using the thumbnails, and assign it to an FM output, use the following procedure.

- 1 In the Frame Memory menu, select VF1 'Still' and HF1 'Recall.'

The Recall menu appears.

- When [Pair] is on, only pair files (pairs of main file and sub file) are displayed.
- When [Pair] is off, both single files and pair files appear (see following figure).



- 2 In the frame memory selection area, select the FM to be assigned (*see page 165*).
- 3 If [Direct Recall] is on, press and turn it off.
- 4 Select the desired folder in the folder selection area. By pressing [More] to switch the display, you can select from a maximum of 12 folders.

Thumbnails of the files within the selected folder appear.

- 5 Using the arrow keys or turning the knob, scroll the file thumbnail display.

| Knob | Parameter | Adjustment                  | Setting values     |
|------|-----------|-----------------------------|--------------------|
| 1    | Scroll    | Thumbnail display scrolling | 1 to maximum value |

- 6 Press the thumbnail of the still image you want to recall.
- 7 Press [Recall].

This recalls the still image file, which is assigned to the FM you selected in step 2.

### To recall in direct recall mode

Direct recall means that pressing a thumbnail immediately recalls the file.

In this mode, only the front thumbnail file is recalled.

**1** In step 7 above, instead of pressing [Recall], press [Direct Recall].

**2** Press the thumbnail for the file you want to recall.

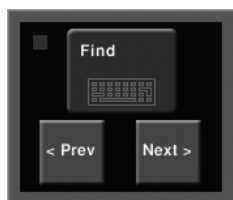
### To display the subsidiary file in front

With the direct recall mode on, press [Sub Display], turning it on.

### To search by file name

**1** In the Recall menu, press [Find].

The Find window appears.



**2** Press [Find].

A keyboard window appears.

**3** Enter the string you want to search for, and press [Enter].

This starts the search, and the indicator lights. When the search ends, the files found are selected.

**4** To move through the selected files, press [< Prev] or [Next >].

**5** Press outside the Find window on the menu screen.

## Image Output

There are two functions related to image output: the reposition function for moving the output image, and the lock function for fixing the output image.

### Moving the output image (reposition function)

For up to two channels of FM1 to FM8 (one from FM1, FM3, FM5 and FM7 and the other from FM2, FM4, FM6 and FM8), you can move the output image with respect to the screen. The area of the screen around the image that has

been moved is filled with black. There are two ways of carrying out this repositioning.

**Normal mode:** Movement in the horizontal direction is in two-pixel increments.

**Black and white mode:** Movement in the horizontal direction is in one-pixel increments, and for each pixel moved the color is inverted.

### Notes

It is not possible to save an image moved with the reposition function directly to frame memory.

**1** In the Frame Memory menu, select VF3 'Reposition/Lock' and HF1 'Reposition.'

The Reposition menu appears. In this menu, you can also enable the V/K mode (*see page 166*).

**2** In the frame memory selection area, select the FM output (*see page 165*).

**3** In the <Reposition> group, select the movement mode.

**Normal:** Move in normal mode.

**Black&White:** Move in black & white mode.

**4** With the knobs, adjust the parameters to move the image.

| Knob | Parameter  | Adjustment                   | Setting values                   |
|------|------------|------------------------------|----------------------------------|
| 1    | Position H | Move in horizontal direction | -200.00 to +200.00 <sup>a)</sup> |
| 2    | Position V | Move in vertical direction   | -200.00 to +200.00 <sup>a)</sup> |

a) *See page 133.*

The surroundings of the moved image on the screen are filled with black.

### To return the image to the center position

In the <Reposition> group, press [Center].

### Fixing the output image selection (lock function)

For the output of each of FM1 to FM8, this fixes the image at the current output. When this lock is enabled, even if the output is recalled in a snapshot or keyframe, the images output to FM1 to FM8 are preserved.

### Notes

When the signal format is 1080P, this function cannot be used.

- 1 In the Frame Memory menu, select VF3 'Reposition/Lock' and HF2 'Lock.'

The Lock menu appears.

- 2 In the frame memory selection area, select the FM output (*see page 165*).

- 3 Press [Lock], turning it on.

This fixes the currently selected frame memory output image.

To release the lock, set [Lock] to off.

## Continuously Capturing Still Images (Record)

You can continuously capture (freeze) a sequence of input video frames and store the sequence of the still images over a specified time interval.

The name of each image recorded in this way consists of a first character string followed by a second string.

**First character string:** A common part of name assigned to all the still images captured in one record operation. This string includes a maximum of four characters, which can be specified using a menu before carrying out the capture. The first string is automatically used as the clip name when the images are treated as a frame memory clip.

**Second character string:** A four-digit number (0000 or greater), which is incremented each time a still image is captured.

### Notes

When using the record function to continuously capture frames, it is not possible to use the mask function.

## Continuously freezing input images and writing to memory

- 1 In the Frame Memory menu, select VF1 'Still' and HF4 'Animation Record.'

The Animation Record menu appears.

- 2 Select the desired frame memory (*see page 165*).

- 3 To use V/K mode, press [V/K Mode], turning it on.

- 4 Press a button in the frame memory folder selection area, to select the folder to hold the freeze image (*see page 165*).

### Notes

The folder selected here is the destination folder for writing the freeze image.

It is not possible to change the selection of this folder after the following step 5.

An orange bar appears on the selection button for the destination folder.

- 5 Press [Record Enable], turning it on.

The signals of frame memory source buses 1 and 2 are assigned to the pair of FMs selected in step 2, the recording function is now possible.

- 6 Input the file name if required.

Pressing [File Name] displays the keyboard window and you can enter the first character string (up to four characters) of the file name.

- 7 Set the recording time if required.

Pressing [Duration] displays the numeric keypad window, in which you can enter the recording time in the form of timecode.

If you set the recording time to zero, this uses all frame memory in which storing is possible for recording.

- 8 If required, set video processing for the selected signal (*see page 166*).

- 9 Press [Record], to start recording.

When the recording time is set, recording stops once the time has elapsed.

- 10 Press [Stop] to stop recording.

Even if the recording time is set, you can still stop recording before the set time has elapsed.

## Recalling a Continuous Sequence of Still Images (Animation)

You can use a continuous sequence of images captured with the record function as keyframes to create an effect. By executing this effect you can recall the continuous sequence (animation).

### Notes

- For example, to create an effect using FM1, FM1 must be assigned to a user region.
- To execute the effect, you must assign the user region to which FM1 is assigned to a region selection button in the numeric keypad control block.

For details of assigning to region selection buttons, see Chapter 19 “Control Panel Setup (Panel)” (Volume 2).

In the Frame Memory menu, effect creation follows the image file names. Of the eight characters in the file names, if files have the same characters except for the last three characters they are treated as an image file group, and the effect is created with the last three (numeric) characters in sequence.

#### Notes

When creating the effect in pair mode (*see page 161*), the files used must be main files and sub files with the same last three (numeric) characters in the file name.

To recall a continuous sequence of still images, create an effect in the user region with the still image files as a keyframe, and run the created effect.

#### Notes

With the 720P format or 1080P format, you can continuously recall images using the frame memory in units of two frames only.

## Creating an effect with still image files as a keyframe

- 1** In the Frame Memory menu, select VF1 ‘Still’ and HF5 ‘Create Key Frame.’
  - The Create Key Frame menu appears.
  - A thumbnail appears for each group of files having the same characters, except for the last three characters, in the file name.
  - When [Pair] is on, only pair files (each pair comprising a main file and a sub file) appear.
  - When [Pair] is off, both single files and pair files all appear.
- 2** In the frame memory selection area, select the frame memory to be assigned (*see page 165*).
- 3** Select the desired folder in the folder selection area. By pressing [More] to switch the display, you can select from a maximum of 12 folders.
 

Thumbnails of the files within the selected folder appear.
- 4** Turn the knob to select the register number in the user region.

| Knob | Parameter | Adjustment             | Setting values |
|------|-----------|------------------------|----------------|
| 5    | Register  | Effect register number | 1 to 99        |

#### Notes

To search for an empty register in the user region, use the numeric keypad control block.

For details, *see step 3* of “Recalling a Register” in Chapter 13 (Volume 2).

- 5** Use the arrow keys or turn the knobs to scroll the thumbnail display of the files.

| Knob | Parameter | Adjustment                  | Setting values     |
|------|-----------|-----------------------------|--------------------|
| 1    | Scroll    | Thumbnail display scrolling | 1 to maximum value |

- 6** Select the thumbnail of the files to be used for the keyframe.
- 7** If necessary, turn the knob to check the animation effect in the thumbnail display.

| Knob | Parameter | Adjustment             | Setting values            |
|------|-----------|------------------------|---------------------------|
| 3    | Viewer    | Current frame position | 00:00:00 to maximum value |

- 8** Using the region selection buttons in the numeric keypad control block, select one of the regions (User1 to User8) to which the frame memory output signals have been assigned.
- 9** Carry out either of the following.
  - To clear the effect register selected in step 4, and create a new effect: press [Create Key Frame].
  - To add to the end of the effect register selected in step 4, press [Append Key Frame].

A confirmation message for creating the effect appears.

If there is an inappropriate condition for creating the effect, an error message appears.

For details of error messages, *see “Error Messages” in the Appendix (Volume 2)*.

- 10** Press [OK].

This creates the effect in the selected user region register.

#### To cancel creating the effect

Press [Cancel].



## Notes

- The effect is built with the selected files, in increasing order of the last three characters of the file name. If you do not want to include some of these files in the effect, first delete or rename them.
- A maximum of 99 keyframes can be included in a single effect.

## Recalling a sequence of still images

Run the effect created by the foregoing procedure. The procedure for doing this is the same as for any other effect.

*For details, see “Executing Effects” in Chapter 13 (Volume 2).*

# Frame Memory Clip Function

## What is a “frame memory clip”?

Movies can be read into frame memory, and recalled and played back. A movie held in frame memory is called a “frame memory clip.”

A frame memory clip can be named using up to four characters (*see page 169*).

## Ancillary data

In a frame memory clip, in addition to the video image, you can also record and play back ancillary data which can be used as embedded audio.

To record the ancillary data, in the Setup menu the frame memory saving mode must be set to “save with ancillary data”.

*For details, see “Saving a Frame Memory Clip With Ancillary Data” in Chapter 18 (Volume 2).*

## Notes

- With this setting, the saving mode for still images also changes to “save with ancillary data,” but when playing back a still image the ancillary data is never played.
- When you change the saving mode, the frame memory is initialized, and any existing recorded frame memory data is lost.
- When the signal format is 1080P, ancillary data is not supported.

## Note on transferring ancillary data

Ancillary data is recorded when the frame memory saving mode is set to “save with ancillary data,” and can be saved to an external storage device such as a hard disk or memory card, and recalled. However, the ancillary data can only be saved or recalled in the following circumstances.

- When the frame memory saving mode is set to “save with ancillary data.”
- When ancillary data is present in the saved or recalled frame memory file.
- When the system signal format is the same as the signal format in the file.

When the frame memory saving mode is set to “save with ancillary data,” the following ancillary data status information is added to a frame memory clip.

- Disable:

In this state the ancillary data is not played. This is the status when [Ancillary Enable] in the Frame Memory >Clip menu is Off.

- **Enable:**  
In this state, ancillary data is present, and can be played back. This is the status when [Ancillary Enable] in the Frame Memory >Clip menu is On. This is the status after a clip recording operation.  
This status information is saved in a file, and is followed when the file is recalled.

### Frame memory clip settings

For frame memory clips, you can make the following settings using a menu or device control block (trackball/search dial/joystick).

- Start point
- Stop point
- Loop On/Off

The above settings can be saved in a snapshot register as snapshot attributes, and recalled.

---

## Frame Memory Clip Operations

### Notes

During playback of a frame memory clip of the pair assigned to either of the target FM selection buttons (*see page 173*), frame memory operations may not be performed properly.

Carry out frame memory operations after stopping clip playback.

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### Preparations for Operation

The preparations for using a frame memory clip (hereafter, a “clip”) are the same as for a still image operation.

*For details, see “Preparations” (page 162) and “Selecting Outputs and Target Frame Memory” (page 165).*

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### Recalling Clips

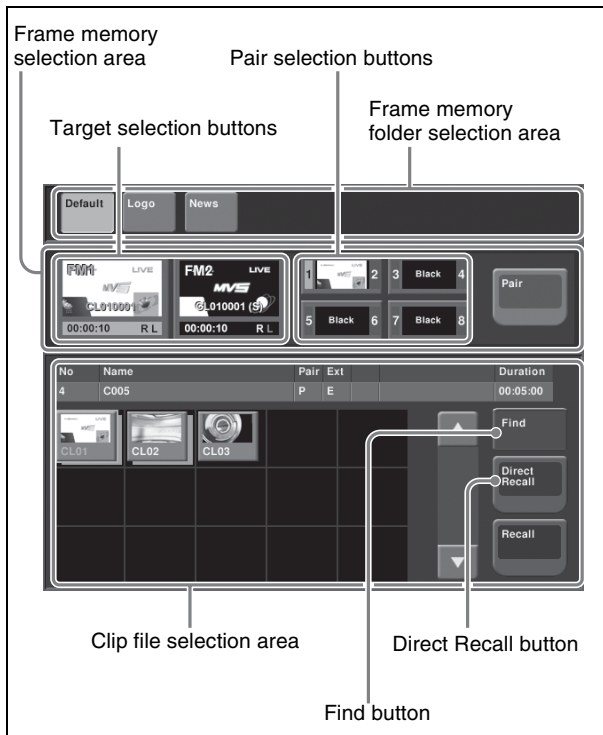
#### Recalling a clip

You can recall a clip from each of frame memories 1 to 8.

- 1** In the Frame Memory menu, select VF2 ‘Clip’ and HF1 ‘Recall.’

The Recall menu appears (*see following figure*).

- When [Pair] is set to On, only pair files (sets of main file and sub file) are shown.
- When [Pair] is set to Off, both of single files and pair files are shown.



- 2 In the frame memory selection area, select an assigned target FM (see page 165).
- 3 If [Direct Recall] is on, press the button, turning it off.
- 4 In the frame memory folder selection area, select the desired folder.  
By pressing [More] to switch the displays, you can select from a maximum of 12 folders.
- 5 Using the arrow keys or turning the knob, scroll the file thumbnail display.

| Knob | Parameter | Adjustment                  | Setting values     |
|------|-----------|-----------------------------|--------------------|
| 1    | Scroll    | Thumbnail display scrolling | 1 to maximum value |

- 6 Press the thumbnail of the clip you want to recall.
- 7 Press [Recall].

This recalls the clip file, which is assigned to the FM you selected in step 2.  
In pair mode, if a clip is selected, the main file is output to FM1, and the sub file to FM2. In single mode, when only one of FM1 and FM2 is selected, the front file on the thumbnail is output.

### To recall in direct recall mode

Direct recall means that pressing a thumbnail immediately recalls the file.  
In this mode, only the front thumbnail file is recalled.

- 1 In step 7 above, instead of pressing [Recall], press [Direct Recall].

- 2 Press the thumbnail for the file you want to recall.

### To display the subsidiary file in front

With the direct recall mode on, press [Sub Display], turning it on.

### To search the clip file by file name

Press [Find] (see page 168).

## Clip Playback

You can play a recalled clip by a menu operation or by using the device control block.

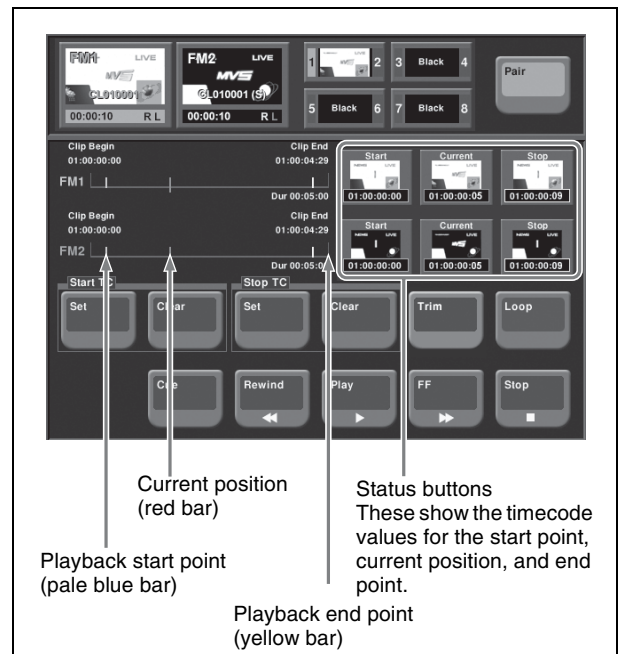
### Notes

With a pair file recalled, it is possible to set [Pair] to Off and carry out a single file operation, but if you then set [Pair] to On again, the output of frame memory may be black. In such cases it is necessary to recall the pair file once more.

### Playing a clip using the menu

- 1 In the Frame Memory menu, select VF2 'Clip' and HF2 'Play.'

The Play menu appears. The status of the clip shown in the current target FM selection buttons appears here.



- 2 When [Pair] is Off, press a target FM selection button to select the target.

- 3** To set loop playback, press [Loop], turning it on.
- 4** To start playback, press [Play]. During playback, to stop, press [Stop].

#### To cue up

Press [Cue].

#### To play the image at the beginning of the clip (Clip Begin)

Press [Rewind].

#### To play the image at the end of the clip (Clip End)

Press [FF].

#### To specify the playback start point

To set the current position as the playback start point, in the <Start TC> group, press [Set]. To set a different position, press the [Start] status button, and enter a timecode value from the numeric keypad window.

#### To specify the playback stop point

Start playback, and at the desired position press [Stop] to stop playback, then in the <Stop TC> group, press [Set]. To set to any position, press the [Stop] status button, and enter a timecode value from the numeric keypad window.

#### To change the current position

To change the current position, press the [Current] status button, and enter a timecode value from the numeric keypad window.

#### To delete the parts of a clip file other than the playback part (trimming)

- 1** Set the playback start point and stop point.
- 2** Press [Trim].  
A confirmation message appears.
- 3** Press [Yes].

### Using the device control block (MKS-8036A Search Dial Module, option) to play back clips

#### Notes

A frame memory clip must first be recalled with a menu operation.

- 1** With the device selection buttons, select the frame memory clip to be played (FM1 CLIP to FM8 CLIP).  
If the pair mode is on, both main and subsidiary FMs light.
- 2** Press the [PLAY] button, turning it on.

To stop playback, press [STOP] or any of the [SHTL], [JOG], [CUE], [REW], [FF], and [ALL STOP] buttons.

*For details of the buttons in the device control block (MKS-8036A search dial module, option), see “Device Control Block (MKS-8036A Search Dial Module, Option)” (page 47).*

#### To specify the playback start point

To make the current position the playback start point, press the [START TC] button. To set a different position, press the [SET START TC] button, then enter the timecode from the numeric keypad control block.

#### To specify the duration

Press the [SET DUR] button, and enter a timecode from the numeric keypad control block. If the playback start point is already set, this automatically sets the playback stop point. If the playback stop point is already set, this automatically sets the playback start point. The duration setting is not displayed in the device control block.

#### To specify the playback stop point

Start playback, and at the desired position press the [STOP] button to stop playback, then press the [STOP TC] button. To set to any position, press the [SET STOP TC] button, and enter a timecode from the numeric keypad control block.

#### To carry out the variable speed playback

Use the search dial.

*For details on using the search dial, see “Controlling the Tape/Disk Transport” in Chapter 12 (Volume 2).*

#### To apply a loop to a frame memory clip

Press the [LOOP] button.

### Using the device control block (MKS-8031TB trackball module, option) to play back clips

#### Notes

A frame memory clip must first be recalled with a menu operation.

- 1** Press the [DEV] button in the region selection buttons, and select the frame memory clip for playback (FM1 CLIP to FM8 CLIP).  
If the pair mode is on, both main and subsidiary FMs light.
- 2** Press the [PLAY] button, turning it on.

To stop playback, press [STOP] or any of the [SHTL], [JOG], [CUE], [REW], [FF], and [ALL STOP] buttons.

For details of the buttons in the device control block (MKS-8031TB trackball module, option), see “Device Control Block (MKS-8031TB Trackball Module, Option)” (page 44).

For details of the playback start point, stop point, and duration settings, see the previous item, “Using the device control block (MKS-8036A Search Dial Module, option) to play back clips” (page 174).

### To carry out the variable speed playback

Press any of the [SHTL], [JOG], and [VAR] buttons, then turn the Z-ring or move the joystick. The image changes in the forward direction when you turn the Z-ring clockwise, and in the reverse direction when you turn it counterclockwise. Move the joystick to the right for the forward direction and to the left for the reverse direction.

**When you pressed the [JOG] button:** Playback is at a speed corresponding to the turning speed of the Z-ring or the movement speed of the joystick.

**When you pressed the [SHTL] button:** Playback is at a speed corresponding to the rotation angle of the Z-ring or amount of movement of the joystick.

**When you pressed the [VAR] button:** Playback is at a speed corresponding to the rotation angle of the Z-ring or amount of movement of the joystick, in the range –1 to +3 times normal speed.

## Clip Creation

You save a movie as a clip.

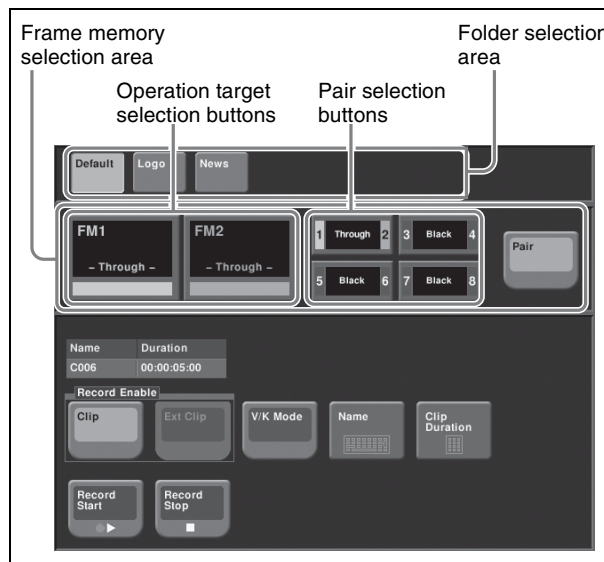
### Notes

If the number of frame memory clips exceed 100 single files (50 pair files), an error appears.

### Using the menu to record clips

- 1 In the Frame Memory menu, select VF2 ‘Clip’ and HF3 ‘Record.’

The Record menu appears.



- 2 With [Pair] off, press the operation target selection button, to select the operation target.
- 3 In the folder selection area, select the folder containing the clip to be recorded.
- 4 In the <Record Enable> group, select the clip type.
  - To record a normal clip, press [Clip].
  - To record an extended clip, press [Ext Clip].
- 5 To set the clip name, press [Name].

A keyboard window appears.
- 6 Enter the clip name, and press [Enter].
- 7 To start recording, press [Record Start].
- 8 To end recording, press [Record Stop].

### To set the clip duration

- 1 Press [Clip Duration].

A numeric keypad window appears.
- 2 Enter a timecode value or number of frames, and press [Enter].

## Creating and Handling Frame Memory Folders

You can create, rename, and delete frame memory folders.

### Creating a new folder

- 1 In the Frame Memory menu, select VF5 ‘Folder.’

The Folder menu appears. The status area shows a list of the current folder settings.

## 2 Select [New].

A keyboard window appears.

## 3 Enter the folder name, and press [Enter].

### Changing the folder name

## 1 In the Frame Memory >Folder menu, select the folder with the arrow keys or by turning the knobs.

| Knob | Parameter | Adjustment   | Setting values |
|------|-----------|--|----------------|
| 1    | No        | Folder selection   | 1 to 12        |
| 2    | Num       | Number of files to select consecutively from selected file | 1 to 12        |

## 2 Press [Rename].

A keyboard window appears.

## 3 Enter the new folder name, and press [Enter].

#### Notes

The following names cannot be used:

Default, Flash1, Flash2

CON, PRN, AUX, CLOCK\$, NUL, COM0, COM1, COM2, COM3, COM4, COM5, COM6, COM7, COM8, COM9

LPT0, LPT1, LPT2, LPT3, LPT4, LPT5, LPT6, LPT7, LPT8, LPT9

### Deleting a folder

## 1 In the Frame Memory >Folder menu, select the folder with the arrow keys or by turning the knobs.

| Knob | Parameter | Adjustment   | Setting values |
|------|-----------|--|----------------|
| 1    | No        | Folder selection   | 1 to 12        |
| 2    | Num       | Number of files to select consecutively from selected file | 1 to 12        |

To select all folders, select [All].

## 2 Press [Delete].

A confirmation message appears.

## 3 To carry out the deletion select [Yes], and to cancel the deletion select [No].

#### Notes

It is not possible to delete the default folder (named “Default”).

### Clip Output

As for still image operation, you can use the reposition and lock functions.

*For details of the operation, see “Image Output” (page 168).*

### Recording and Playback of Ancillary Data

#### Preparations

To record ancillary data, it is first necessary in the Setup menu to select “save with ancillary data” as the frame memory saving mode.

*For details, see “Saving a Frame Memory Clip With Ancillary Data” in Chapter 18 (Volume 2).*

#### Recording ancillary data

To record ancillary data in a frame memory clip, use the Frame Memory >Clip >Record menu.

*For details of the operating sequence, see “Clip Creation” (page 175).*

#### To check ancillary data during recording

If the ancillary data to be recorded is embedded audio, by first setting the signal output to through mode, you can listen while recording.

*For the method of setting the signal output to through mode, see “Signal Output Settings (Output Menu)” in Chapter 20 (Volume 2).*

#### Notes

For [Freeze Enable] or [Record Enable], in the <Record Enable> group, pressing [Clip] or [Ext Clip] to turn them on or off may result in noise. Also, with these buttons in the On state, selecting the signal on the frame memory source bus may result in noise.

#### Playing back ancillary data

You can play ancillary data recorded in a frame memory clip by normal playback or an auto transition of the clip transition.

*For the subsequent playback operation, see “Clip Playback” (page 173).*

- After recording a frame memory clip, the ancillary data state is enabled for playback.
- To play back the clip, set the signal output to through mode.

- When the reposition function is on, ancillary data cannot be played back.

- Switching reposition function between on and off may cause noise.

- Only the AUX bus and edit preview bus can output ancillary data.

- Carrying out file operations on a frame memory clip may result in the ancillary data being discontinuous, or in noise occurring. However, if the first or last frame of the clip is deleted, noise will not occur.

- The audio sampling frequency is always 48 kHz.

- When you play back the recorded embedded audio, depending on the device to be used, noises are produced at the playback start point and end point. For details of devices that are used for playback, contact your Sony service or sales representative.

- 2** Select the frame memory folder and file to be played back.

A frame memory clip (movie) is played back, linked to a transition using a mix (dissolve) or wipe.

The following restrictions apply to the use of a clip transition.

- It is not possible to apply a pattern limit.

When a clip transition is selected as the transition type, if one of the wipe direction selection buttons in the transition control block is lit, it indicates the direction of clip playback.

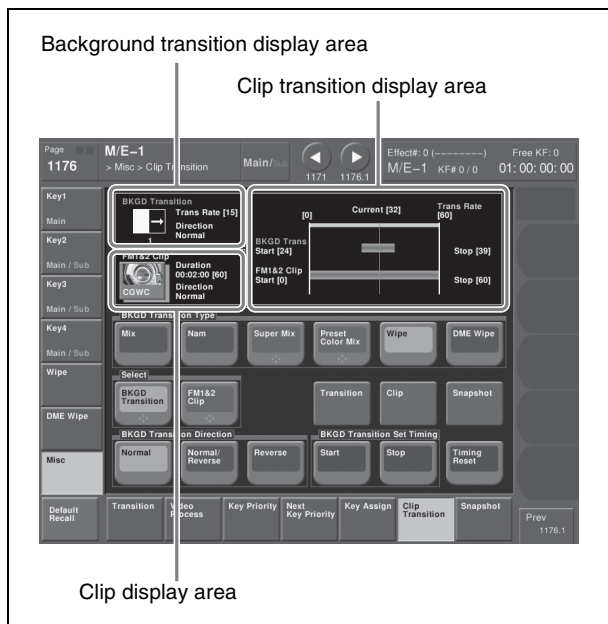
The following example describes the case of a clip transition using FM 1&2 Clip on the M/E-1 bank.

To use a clip transition effectively, the image from the frame memory clip being played back during the clip transition should be seen in the M/E-1 program output. For example, inserting a key using frame memory output 1 and frame memory output 2.

- 1 Display the M/E-1 > Misc > Transition menu, and in the <Transition Type> group select “FM1&2 Clip.”

- 2** Press [Clip Transition].

The Clip Transition menu appears.



### 3 Press [Clip].

The status area shows a list of clips.

### 4 Select the clip to use in the clip transition.

### 5 Return to the Clip Transition menu, and in the <BKGD Transition Type> group, select the background transition type.

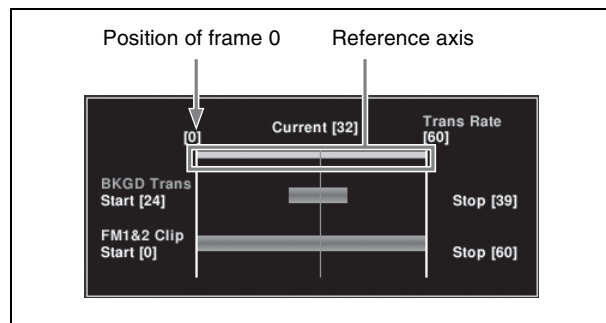
#### Notes

For details of the background transition selected here, see the various adjustments in the M/E-1 >Misc >Transition menu.

### 6 In the <Select> group, press [BKGD Transition].

### 7 Use either of the following methods to set the background transition start point independently of the clip playback timing.

- Move the fader lever to the desired position, and in the <BKGD Transition Set Timing> group press [Start].
- Turn knob 1 to set the number of frames. The left end of the reference axis (*see following figure*) is the position of frame 0.



### 8 Using either of the following methods, set the end point of the background transition.

- Move the fader lever to the desired position, and in the <BKGD Transition Set Timing> group press [Stop].
- Turn knob 2 to set the number of frames.

### 9 If Wipe or DME Wipe is selected in the <BKGD Transition Type> group, in the <BKGD Transition Direction> group, select the background transition direction.

### 10 In the <Select> group, press [FM1&2 Clip].

### 11 Using either of the following methods, set the start point of the clip.

- Move the fader lever to the desired start point, and in the <Clip Transition Set Timing> group press [Start].
- Turn knob 1 to set the number of frames. The left end of the reference axis (*see previous figure*) is the position of frame 0.

#### Notes

It is not possible to set the end point.

### 12 In the <Clip Transition Direction> group, select the playback direction of the clip.

#### To reset the start point and end point

Press [Timing Reset].

The background transition start point and end point, and the clip start point are all reset.



# Image Data Management

You can carry out the following operations on the files in which images are saved.

- Pair File Processing (*page 179*)
- Moving Files (*page 179*)
- Deleting Files (*page 179*)
- Renaming Files (*page 180*)

## Notes

During playback of a frame memory clip of the pair assigned to either of the target FM selection buttons (*see page 173*), frame memory operations may not be performed properly. Carry out frame memory operations after stopping clip playback.

## Pair File Processing

You can create a pair file from two single files. In the reverse direction, you can split a pair file into two single files.

**Couple:** You can create a pair file from two single still image files or clip files.

**Separate:** You can also separate a pair file into two single still image files or clip files.

## Creating a pair file from two single files

### Notes

Carrying out the following operation automatically switches [Pair] to On.

The following description applies to the case of FM1&2, but the procedures are similar for the other cases.

**1** In the Frame Memory >Still >Recall menu or Frame Memory >Clip >Recall menu, recall the two single files you want to convert to a pair file, to FM1 and FM2.

**2** In the Frame Memory menu, select VF4 'File' and HF1 'Pair Recombination.'

The Pair Recombination menu appears.

**3** Press [Couple].

## Splitting a pair file into two single files

### Notes

Carrying out the following operation automatically switches [Pair] to Off.

The following description applies to the case of FM1 and FM2, but the procedures are similar for the other cases.

**1** In the Frame Memory >Still >Recall menu or Frame Memory >Clip >Recall menu, recall the pair file.

**2** Select the folder in which the file to be moved is stored.

**3** In the Frame Memory menu, select VF4 'File' and HF1 'Pair Recombination.'

The Pair Recombination menu appears.

**4** Press [Separate].

## Moving Files

**1** In the Frame Memory menu, select VF4 'File' and HF4 'Move.'

The Move menu appears. The status area shows files to be moved in the upper area, and destination files in the lower area.

**2** Select the folder which contains the file to be moved.

**3** Using any of the following methods, select the file to be moved.

- Press the arrow keys to scroll the display.
- Press directly on the thumbnail in the status area.
- Turn the knobs.

| Knob | Parameter | Adjustment                               | Setting values     |
|------|-----------|--|--------------------|
| 1    | No        | File selection                           | 1 to maximum value |
| 2    | Num       | Selection of number of files in sequence | 1 to maximum value |

**4** Select the destination folder and file.

**5** Press [Move].

## Deleting Files

**1** In the Frame Memory menu, select VF4 'File' and HF5 'Delete.'

The Delete menu appears. In the status area, whether pair mode is on or off, all of the saved files appear as thumbnails.

**2** Select the folder which contains the file to be deleted.

**3** Using either of the following methods, select the file to be deleted. If necessary, press the arrow keys to scroll the display.

- Press directly on the thumbnail in the status area.
- Turn the knobs.

| Knob | Parameter | Adjustment                               | Setting values     |
|------|-----------|--|--------------------|
| 1    | No        | File selection                           | 1 to maximum value |
| 2    | Num       | Selection of number of files in sequence | 1 to maximum value |

- To delete all files, press [Select All], turning it on.
- When a clip thumbnail is selected, the still image files making up the clip are also selected for deletion.

**4** If necessary, turn the knob to check the contents of the frame memory clip through the thumbnail display.

| Knob | Parameter | Adjustment   | Setting values            |
|------|-----------|--|---------------------------|
| 3    | Viewer    | For a movie, the current frame position. For a still image, no effect. | 00:00:00 to maximum value |

**5** Press [Delete].

A message for confirming the deletion appears.

**6** To confirm the deletion press [Yes], and to cancel press [No].

## Renaming Files

**1** In the Frame Memory menu, select VF4 'File' and HF6 'Rename'

The Rename menu appears. In the status area, whether pair mode is on or off, all of the saved files appear as thumbnails.

**2** Using either of the following methods, select the file to be renamed. If necessary, press the arrow keys to scroll the display.

- Press directly on the thumbnail in the status area.
- Turn the knobs.

| Knob | Parameter | Adjustment     | Setting values     |
|------|-----------|----------------|--------------------|
| 1    | No        | File selection | 1 to maximum value |

**3** If necessary, turn the knob to check the contents of the frame memory clip through the thumbnail display.

| Knob | Parameter | Adjustment   | Setting values            |
|------|-----------|--|---------------------------|
| 3    | Viewer    | For a movie, the current frame position. For a still image, no effect. | 00:00:00 to maximum value |

**4** Press [Rename].

A keyboard window appears.

**5** Enter the new name, then press [Enter] in the keyboard window.

### Notes

The following names cannot be used:

CON, PRN, AUX, CLOCK\$, NUL, COM0, COM1, COM2, COM3, COM4, COM5, COM6, COM7, COM8, COM9  
LPT0, LPT1, LPT2, LPT3, LPT4, LPT5, LPT6, LPT7, LPT8, LPT9

# External Hard Disk Drive Access

You can connect a hard disk drive to the USB port of the switcher processor, to carry out the following operations.

**Format:** Format the hard disk.

**Backup:** Batch saving of files from frame memory to the hard disk.

**Restore:** Restoring frame memory from files saved on the hard disk.

Since image data saved in memory is lost when the system is powered off, using an external hard disk drive allows required data to be preserved.

## Notes

- Only one hard disk drive can be connected to a single switcher processor.
- While the hard disk is being accessed, frame memory operations are not possible. This applies to all operations for frame memory including frame memory recall by a snapshot operation.
- During playback of a frame memory clip of the pair assigned to either of the target FM selection buttons (*see page 173*), frame memory operations may not be performed properly. Carry out frame memory operations after stopping clip playback.
- When the signal format is 1080P, this function cannot be used.

*Consult your Sony service representative or sales representative about the hard disk drives that can be connected.*

## Selecting the switcher

When the system is operating in Dual Simul mode, select the switcher on which to carry out formatting, file saving, and file recall operations.

*For details of Dual Simul mode, see “Selecting the System Operation Mode” in Chapter 20 (Volume 2).*

- 1 In the Frame Memory menu, select VF6 ‘External Device’ and HF1 ‘Format’ or HF2 ‘Backup/Restore.’  
The Format menu or Backup/Restore menu appears.
- 2 In the region selection area (*see page 56*), press [SWR].  
A popup window for selecting the switcher appears.
- 3 Press [SWR1] or [SWR2] to select the switcher.  
The button for the selected switcher lights.

You can select two switchers simultaneously. In this case, the last operated button lights green, and the other lights amber. The menu shows the information for the switcher lit green.

- 4 Press [OK].

## Hard Disk Formatting

When you connect a hard disk drive for the first time, it is necessary to format the hard disk. This partitions the disk, creating 15 logical areas (FMHDD1 to FMHDD15).

- 1 In the Frame Memory menu, select VF6 ‘External Device’ and HF1 ‘Ext HDD Format.’

The Ext HDD Format menu appears.

If in Dual Simul mode, select the switcher to operate (*see page 181*).

### To get the hard disk drive information

In the button area press [Refresh Status].

The Device item shows the product information for the hard disk drive.

- 2 Press [Format].

A popup window for confirming formatting appears.

## Notes

Carrying out formatting erases any existing data on the hard disk.

- 3 Press [Yes].

This starts the hard disk formatting. A progress bar and numerical indication appear to show the progress of the operation.

When the operation is completed, a popup window reading “Success!!” appears.

- 4 Press [OK].

## Saving Files

You can save all of the files from frame memory to the external hard disk drive.

## Notes

Before carrying out this operation for the first time, it is necessary to format the hard disk (*see previous item, “Hard Disk Formatting”*).

- 1 In the Frame Memory menu, select VF6 ‘External Device’ and HF2 ‘Ext HDD Backup/Restore.’

The Ext HDD Backup/Restore menu appears.  
For each partition, a list of the directory names and number of files appears.  
If in Dual Simul mode, select the switcher to operate (see page 181).

#### To get the hard disk drive information

Press [Refresh Status].

The Device item shows the product information for the hard disk drive, and the names of directories.

- 2 Using any of the following methods, select a logical drive (FMHDD1 to FMHDD15).

- Press directly on the list to select.
- Turn the knob.

| Knob | Parameter | Adjustment          | Setting values |
|------|-----------|---------------------|----------------|
| 1    | Partition | Partition selection | 1 to 15        |

- 3 In the <Backup> group, do either of the following.

- To replace the existing data, press [Replace].
- To save in addition to the existing data, press [Append].

A popup window for confirming file saving appears.

#### Notes

When you execute [Replace], all of the saved files in the logical drive is erased immediately before the saving operations.

- 4 Press [Yes].

This starts the file saving operation. If there is no directory, a directory is automatically created, and the files are saved within it. A progress bar and numerical indication appear to show the progress of the operation.

When the operation is completed, a popup window reading “Completed.” appears.

- 5 Press [OK].

#### To rename a directory

Select a directory in the list, and in the button area press [Rename].

In the keyboard window that appears, enter the new directory name, and press [Enter]. The name of a directory is limited to eight characters.

#### Notes

The following names cannot be used:

CON, PRN, AUX, CLOCK\$, NUL, COM0, COM1, COM2, COM3, COM4, COM5, COM6, COM7, COM8, COM9

LPT0, LPT1, LPT2, LPT3, LPT4, LPT5, LPT6, LPT7, LPT8, LPT9

## Recalling Files

You can recall all of the saved files on the hard disk drive into frame memory.

- 1 Carry out steps 1 and 2 of the procedure “Saving Files” (page 181).

#### Notes

It is not possible to select a partition (FMHDD1 to FMHDD15) of a hard disk in which no file is saved.

- 2 In the <Restore> group, do either of the following.

- To replace the existing data with the recalled data, press [Replace].
- To add the recalled data to the existing data, press [Append].

A popup window for confirming file recall appears.

#### Notes

When you execute [Replace], any existing data in frame memory is lost immediately before the recalling operations.

- 3 Press [Yes].

This starts the file recall operation. A progress bar and numerical indication appear to show the progress of the operation.

When the operation is completed, a popup window reading “Completed.” appears.

- 4 Press [OK].

# Managing Images Using a DDR/VTR

## Using a DDR/VTR for High-speed Backup and Restoring

You can save all files currently held in frame memory as a backup data set, by high-speed recording on video tape or other medium.

To restore the folder structure, it is necessary to save the automatically generated file list (of file name, length of clip, and so on) in memory.

### Notes

- At the beginning of this backup data a red or blue image is automatically inserted when the data is created. Do not delete this image, as it is required for restoring the data.
- When set to Dual Simul mode, this function cannot be used.

## High-speed recording of backup data to DDR or VTR

### Notes

Before starting the backup, it is necessary to select the FM output to record on an AUX bus, for example, and input the AUX output to the DDR/VTR.

- 1 In the Frame Memory menu, select VF6 'External Device,' and HF4 'Backup to DDR/VTR.'  
The Backup to DDR/VTR menu appears.
- 2 To save with ancillary data, output the frame memory output signal to the AUX bus.
- 3 In the <Backup Enable> group, select either of the following.  
**Clip/Still:** Data from the first board (still images and clips)  
**Ext Clip:** Data from the second board (extended clips)
- 4 Press [Backup Start].  
The message "Preparing now..." is displayed in a popup window, and it changes to a confirmation message when the preparation is complete.
- 5 Start recording at the external device, and immediately after that press [Yes].

This starts the backup, and when completed a message appears.

- 6 Stop the recording at the external device, and press [OK].
- 7 To save the file list in memory, press [File >File Name Data].

The File >File Name Data menu appears.

The name of the file that is saved is fixed (FM\_Bkup).

*For details, see "Overview of File Operations" in Chapter 17 (Volume 2).*

## Restoring backup data from DDR or VTR

### Notes

Before starting the restore operation, it is necessary to select the DDR/VTR output on the FM input bus.

- 1 In the Frame Memory menu, select VF6 'External Device' and HF5 'Restore from DDR/VTR.'  
The Restore from DDR/VTR menu appears.
- 2 Press [File >File Name Data], to read the file list from the File Name Data menu.  
*For details, see "Overview of File Operations" in Chapter 17 (Volume 2).*
- 3 To restore the ancillary data, select any of FM1, FM3, and FM5.
- 4 In the <Restore Enable> group, select either of the following.  
**Clip/Still:** Data from the first board (still images and clips)  
**Ext Clip:** Data from the second board (extended clips)
- 5 In the <Restore Type> group, press either of the following.  
**Replace:** Replace the existing frame memory data with the recalled data.  
**Append:** Add to the existing frame memory data.

### Notes

If you selected "Ext Clip" in step 4, "Append" is selected automatically.

- 6 Press [Restore Start].  
A confirmation popup window appears.

7 Start playback at the external device, and immediately after that press [Yes].

Notes

Make sure to include that the red or blue image inserted at the beginning when the backup was made. If this image is not found, the clip or still image will not be played back correctly.

This starts the restore operation, and when completed a message appears.

8 Stop the playback at the external device, and press [OK].

Extracting Images from Video Tape

By recording a clip or still image stored on a video tape as a single clip (single file) under certain rules, you can automatically extract an image from the clip, and save as a separate frame memory file.

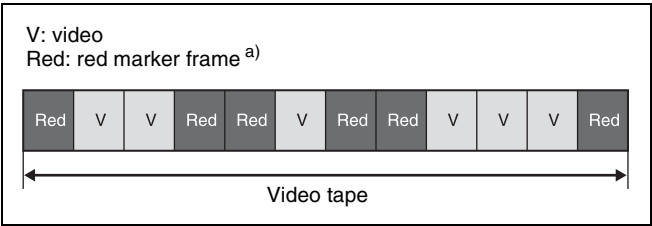
Notes

When the signal format is 1080P or when set to Dual Simul mode, this function cannot be used.

Relation between recorded state of video tape and files after extraction

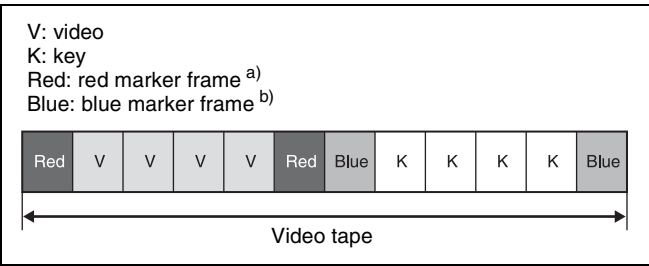
The extraction is carried out according to the following rules.

Example 1: When only video signal clips and a still image are recorded (single files)



Result of extraction:  
Each section surrounded by red marker frames is extracted as a clip (main file). If the red markers surround a single frame, then it is extracted as a still image. In the case above two clip files (main files) are extracted, and one still image file.

Example 2: When a video signal clip is followed by a key signal clip with the same number of frames (pair file)



Result of extraction:  
The section surrounded by red marker frames is extracted as the main file, and the section surrounded by blue marker frames is extracted as the sub file.  
In the case above, one clip file (pair file) is extracted.

- a) A red marker frame is a monochrome frame with the RGB signal levels respectively 100%, 0%, 0%.
- b) A blue marker frame is a monochrome frame with the RGB signal levels respectively 0%, 0%, 100%.

Notes

- For extraction as a pair file, the main file and sub file must have the same number of frames.
- For image extraction as an extended clip, [Ext Clip] must be selected in the Record menu <Record Enable> group when the video tape content is recorded as a clip.
- For image extraction as still images, [Clip] must be selected in the Record menu <Record Enable> group when the video tape content is recorded as a clip.

- 1 In the Frame Memory >Clip >Record menu, record the tape image as a clip (*see page 175*).
- 2 In the Frame Memory menu, select VF4 'File' and HF2 'Auto Extraction.'  
  
The Auto Extraction menu appears.
- 3 Select a clip (single file) recorded from the tape.
- 4 Press [Extraction Start].  
  
A confirmation popup window appears.
- 5 Press [Yes].

This starts the extraction, analyzes the currently selected single clip, and automatically extracts a movie (Clip) or still image (Still). When there is key data, a pair file is created.

To check the details of the images (still image/clip)

Use the following knob operations.

| Knob | Parameter | Adjustment                  | Setting values      |
|------|-----------|-----------------------------|---------------------|
| 1    | No        | File number                 | 1 to maximum        |
| 3    | Viewer    | Timecode for selected image | 00:00:00 to maximum |

## Color Background

The dedicated generators generate color signals, and these can be used as color backgrounds in video effects.

### Color background selection

There are two color backgrounds, color background 1 and color background 2, which you use by assigning to cross-point buttons.

### Color combinations (“color mix”)

The color generators can output the result of combining two colors, which are color 1 and color 2.

Using a pattern from a dedicated pattern generator, color 1 and color 2 can be combined in the boundary region, forming a color gradation. This is referred to in the menu system as “color mix.”

You can also apply modifiers to the selected pattern.

When the “color mix” function is not used, the result is a flat color, and color 1 is always output.

You carry out color background settings in the Color Bkgd menu. This section describes the settings menu for color background 1 as an example.

## Color Background Settings Menu

### Accessing the Color Bkgd1 menu

Use either of the following operations.

- In the menu control block, select the top menu selection button [COLOR BKGD], and press VF1 ‘Color Bkgd1.’
- Press a cross-point button assigned to color background 1 twice in rapid succession.

## Basic Color Background Setting Operations

### Making a single-color matte (Flat Color)

If you are not using the “color mix” function to combine two colors, use the following procedure.

- 1 In the <Matte> group of the Color Bkgd 1 menu, press [Flat Color], turning it on.
- 2 Set the following parameters.

| Knob | Parameter  | Adjustment | Setting values |
|------|------------|------------|----------------|
| 1    | Luminance  | Luminance  | 0.00 to 100.00 |
| 2    | Saturation | Saturation | 0.00 to 100.00 |
| 3    | Hue        | Hue        | 359.99 to 0.00 |

### Making a color combination (color mix)

To combine color 1 and color 2, use the following procedure.

- 1 In the <Matte> group of the Color Bkgd1 menu, press [Mix Color], turning it on.
- 2 Set the following parameters as required.

| Knob | Parameter | Adjustment                  | Setting values        |
|------|-----------|-----------------------------|-----------------------|
| 1    | Size      | Pattern size                | 0.00 to 100.00        |
| 2    | Soft      | Degree of softening of edge | 0.00 to 100.00        |
| 5    | Pattern   | Pattern number              | 1 to 24 <sup>a)</sup> |

a) The patterns are the same as for a standard wipe. See “Wipe Pattern List” (page 312) in Appendix.

You can also carry out the pattern selection by pressing [Mix Pattern Select] to display the Mix Ptn Select menu. Select any pattern appearing in the Mix



Ptn Select menu (standard wipe patterns 1 to 24), and you can then adjust the following parameters.

| Knob | Parameter | Adjustment    | Setting values |
|------|-----------|---------------|----------------|
| 1    | Size      | Pattern size  | 0.00 to 100.00 |
| 2    | Soft      | Edge softness | 0.00 to 100.00 |

- 3** To adjust color 1, set [Color 1] on, and to adjust color 2 set [Color 2] on, then adjust the parameters.

| Knob | Parameter  | Adjustment | Setting values |
|------|------------|------------|----------------|
| 1    | Luminance  | Luminance  | 0.00 to 100.00 |
| 2    | Saturation | Saturation | 0.00 to 100.00 |
| 3    | Hue        | Hue        | 359.99 to 0.00 |

- 4** If required, set the pattern modifiers.

#### When turning [Position] on and setting the pattern position

| Knob | Parameter  | Adjustment          | Setting values                   |
|------|------------|---------------------|----------------------------------|
| 1    | Position H | Horizontal position | –200.00 to +200.00 <sup>a)</sup> |
| 2    | Position V | Vertical position   | –200.00 to +200.00 <sup>a)</sup> |

a) See page 133.

#### When turning [Multi] on and using replications of the same pattern

| Knob | Parameter   | Adjustment                                    | Setting values       |
|------|-------------|---|----------------------|
| 1    | H Multi     | Number of repetitions of pattern horizontally | 1 to 63              |
| 2    | V Multi     | Number of repetitions of pattern vertically   | 1 to 63              |
| 3    | Invert Type | Replication layout                            | 1 to 4 <sup>a)</sup> |

a) See page 135.

#### When turning [Aspect] on and setting the aspect ratio of the pattern

| Knob | Parameter | Adjustment   | Setting values                   |
|------|-----------|--------------|----------------------------------|
| 1    | Aspect    | Aspect ratio | –100.00 to +100.00 <sup>a)</sup> |

a) See page 135.

#### When turning [Pairing] on and making a wipe pattern like a Venetian blind

| Knob | Parameter | Adjustment         | Setting values     |
|------|-----------|--------------------|--------------------|
| 1    | Width     | Width of the slits | 1 to 128 (integer) |

#### When turning [Angle] on in the <Rotation> group and slanting the pattern

| Knob | Parameter | Adjustment                | Setting values                   |
|------|-----------|---------------------------|----------------------------------|
| 1    | Angle     | Angle of pattern rotation | –100.00 to +100.00 <sup>a)</sup> |

a) See page 134.

#### When turning [Speed] on in the <Rotation> group and rotating the pattern at a constant rate

| Knob | Parameter | Adjustment               | Setting values                   |
|------|-----------|--------------------------|----------------------------------|
| 1    | Speed     | Rotation rate of pattern | –100.00 to +100.00 <sup>a)</sup> |

a) See page 134.

#### When selecting H (horizontal) or V (vertical) in the <Modulation> group and applying waviness to the pattern

(The modulation is always a sine wave.)

#### Notes

When using 1080PsF mode in an HD system, the modulation function is not available.

| Knob | Parameter | Adjustment              | Setting values                   |
|------|-----------|-------------------------|----------------------------------|
| 1    | Amplitude | Amplitude of modulation | 0.00 to 100.00                   |
| 2    | Frequency | Frequency of modulation | 0.00 to 100.00                   |
| 3    | Speed     | Speed of waves          | –100.00 to +100.00 <sup>a)</sup> |

a) See “Applying modulation to the wipe pattern (Modulation)” (page 136).

- 5** To interchange color 1 and color 2, press [Color Invert], turning it on.

# Copy and Swap

## Overview of Copy and Swap

You can copy or swap the settings among the switcher banks or between keyers.

The following settings can be copied or swapped.

- Overall settings for the M/E-1 to M/E-4, and PGM/PST banks
- Keyer settings
- Wipe settings in a transition control block
- Wipe settings in an independent key transition control block
- DME wipe settings in a transition control block
- DME wipe settings in an independent key transition control block
- Matte data (color 1, color 2, and how to compose them)
- Color settings
- DME channel settings
- Format converter input settings (copy only)
- Format converter output settings (copy only)

You can carry out copy operations with a simple button operation. Swap operations, and copy operations on DME data can only be done with a menu operation.

### M/E copy and M/E swap

You can copy and swap the overall bank settings between the M/E-1 and PGM/PST banks.

| Target bank          | Target data  |
|----------------------|--|
| M/E-1<br>PGM/<br>PST | Bank settings excluding the following data items: <ul style="list-style-type: none"> <li>• Setup data</li> <li>• Snapshots</li> <li>• Keyframe effects</li> <li>• Key snapshots</li> <li>• Key memory</li> </ul> |

#### Notes

If a DME is being used on the source M/E bank, then if for example there are insufficient DME channels, it may not be possible to select the DME.

There are no such restrictions on a swap.

### Keyer copy and keyer swap

You can carry out copy and swap operations among the keyers listed in the following table.

| Target bank | Target keyer           | Target data  |
|-------------|------------------------|--|
| M/E-1       | Keys 1 to 8            | Key settings excluding the following data items: <ul style="list-style-type: none"> <li>• Setup data</li> <li>• Key snapshots</li> <li>• Key memory</li> </ul> |
| PGM/<br>PST | Downstream keys 1 to 8 |  |

#### Notes

If a DME is being used on the source keyer for a copy or either keyer for a swap, then if for example there are insufficient DME channels, or the limit on using DME channels within an M/E bank is exceeded, it may not be possible to select the DME.

### Wipe copy and wipe swap

You can copy and swap the wipe settings among the banks listed in the following table.

| Target bank          | Target data  |
|----------------------|--|
| M/E-1<br>PGM/<br>PST | Wipe settings.<br>It is not, however, possible to carry out copy or swap involving independent key transition wipe settings. |

### Wipe copy and wipe swap in the independent key transition control block

You can copy and swap the wipe settings among the keyers listed in the following table.

| Target bank | Target keyer           | Target data  |
|-------------|------------------------|--|
| M/E-1       | Keys 1 to 8            | Wipe settings in the independent key transition control block. |
| PGM/<br>PST | Downstream keys 1 to 8 |  |

### DME wipe copy and DME wipe swap

You can copy and swap the DME wipe settings among the banks listed in the following table.

| Target bank          | Target data  |
|----------------------|--|
| M/E-1<br>PGM/<br>PST | DME wipe settings.<br>It is not, however, possible to carry out copy or swap involving independent key transition DME wipe settings. |

### DME wipe copy and DME wipe swap in the independent key transition control block

You can copy and swap the DME wipe settings among the keyers listed in the following table.

| Target bank | Target keyer           | Target data  |
|-------------|------------------------|--|
| M/E-1       | Keys 1 to 8            | DME wipe settings in the independent key transition control block. |
| PGM/PST     | Downstream keys 1 to 8 |  |

## Matte data copy and swap

You can copy or swap the matte data among the color generators listed in the following table.

| Target bank      | Target keyer and data  |   |
|------------------|--|---|
| M/E-1<br>PGM/PST | <ul style="list-style-type: none"> <li>Keys 1 to 8</li> <li>Downstream keys 1 to 8</li> </ul>                                  | <ul style="list-style-type: none"> <li>Matte data for key fill</li> <li>Matte data for key edge fill</li> </ul> |
|                  | Matte data for wipe border edge  |   |
| Color background | <ul style="list-style-type: none"> <li>Matte data for color background 1</li> <li>Matte data for color background 2</li> </ul> |   |

## Color data copy and swap

You can copy or swap the color data among the color generators listed in the following table.

| Target bank      | Target keyer and data  |  |
|------------------|--|--|
| M/E-1<br>PGM/PST | <ul style="list-style-type: none"> <li>Keys 1 to 8</li> <li>Downstream keys 1 to 8</li> </ul>  | <ul style="list-style-type: none"> <li>Colors 1 and 2 for key fill</li> <li>Colors 1 and 2 for key edge fill</li> <li>"Zabton" color data</li> </ul> |
|                  | Colors 1 and 2 for wipe border   |  |
|                  | Color data for preset color mix  |  |
| Color background | <ul style="list-style-type: none"> <li>Colors 1 and 2 for color background 1</li> <li>Colors 1 and 2 for color background 2</li> </ul>   |  |
| Frame memory     | <ul style="list-style-type: none"> <li>FM1 color</li> <li>FM2 color</li> </ul>   |  |
| DME ch1 to ch4   | <ul style="list-style-type: none"> <li>Background</li> <li>Border</li> <li>Sepia</li> <li>Light</li> <li>Shade</li> <li>Drop shadow (other than DME ch4)</li> <li>Trail</li> </ul> |  |

## DME channel copy and swap

You can copy and swap the channel data among DME channels 1 to 4 or DME channels 5 to 8.

It is not possible to copy or swap the channel data between DME channels 1 to 4 and DME channels 5 to 8.

### Notes

On the MVS-8000X, when the signal format is 1080P, the combinations for a copy or swap are restricted as follows.

- Channels 1 and 2

- Channels 3 and 4
- Channels 5 and 6
- Channels 7 and 8

On the MVS-7000X, when the signal format is 1080P, the above restriction also applies if using the MVE-8000A.

There is no such restriction for the MKS-7470X/7471X.

## Copying format converter data

You can copy data from one format converter input to another or from one output to another.

### Notes

The copy source and destination data must be in the same signal format.

## Copy and Swap Operations

### Copy and Swap menu operations

In the menu operation section top menu selection buttons, press [COPY SWAP], then press VF1 'Copy/Swap' or VF2 'Copy.' The Copy/Swap menu appears.

Here a copy/swap operation on wipe data is described by way of example, using the Copy/Swap >Wipe menu, but the same general procedure applies to all of the following menus.

- M/E: Copying and swapping M/E data
- Key: Copying and swapping key data
- Wipe: Copying and swapping wipe data
- DME Wipe: Copying and swapping DME wipe data
- Matte: Copying and swapping matte data
- Color: Copying and swapping color data
- DME: Copying and swapping data by DME channels
- Format Converter: Copying format converter data

*For an overview of the concepts involved, see "Copy and Swap" (page 188). For details of color corrector copy and swap, see "Copy and Swap Operations" (page 198).*

### Examples of Copy and Swap operations by a menu operation

As an example, to copy or swap wipe data, use the following procedure.

- In the Copy/Swap menu, select HF3 'Wipe.'

The Copy/Swap >Wipe menu appears.

The status area shows lists for the copy/swap source on the left, and the copy/swap destination on the right.

- In the <Data Select> group, select either of the following.

**Wipe:** The operation applies to wipes in the transition control block.

**Key Wipe:** The operation applies to wipes in the independent key transition control block.

**3** Using any of the following methods, select the data to be copied or swapped.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knobs to make the setting.

| Knob | Parameter | Adjustment                            | Setting values                                 |
|------|-----------|---------------------------------------|--|
| 1    | Left No   | Select data for copy/swap source      | 1 to maximum value <sup>a)</sup> <sup>b)</sup> |
| 2    | Right No  | Select data for copy/swap destination | 1 to maximum value <sup>a)</sup> <sup>b)</sup> |

a) The following values apply to the MVS-8000X.

Transition control block wipe data: 1 to 5

Transition control block for independent key wipe data: 1 to 40

b) The following values apply to the MVS-7000X.

Transition control block wipe data: 1 to 6

Transition control block for independent key wipe data: 1 to 48

*For details of the data affected, see “Copy and Swap” (page 188).*

**4** To copy, press [Copy], and to swap, press [Swap].

### To undo a copy or swap

Press [Undo], to return to the state before the copy or swap was carried out.

## Copy by Button Operation

You can copy key data by a simple button operation.

### Basic button operation

The basic button operation is to hold down the copy source button, then press the destination button.

You can undo the last operation using [Undo] in the menu (*see page 190*).

### Keyer copy button operation

Use the key delegation buttons in the respective banks.

### To copy from M/E-1 key 1 to P/P downstream key 2

Hold down the M/E-1 key delegation button [KEY1] and press the P/P key delegation button [DSK2].

# Misc Menu Operations

In the Misc menu, you can carry out the following operations.

- Enabling and disabling operation from an external device, System Manager, or an editing keyboard.
- Enabling and disabling side flags on the background bus of each of the M/E-1 and PGM/PST banks.  
*For the side flag function, see “Side Flags” (page 206).*
- Switching the safe title function on or off for each switcher output.
- Displaying the transition rate, independent key transition rate, and fade-to-black transition rate for each of the M/E and PGM/PST banks, and changing the settings.
- Setting the AUX mix transition rate.

## Port Settings for Control From an External Device

### Enabling or disabling control from an external device

**1** In the menu control block, press the top menu selection button [MISC], then select VF1 ‘Enable’ and HF1 ‘Port Enable.’

The Misc >Enable >Port Enable menu appears with the status area showing the settings of the following ports.

- Switcher Remote1 to Remote4 ports (RS-422A, D-sub 9-pin)
- Switcher GPI port (parallel, 25-pin)
- DME1/DME2 Editor ports (RS-422A, D-sub 9-pin)
- DME1/DME2 GPI ports (parallel, 25-pin)

When the signal format is 1080P, you can also make settings for DME3/DME4.

**2** In the <Switcher> or <DME> group, press on the name of the port for which you want to disable control from an external device, turning it off.  
To re-enable control for the port, press on its name once more.

### Notes

For the AUX bus operation from the Remote 1 to Remote 4 ports of the switcher, the setting (Enable/Disable/Manual) in the Setup menu takes precedence. Only when the setting is “Manual,” the settings made in the Port Enable menu apply.

*For details, see “Interfacing With External Devices (Device Interface Menu)” in Chapter 19 (Volume 2).*

## DME override

- 1 In the menu control block, press the top menu selection button [MISC], then select VF1 'Enable' and HF1 'Port Enable.'

The Misc >Enable >Port Enable menu appears.

- 2 In the <DME Override> group, select the DME override mode.

**DME Override:** When a switcher snapshot or effect using a DME is recalled, forcibly select the DME that was used when saving.

**On Air Protect:** The operation is the same as the DME override function, except that a DME being used by an M/E bank or P/P bank that is on air will not be forcibly selected.

### Notes

If effects using the same DME channel are selected simultaneously in two or more regions, the DME is selected with the order of precedence P/P >M/E1 >M/E2 >M/E3 >M/E4 >M/E5.

## Enabling or disabling control from System Manager

By installing the BZPS-8000 System Management Software (System Manager), you can use a computer connected on a network for management of some switcher data and control operations.

To enable or disable this function, use the following procedure.

- 1 In the menu control block, press the top menu selection button [MISC], then select VF1 'Enable' and HF1 'Port Enable.'

The Misc >Enable >Port Enable menu appears.

- 2 Press [System Manager].

Each time you press the button toggles between enable and disable.

## Editing Keyboard Settings

### Notes

The following operations are only possible when a license for the BZS-8050 Editing Control Software is activated.

*For details of license registration, see "Installation and Device Setup (Install/Unit Config Menu)" in Chapter 18 (Volume 2).*

## Enabling or disabling control from the editing keyboard

- 1 In the menu control block, press the top menu selection button [MISC], then select VF1 'Enable' and HF2 'Plug-In Editor.'

The Misc >Enable >Plug-In Editor menu appears.

- 2 In the <Control From Plug-In Editor> group, press [Editor Enable].

Each time you press the button toggles between enable and disable.

### To enable control of the preview bus only

When control from the editing keyboard is disabled (when [Editor Enable] is set to Disable), to enable control of the preview bus only, press [PVW Bus Enable] in the <Control From Plug-In Editor> group.

## Safe Title Settings

### Switching the safe title function on or off

- 1 In the menu control block, press the top menu selection button [MISC] and select VF2 'Safe Title.'

The Misc >Safe Title menu appears.

- 2 Using any of the following methods, select the signal to which the settings apply.

- Directly press the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob to make the setting.

| Knob | Parameter | Adjustment                         | Setting values |
|------|-----------|------------------------------------|----------------|
| 1    | Output    | Signal to which the settings apply | 1 to 48        |

### Notes

- It is not possible to change the setting for the output for which the safe title is set off in the Setup menu.
- The safe title function cannot be used for output signals for which through mode is set to Enable in the Setup menu.

*For more information about the Setup menu settings referred to above, see "Signal Input Settings (Input Menu)" and "Signal Output Settings (Output Menu)" in Chapter 20 (Volume 2).*

- 3 Press [Safe Title] to set it on or off.

## Displaying a List of Transition Rates and Changing the Settings

In the Misc >Transition >Key/ME/FTB menu, for each bank you can display a list of the M/E (or PGM/PST) transition rates and independent key (or DSK) transition rates, and change the settings.

These settings are linked to the other transition rate setting operations.

You can also display and set the fade-to-black transition rate.

### Displaying the Transition >Key/ME/FTB menu

In the menu control block, press the top menu selection button [MISC], then select VF3 'Transition' and HF1 'Key/ME/FTB.'

The Misc >Transition >Key/ME/FTB menu appears.

#### About the Transition >Key/ME/FTB menu display

The display of the independent key transition rate in the Misc >Transition >Key/ME/FTB menu depends on the selection in the <Key Transition> group of the Engineering Setup >Switcher >Transition menu for each of the M/E and PGM/PST banks.

**When [Same] (On direction and Off direction settings the same) is selected in the <Key Transition> group:** Only "Key" (or "DSK" in the PGM/PST bank) appears.

**When [Indepnd] (On direction and Off direction settings independent) is selected in the <Key Transition> group:** "Key(On)" and "Key(Off)" each appear. In the case of the PGM/PST bank, "DSK(On)" and "DSK(Off)" appear.

*For details, see "Settings Relating to Video Switching (Transition Menu)" in Chapter 20 (Volume 2).*

### Setting the transition rate in the Transition >Key/ME/FTB menu

#### To set the M/E transition rate

For example, to make the settings for the M/E-1 bank, use the following procedure.

- 1 Press in the list in the status area of the Misc >Transition >Key/ME/FTB menu, to select M/E-1.
- 2 In the <Transition Rate> group, press [Transition].
- 3 Turn the knob to set the number of frames.

| Knob | Parameter       | Adjustment      | Setting values    |
|------|-----------------|-----------------|-------------------|
| 1    | Transition Rate | Transition rate | 0 to 999 (frames) |

#### Notes

When a clip transition is selected as the transition type, it is not possible to change the transition rate in this menu.

#### To set the independent key transition rate

By way of example, the following is the procedure for settings of keys 1 to 4 in the M/E-1 block.

- 1 Press in the list in the status area of the Misc >Transition >Key/ME/FTB menu, to select M/E-1.
- 2 In the <Transition Rate> group, press [Key K1-K4].  
To insert (on) or remove (off) keys individually, press [Key(On) K1-K4] or [Key(Off) K1-K4].
- 3 Turn the knobs to set the number of frames.

| Knob | Parameter       | Adjustment            | Setting values    |
|------|-----------------|-----------------------|-------------------|
| 1    | Key1 Trans Rate | Key 1 transition rate | 0 to 999 (frames) |
| 2    | Key2 Trans Rate | Key 2 transition rate | 0 to 999 (frames) |
| 3    | Key3 Trans Rate | Key 3 transition rate | 0 to 999 (frames) |
| 4    | Key4 Trans Rate | Key 4 transition rate | 0 to 999 (frames) |

### To set the fade-to-black transition rate in the Transition >Key/ME/FTB menu

- 1 In the Misc >Transition >Key/ME/FTB menu, press [FTB].
- 2 Turn the knob to set the number of frames.

| Knob | Parameter       | Adjustment      | Setting values    |
|------|-----------------|-----------------|-------------------|
| 1    | Transition Rate | Transition rate | 0 to 999 (frames) |

### Setting the AUX Mix Transition Rate

*For details of AUX mix transitions, see "AUX Mix Transitions" (page 91).*

- 1 In the menu control block, press the top menu selection button [MISC], then select VF3 'Transition' and HF3 'Aux Mix.'

The Misc >Transition > Aux Mix menu appears.

- 2 Use one of the following methods to select the target AUX bus (odd-numbered bus) in the status area list.
  - Directly press the list in the status area.

- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment        | Setting values |
|------|-----------|-------------------|----------------|
| 1    | No        | AUX bus selection | 1 to 24        |

**3** Turn the knob to set the number of frames.

| Knob | Parameter       | Adjustment      | Setting values    |
|------|-----------------|-----------------|-------------------|
| 2    | Transition Rate | Transition rate | 0 to 999 (frames) |

# AUX Menu Operations

## AUX Bus Settings

### Making video process settings for an AUX bus

- 1** In the Aux >Aux Bus menu, using any of the following methods, select the AUX bus to which the settings apply.
- Directly press the list in the status area.
  - Press the arrow keys to scroll the reverse video cursor.
  - Turn the knob to make the setting.

| Knob | Parameter | Adjustment        | Setting values        |
|------|-----------|-------------------|-----------------------|
| 1    | AUX Bus   | AUX bus selection | 1 to 48 <sup>a)</sup> |

a) When AUX mix transitions are enabled, even-numbered buses cannot be selected as the target.

- 2** Press [Video Process], turning it on.
- 3** Adjust the following parameters.

| Knob | Parameter   | Adjustment              | Setting values     |
|------|-------------|-------------------------|--------------------|
| 1    | Video Gain  | Video signal gain       | −200.00 to +200.00 |
| 2    | Y Gain      | Luminance signal gain   | −200.00 to +200.00 |
| 3    | C Gain      | Chrominance signal gain | −200.00 to +200.00 |
| 4    | Hue Delay   | Hue delay               | −180.00 to +180.00 |
| 5    | Black Level | Black level             | −7.31 to +109.59   |

To return adjustment values to their defaults, press [Unity].

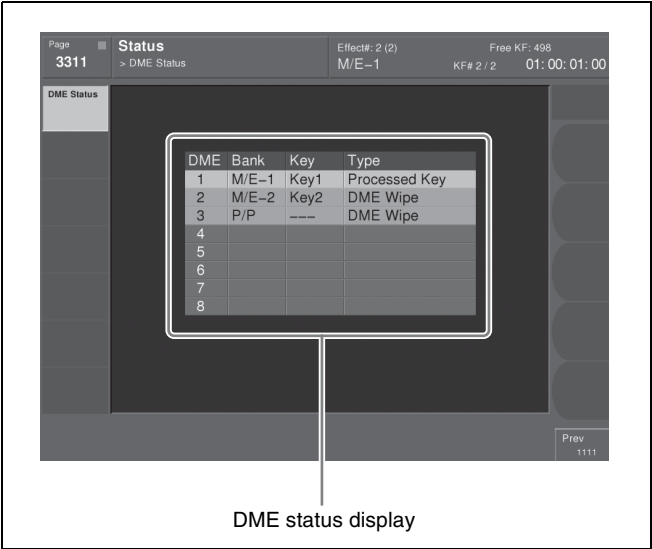
# Status Menu

The Status menu shows the following information.

- Operating status of the DME

## Viewing the DME operating status

To view the DME operating status, press the top menu selection button [STATS] in the menu control block. This selects VF1 ‘DME Status’ and the Status menu appears.



For each DME channel, you can see how the DME is being used in the corresponding operation block. The display background color also indicates the following differences in the way in which a DME is being used.

**Blue:** The DME is currently being used in other than the final program output.

**Red:** The DME is currently being used in the final program output.

# Router Control Menu Operations

Using the Router >Router Control >Router Control menu, you can carry out router switching operations.

## Checking the List of Inputs for Each Destination

You can check the list of signals currently input for each destination.

In the menu control block, press the top menu selection button [RTR], then select VF1 ‘Router Control’ and HF1 ‘Router Control.’

The following menu appears, and the left side of the status area shows a list for destination assignments.



If in the Assign >RTR Mode Setting menu, [Inhibit] is set to On for a destination, the corresponding line appears in gray. Also, if [PROT] (protect) is set to ON for a source, using a BKS-R3xxx or R1xxx series Router remote control, a padlock icon appears.

The right side of the status area shows the level assignment status to the Level 1 to Level 4 buttons.

## Selecting the level

In the <Level Button No> group at the lower right in the above illustration, press the selected level for switching.

## Switching the Source for Each Destination

You can switch the source for each destination with a menu operation.

For the assignment of destinations and sources to buttons, use the Engineering Setup >Panel >Aux Assign >RTR Mode Setting menu.



For details, see “Using the Auxiliary Bus Control Block for Router Control” in Chapter 19 (Volume 2).

## 1 Press [Change Xpt].

The Router >Router Control >Router Control >Change Xpt menu appears.  
Destination Select buttons appear in groups of 16.  
Source Select buttons appear by group (maximum 24 buttons).

## 2 Press one of the Destination Select buttons, to select the destination for which you want to switch the source.

### To change the group

Press one of the [1-16], [17-32], [33-48], and [49-64] buttons.

## 3 Press one of the Source Select buttons, to select the source you want to switch.

### To change the group

Press one of the [1-24], [25-48], ... [97-120], and [121-128] buttons.

---

# Video Process

The term “video process” is applied to adjustments to the luminance and hue of the input video signal.

There are two types of adjustment, depending on the application:

- Adjustment of an individual input signal
- Image effects on a particular bus

### Notes

These types of adjustment may be carried out independently. However, since they are implemented by the same hardware, if the same signal is subjected to processing twice, there may be limitations on the range of effects obtained in the final result.

---

## Video Process Adjustments for Each Input Signal

For each signal input to the switcher, you can set video process on or off and set the parameters (Video Gain, Y Gain, C Gain, Hue Delay, and Black Level) in the Setup menu.

For details of the settings, see “Signal Input Settings” in Chapter 20 (Volume 2).

---

## Video Process Adjustments on a Particular Bus

### Buses to which the adjustments apply

For each of the following buses, you can switch video process adjustments on or off, and adjust the parameters.

- Following buses in the M/E-1 and PGM/PST banks
  - Key fill buses for keys 1 to 8
  - Background A and background B buses
  - Utility 1 and utility 2 buses
- Frame memory source 1 and frame memory source 2 buses
- Aux 1 to 48 buses

These settings also apply to keyframes and snapshots.

### Making the adjustments

Adjust VIDEO GAIN, Y GAIN, BLACK LEVEL, C GAIN, and HUE DELAY in the following menus.

| Applicable bus                    |                                 | Menu used for operation | See page |
|-----------------------------------|---------------------------------|-------------------------|----------|
| M/E-1 bank                        | Key fill buses for keys 1 to 8  | M/E-1 menu              | page 109 |
|                                   | Background A and B buses        | Video Process menu      | page 196 |
|                                   | Utility 1 and 2 buses           |                         |          |
| PGM/PST bank                      | Key fill buses for DSK1 to DSK8 | PGM/PST menu            | page 109 |
|                                   | Background A and B buses        | Video Process menu      | page 196 |
|                                   | Utility 1 and 2 buses           |                         |          |
| Frame memory source 1 and 2 buses |                                 | Frame Memory menu       | page 166 |
| Aux 1 to 48 buses                 |                                 | AUX menu                | page 193 |

## Video Process Memory

When using video process adjustments for an image effect on a bus, this function saves the final values for each pair number for the signals. The video process on/off setting is not saved.

When you change the adjustments the values are automatically saved, and these last values are recalled when the pair number is selected.

In other words, by switching video process memory on, regardless of the video process information for each bus, you can carry out video process adjustments for each input signal.

The parameters saved are as follows.

VIDEO GAIN, Y GAIN, BLACK LEVEL, C GAIN, HUE DELAY

Switch the video process memory on or off in the Setup menu.

*For details of setting operations, see “Settings Relating to Keys, Wipes, Frame Memory and Color Correction (Key/Wipe/FM/CCR Menu)” in Chapter 20 (Volume 2).*

## Video Process Settings

This section describes operations on the M/E-1 and PGM/PST background A and B buses, and utility buses 1 and 2. For these operations, use the Misc >Video Process menu in the respective operating bank.

*For video process settings on other buses, see the following.*

- *Settings for a particular input signal: “Signal input settings” in Chapter 20 (Volume 2)*

- *Key fill bus settings: “Video Processing” (page 109)*
- *Settings for frame memory source buses 1 and 2: “Setting video processing” (page 166)*
- *Settings for Aux 1 to 48 buses: “Making video process settings for an AUX bus” (page 193)*
- *Overview of video process: “Video Process” (page 195)*

This section describes an example on the background A bus of the M/E-1 bank.

For the background B bus or utility bus 1 or 2, make the adjustment with a similar procedure.

### Making video process settings for each bus

- 1 In the menu control block, press the top menu selection button [M/E 1] and select VF7 ‘Misc’ and HF2 ‘Video Process.’
- 2 In the <Bkgd-A> group, press [Video Process], turning it on.
- 3 Adjust the following parameters.

| Knob | Parameter   | Adjustment              | Setting values     |
|------|-------------|-------------------------|--------------------|
| 1    | Video Gain  | Video signal gain       | –200.00 to +200.00 |
| 2    | Y Gain      | Luminance signal gain   | –200.00 to +200.00 |
| 3    | C Gain      | Chrominance signal gain | –200.00 to +200.00 |
| 4    | Hue Delay   | Hue delay               | –180.00 to +180.00 |
| 5    | Black Level | Black level             | –7.31 to +109.59   |

To return the parameter settings to the defaults, press [Unity] in the <Bkgd-A> group.

## Preparations

The color corrector enables video signal color correction (black balance/white balance adjustment, gamma correction, knee correction, etc.).

### Notes

To use the color corrector, the BZS-8420X (for MVS-8000X) or the BZS-7420X (for MVS-7000X) Color Corrector Software is required. To use the software, you are required to input an install key.

*For the method of inputting an install key, see “Installation and Device Setup (Install/Unit Config Menu)” in Chapter 18 (Volume 2).*

### Assigning the color corrector input buses to AUX delegation buttons

There are two inputs for capturing material to the color corrector: the CCR1 bus and the CCR2 bus.

*For details of the input assignment operation, see “Auxiliary Bus Control Block Settings (Aux Assign Menu)” in Chapter 19 (Volume 2).*

### Selecting the color correction input signal

After assigning CCR1 and CCR2 to AUX buses, use the following procedure.

- 1 Press the AUX delegation buttons assigned to CCR1 (or CCR2).
- 2 In the cross-point button row, select the signal to which you want to apply color correction.

### Notes

The signals that can be selected on the CCR1 and CCR2 buses are primary inputs, premium inputs,

format converter inputs and frame memory outputs (FM1 to FM8) only.

However you can make all the internal signals of the switcher selectable by a setting in the Setup menu.

*For details, see “Selecting the Bank to Make the Settings” in Chapter 20 (Volume 2).*

### Selecting the color corrector output signal

By assigning the signal output from the color corrector to a cross-point button, you can make that signal available on that button.

*For details of the assignment process, see “Cross-Point Settings (Xpt Assign Menu)” in Chapter 19 (Volume 2).*

### Accessing the CCR menu

For color correction operations, use the CCR menu.

To access the CCR menu, in the menu control block, press the top menu selection button [CCR].

The following description uses CCR1 as an example. To apply color correction to CCR2, replace VF1 ‘CCR1’ by VF2 ‘CCR2,’ and follow the same procedure.

# Overall Color Corrector Operations

## Enabling Color Corrector

To enable the functions of color corrector 1, for example, use the following procedure.

- 1 In the CCR menu, press VF1 'CCR1' and any HF.
- 2 In the <CCR> group, press [CCR], turning it on.

## Returning all color corrector settings to their defaults

- 1 In the <CCR> group, press [Unity].

A confirmation message appears.

- 2 Press [Yes].

This returns all color corrector settings to their defaults, whether [CCR] is on or off.

## Swapping color corrector data

Refer to the procedure described in the previous item "Copying color corrector data." In step **3**, press [Swap] instead of [Copy].

## To undo copy or swap

In the Copy/Swap menu, press [Undo].

The state before carrying out the copy or swap is restored.

## Copy and Swap Operations

### Copying color corrector data

- 1 In the CCR menu, press VF5 'Copy/Swap.'

The Copy/Swap menu appears.

The status area shows a copy source list on the left and a copy destination list on the right.

- 2 Using any of the following methods, select the copy source data and copy destination data.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knobs.

| Knob | Parameter | Adjustment                   | Setting values |
|------|-----------|------------------------------|----------------|
| 1    | Left No   | Select copy source data      | 1 or 2         |
| 2    | Right No  | Select copy destination data | 1 or 2         |

- 3 Press [Copy].

# Color Corrector Functions

This section describes the color corrector functions. For each of the following operations, it is possible to copy or swap data between two color correctors (CCR1 and CCR2).

## Input Video Processing Operations

Carry out the following corrections to a YUV signal before conversion to an RGB signal.

- Overall gain adjustment of the video signal
- Gain adjustment of the Y signal
- Gain adjustment of the C signal
- Hue delay
- Black level adjustment

To apply input video processing effects, use the following procedure.

- 1 In the CCR menu, press VF1 'CCR1' and HF1 'Input Process.'

The Input Process menu appears.

- 2 In the <Input Process> group, press [Input Process], turning it on.

- 3 Adjust the following parameters.

| Knob | Parameter   | Adjustment              | Setting values     |
|------|-------------|-------------------------|--------------------|
| 1    | Video Gain  | Video signal gain       | -200.00 to +200.00 |
| 2    | Y Gain      | Y signal gain           | -200.00 to +200.00 |
| 3    | C Gain      | Chrominance signal gain | -200.00 to +200.00 |
| 4    | Hue Delay   | Hue delay               | -180.00 to +180.00 |
| 5    | Black Level | Black level             | -116.90 to +116.90 |

**To return the parameters to their default settings**  
Press [Unity] in the <Input Process> group.

## Primary Color Correction Operations

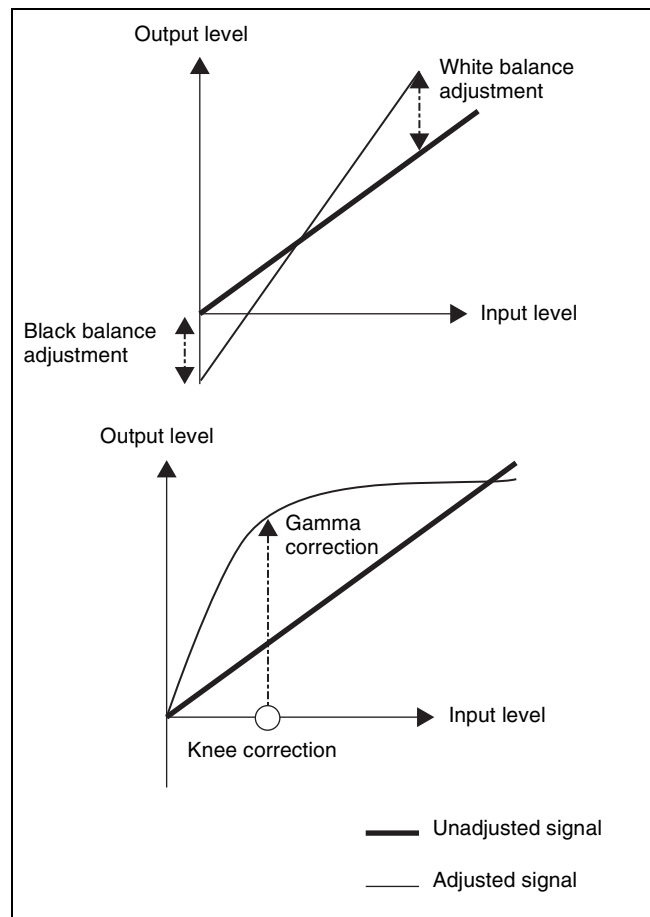
Carry out the following corrections to each of the R, G, and B signals.

**Black balance adjustment:** setting the output level for a 0% level input signal.

**White balance adjustment:** setting the output level for a 100% level input signal.

**Gamma correction:** adjusting the curvature of the gamma curve.

**Knee correction:** adjusting the position of the maximum point of the gamma curve.



It is also possible to mask part of the region to be corrected.

## Applying primary color correction

- 1 In the CCR menu, press VF1 'CCR1' and HF2 'Primary CCR.'

The Primary CCR menu appears.

- 2 In the <Primary CCR> group, press [Primary CCR], turning it on.

- 3 In the <Primary CCR Adjust> group, select the setting item.

**Black:** black balance adjustment

**White:** white balance adjustment

**Gamma:** gamma correction

**Knee:** knee correction

- 4** Depending on the selection in step **3**, adjust the following parameters.

**When Black or Gamma is selected**

| Knob | Parameter | Adjustment                  | Setting values     |
|------|-----------|-----------------------------|--------------------|
| 1    | Red       | Red signal adjustment       | –100.00 to +100.00 |
| 2    | Green     | Green signal adjustment     | –100.00 to +100.00 |
| 3    | Blue      | Blue signal adjustment      | –100.00 to +100.00 |
| 4    | All       | Simultaneous RGB adjustment | Red value is shown |

**When White is selected**

| Knob | Parameter | Adjustment                  | Setting values     |
|------|-----------|-----------------------------|--------------------|
| 1    | Red       | Red signal adjustment       | 0.00 to 200.00     |
| 2    | Green     | Green signal adjustment     | 0.00 to 200.00     |
| 3    | Blue      | Blue signal adjustment      | 0.00 to 200.00     |
| 4    | All       | Simultaneous RGB adjustment | Red value is shown |

**When Knee is selected**

| Knob | Parameter | Adjustment                  | Setting values     |
|------|-----------|-----------------------------|--------------------|
| 1    | Red       | Red signal adjustment       | 20.00 to 75.00     |
| 2    | Green     | Green signal gain           | 20.00 to 75.00     |
| 3    | Blue      | Blue signal gain            | 20.00 to 75.00     |
| 4    | All       | Simultaneous RGB adjustment | Red value is shown |

**To return the parameters to their default settings**  
In the <Primary CCR> group, press [Unity].

**Masking a part of the primary color correction**

Here the procedure for mask 1 operation is described by way of example. You can carry out mask 2 operation in a similar way.

- 1** In the Primary CCR menu, press [Mask1].
- 2** In the < Primary/Secondary Mask > group, press [Mask1], turning it on.

**Notes**

When [Mask 2] is selected in the Secondary CCR menu, linked to this setting it automatically changes from [Mask 2] to [Mask 1].

- 3** Press [Mask1 Adjust].
- The Mask1 Adjust menu appears.
- 4** In the <Mask Source> group, select the mask source.
- Box:** signal from dedicated box generator  
**Pattern:** signal from dedicated pattern generator
- 5** Depending on the selection in step **3**, adjust the following parameters.

**When Box is selected**

| Knob | Parameter | Adjustment                | Setting values     |
|------|-----------|---------------------------|--------------------|
| 1    | Top       | Top position              | –100.00 to +100.00 |
| 2    | Left      | Left position             | –100.00 to +100.00 |
| 3    | Right     | Right position            | –100.00 to +100.00 |
| 4    | Bottom    | Bottom position           | –100.00 to +100.00 |
| 5    | Soft      | Degree of softness of box | 0.00 to 100.00     |

**When Pattern is selected**

| Knob | Parameter | Adjustment                         | Setting values |
|------|-----------|------------------------------------|----------------|
| 1    | Size      | Pattern size                       | 0.00 to 100.00 |
| 2    | Soft      | Degree of softness of pattern edge | 0.00 to 100.00 |
| 5    | Pattern   | Pattern number                     | 1 to 24        |

For the pattern selection, you can also press [Mask Ptn Select] in the Mask1 Adjust menu, then use the Mask Ptn Select menu.

Press any of the displayed patterns (standard wipe patterns 1 to 24) to select it, then you can adjust the following parameters.

| Knob | Parameter | Adjustment                         | Setting values |
|------|-----------|------------------------------------|----------------|
| 1    | Size      | Pattern size                       | 0.00 to 100.00 |
| 2    | Soft      | Degree of softness of pattern edge | 0.00 to 100.00 |

- 6** When selecting the pattern as a mask source, set the pattern modifiers as required.

### When turning [Position] on and setting the pattern position

| Knob | Parameter  | Adjustment          | Setting values                   |
|------|------------|---------------------|----------------------------------|
| 1    | Position H | Horizontal position | -200.00 to +200.00 <sup>a)</sup> |
| 2    | Position V | Vertical position   | -200.00 to +200.00 <sup>a)</sup> |

a) See “Setting the wipe position (Positioner)” (page 133).

### When turning [Multi] on and replicating the same pattern

| Knob | Parameter   | Adjustment                                    | Setting values       |
|------|-------------|---|----------------------|
| 1    | H Multi     | Number of repetitions of pattern horizontally | 1 to 63              |
| 2    | V Multi     | Number of repetitions of pattern vertically   | 1 to 63              |
| 3    | Invert Type | Replication layout                            | 1 to 4 <sup>a)</sup> |

a) See “Setting the wipe pattern replication (Multi)” (page 135).

### When turning [Aspect] on and setting the aspect ratio of the pattern

| Knob | Parameter | Adjustment   | Setting values                   |
|------|-----------|--------------|----------------------------------|
| 1    | Aspect    | Aspect ratio | -100.00 to +100.00 <sup>a)</sup> |

a) See “Setting the wipe pattern aspect ratio (Aspect ratio)” (page 135).

### When turning the [Angle] on in the <Rotation> group and slanting the pattern

| Knob | Parameter | Adjustment                | Setting values                   |
|------|-----------|---------------------------|----------------------------------|
| 1    | Angle     | Angle of pattern rotation | -100.00 to +100.00 <sup>a)</sup> |

a) See “Angle” (page 134).

### When turning [Speed] on in the <Rotation> group and rotating the pattern at a fixed rate

| Knob | Parameter | Adjustment               | Setting values                   |
|------|-----------|--------------------------|----------------------------------|
| 1    | Speed     | Rotation rate of pattern | -100.00 to +100.00 <sup>a)</sup> |

a) See “Speed” (page 134).

- 7 To invert the mask source, return to the Primary CCR menu and press [Pri/Sec Mask Invert], turning it on.

### Notes

The mask function is common to the primary color correction, secondary color correction, and spot color adjustment functions.

## Secondary Color Correction Operations

For the six colors R (red), G (green), B (blue), Y (yellow), C (cyan), and M (magenta), adjust the luminance and saturation, and also the hue within a range of  $\pm 30$  degrees of the center value for each color.

You can mask a part of the region to be corrected.

### Applying secondary color correction

- 1 In the CCR menu, press VF1 ‘CCR1’ and HF3 ‘Secondary CCR.’

The Secondary CCR menu appears.

- 2 In the <Secondary CCR> group, press [Secondary CCR], turning it on.

- 3 In the <Secondary CCR Adjust> group, select the color for which you want to make the setting.

- 4 Adjust the following parameters.

| Knob | Parameter  | Adjustment | Setting values     |
|------|------------|------------|--------------------|
| 1    | Luminance  | Luminance  | -100.00 to +100.00 |
| 2    | Saturation | Saturation | 0.00 to 200.00     |
| 3    | Hue Delay  | Hue delay  | -180.00 to +180.00 |

### To return the parameter settings to their default values

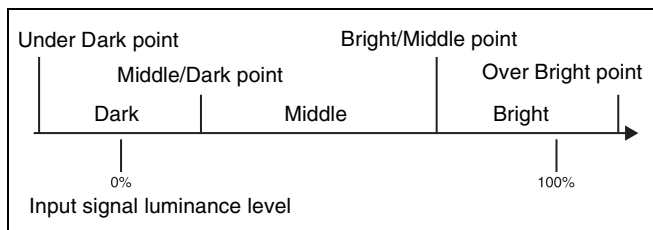
In the <Secondary CCR> group press [Unity].

### Masking a part of the secondary color correction

Set [Mask] to On in the Secondary CCR menu, then carry out the same operation as described under “Masking a part of the primary color correction” (page 200).

## Luminance Processing Operations

After converting a signal to which RGB color correction has been applied to a YUV signal, divide the luminance levels into three regions, referred to as Dark, Middle, and Bright, and apply video signal adjustments to these regions.



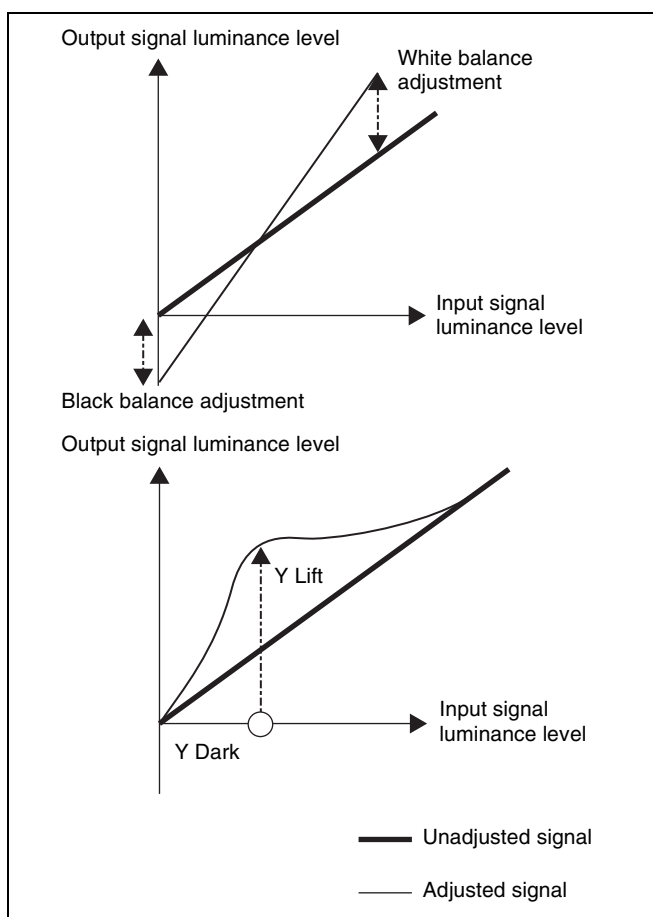
There are three modes for luminance processing, as follows.

**Tint mode:** adding a specified color to the original video signal.

**Color Modify mode:** adjusting the original video signal.

**Y Modify mode:** adjusting the output levels of the input luminance signal.

- White balance adjustment: setting the output level for an input luminance signal at the 100% level.
- Black balance adjustment: setting the output level for an input luminance signal at the 0% level.
- Y lift correction: adjusting the curvature of the curve.
- Y dark correction: adjusting the position of the maximum point of the curve.



It is also possible to mask part of the region to be corrected.

## Applying luminance processing

**1** In the CCR menu, press VF1 'CCR1' and HF5 'Luminance Process.'

The Luminance Process menu appears.

**2** In the <Luminance Process> group, press [Luminance Process], turning it on.

**3** In the <Mode> group, specify the adjustment mode.

**Tint:** add a specified color to the original video signal.

**Color Modify:** adjust the original video signal.

**Y Modify:** adjust the output levels of the input luminance signal.

When tint mode or color modify mode is selected, skip to step **4**.

When Y modify mode is selected, adjust the following parameters.

| Knob | Parameter | Adjustment                         | Setting values     |
|------|-----------|------------------------------------|--------------------|
| 1    | White     | White balance adjustment           | 0.00 to 200.00     |
| 2    | Black     | Black balance adjustment           | -100.00 to +100.00 |
| 3    | Y Lift    | Curvature of curve                 | -100.00 to +100.00 |
| 4    | Y Dark    | Position of maximum point of curve | -7.31 to +109.59   |

**4** In the <Bound> group, make the settings for the three regions (Dark, Middle, and Bright).

**[Level] parameters:** set the boundaries of the three regions.

| Knob | Parameter      | Adjustment                                 | Setting values   |
|------|----------------|--|------------------|
| 1    | Over B Level   | Luminance level of the Over Bright point   | 50.00 to 150.00  |
| 2    | Mid B Level    | Luminance level of the Bright/Middle point | 10.00 to 120.00  |
| 3    | Dark Mid Level | Luminance level of the Middle/Dark point   | -20.00 to +90.00 |
| 4    | Under D Level  | Luminance level of the Under Dark point    | -50.00 to +50.00 |

**[Soft] parameters:** set the degree of boundary softness of the three regions.



| Knob | Parameter     | Adjustment                                | Setting values |
|------|---------------|---|----------------|
| 1    | Over B Soft   | Degree of softness at Over Bright point   | 15.00 to 70.00 |
| 2    | Mid B Soft    | Degree of softness at Bright/Middle point | 15.00 to 42.50 |
| 3    | Dark Mid Soft | Degree of softness at Middle/Dark point   | 15.00 to 42.50 |
| 4    | Under D Soft  | Degree of softness at Under Dark point    | 15.00 to 70.00 |

- 5** In the <Luminance Process Adjust> group, press [Dark], [Mid], or [Bright], and adjust the following parameters for the three regions.

#### In tint mode

| Knob | Parameter  | Adjustment | Setting values     |
|------|------------|------------|--------------------|
| 1    | Luminance  | Luminance  | -100.00 to +100.00 |
| 2    | Saturation | Saturation | 0.00 to 100.00     |
| 3    | Hue        | Hue        | 359.99 to 0.00     |

#### In color modify mode

| Knob | Parameter | Adjustment              | Setting values     |
|------|-----------|-------------------------|--------------------|
| 1    | Luminance | Luminance               | -100.00 to +100.00 |
| 2    | C Gain    | Chrominance signal gain | 0.00 to 200.00     |
| 3    | Hue Delay | Hue delay               | -180.00 to +180.00 |

**To return the parameters to their default settings**  
In the <Luminance Process> group, press [Unity].

## Spot Color Adjustment

You can change the color of a specified color region to a different color, without affecting other regions. You can also mask part of such a region.

Then for the region other than the region whose color you have changed, you can make the following corrections.

- Video signal overall gain adjustment
- Y signal gain adjustment
- Y signal offset adjustment
- C signal gain adjustment
- C signal hue adjustment

## Adjusting the color of the specified region (key)

- 1** In the CCR menu, press VF1 'CCR1' and HF6 'Spot CCR/Output.'

The Spot CCR/Output menu appears.

- 2** In the <Spot CCR> group, press [Spot CCR], turning it on.

- 3** In the <Auto> group, press [Sample Mark], turning it on.

#### Notes

When [Sample Mark] is on, the effects of color adjustment outside the region of spot color adjustment (*see page 204*) and output video processing (*see page 204*) are temporarily disabled.

Turning [Sample Mark] off restores the former state.

- 4** Adjust the parameters so that the color you want to change is included within the sample mark.

| Knob | Parameter  | Adjustment          | Setting values     |
|------|------------|---------------------|--------------------|
| 1    | Position H | Horizontal position | -100.00 to +100.00 |
| 2    | Position V | Vertical position   | -100.00 to +100.00 |
| 3    | Size       | Size                | 1.00 to 100.00     |

- 5** In the <Auto> group, press [Auto Start], to adjust the key automatically.

#### Notes

This automatic adjustment does not carry out key gain adjustment. If required, adjust the key gain as shown in step **6**.

- 6** Press [Key Adjust], and adjust the following parameters.

| Knob | Parameter  | Adjustment | Setting values     |
|------|------------|------------|--------------------|
| 1    | Luminance  | Luminance  | -7.31 to +109.59   |
| 2    | Saturation | Saturation | 0.00 to 100.00     |
| 3    | Hue        | Hue        | 359.99 to 0.00     |
| 4    | Gain       | Key gain   | -100.00 to +100.00 |

- 7** Press [Window], turning it on, to adjust the key detection range for spot color adjustment.

| Knob | Parameter | Adjustment | Setting values |
|------|-----------|------------|----------------|
| 1    | Luminance | Luminance  | 0.00 to 100.00 |

| Knob | Parameter  | Adjustment | Setting values |
|------|------------|------------|----------------|
| 2    | Saturation | Saturation | 0.00 to 100.00 |
| 3    | Hue        | Hue        | 0.00 to 100.00 |

- 8** In the <Spot CCR> group, press [Spot CCR] to display the parameters, and adjust the replacement color.

| Knob | Parameter  | Adjustment | Setting values |
|------|------------|------------|----------------|
| 1    | Luminance  | Luminance  | 0.00 to 100.00 |
| 2    | Saturation | Saturation | 0.00 to 100.00 |
| 3    | Hue        | Hue        | 359.99 to 0.00 |

**To return the parameters to their default settings**  
In the <Spot CCR> group, press [Unity].

## Masking a part of the spot color adjustment

Set [Mask] to On in the Spot CCR/Output menu, then carry out the same procedure as in “Masking a part of the primary color correction” (page 200).

## Adjusting the color outside the spot color adjustment region

- 1** In the Spot CCR/Output menu, press [Outer Out Proc] in the <Outer Out Proc> group, turning it on.
- 2** Adjust the following parameters.

| Knob | Parameter   | Adjustment              | Setting values     |
|------|-------------|-------------------------|--------------------|
| 1    | Video Gain  | Video signal gain       | –200.00 to +200.00 |
| 2    | Y Gain      | Y signal gain           | –200.00 to +200.00 |
| 3    | C Gain      | Chrominance signal gain | –200.00 to +200.00 |
| 4    | Hue Delay   | Hue delay               | –180.00 to +180.00 |
| 5    | Black Level | Black level             | –116.90 to +116.90 |

**To return the parameters to their default settings**  
In the <Outer Out Proc> group, press [Unity].

## Output Video Processing Operations

The following corrections are available for the YUV signal.

- Video signal overall gain adjustment
- Y signal gain adjustment
- Y signal offset adjustment
- C signal gain adjustment
- C signal hue adjustment

## Applying output video processing effects

- 1** In the CCR menu, press VF1 ‘CCR1’ and HF6 ‘Spot CCR/Output.’  
The Spot CCR/Output menu appears.
- 2** In the <Output Process> group, press [Output Process], turning it on.
- 3** Adjust the following parameters.

| Knob | Parameter   | Adjustment              | Setting values     |
|------|-------------|-------------------------|--------------------|
| 1    | Video Gain  | Video signal gain       | –200.00 to +200.00 |
| 2    | Y Gain      | Y signal gain           | –200.00 to +200.00 |
| 3    | C Gain      | Chrominance signal gain | –200.00 to +200.00 |
| 4    | Hue Delay   | Hue delay               | –180.00 to +180.00 |
| 5    | Black Level | Black level             | –116.90 to +116.90 |

**To return the parameters to their default settings**  
In the <Output Process> group, press [Unity].

## YUV Clip Operations

For each of the luminance and color difference signals, the following processing is available.

**White clip:** setting the maximum level of the luminance signal.

**Dark clip:** setting the minimum level of the luminance signal.

**Positive clip:** setting the maximum amplitude in the positive direction of the color difference signal.

**Negative clip:** setting the maximum amplitude in the negative direction of the color difference signal.

## Applying YUV clip processing

- 1** In the CCR menu, press VF1 ‘CCR1’ and HF7 ‘YUV Clip/RGB Clip.’  
The YUV Clip/RGB Clip menu appears.
- 2** In the <YUV Clip> group, press [YUV Clip], turning it on.
- 3** In the <YUV Clip Adjust> group, select the target for adjustment.  
**Luminance:** settings for the luminance signal.  
**Chroma:** settings for the color difference signal.
- 4** Depending on the selection in step **3**, adjust the following parameters.

### When Luminance is selected

| Knob | Parameter  | Adjustment            | Setting values   |
|------|------------|-----------------------|------------------|
| 1    | White Clip | White clip adjustment | −6.85 to +109.13 |
| 2    | Dark Clip  | Dark clip adjustment  | −6.85 to +109.13 |

### When Chroma is selected

| Knob | Parameter   | Adjustment                            | Setting values     |
|------|-------------|---------------------------------------|--------------------|
| 1    | U Posi Clip | Positive clip adjustment for U signal | −113.39 to +113.39 |
| 2    | U Nega Clip | Negative clip adjustment for U signal | −113.39 to +113.39 |
| 3    | V Posi Clip | Positive clip adjustment for V signal | −113.39 to +113.39 |
| 4    | V Nega Clip | Negative clip adjustment for V signal | −113.39 to +113.39 |

**To return the parameters to their default settings**  
 In the <YUV Clip> group, press [Unity].

## RGB Clip Operations

For each of the R, G, and B signals, you can make dark clip and white clip adjustments.

### Making RGB clip adjustments

- 1 In the CCR menu, press VF1 ‘CCR1’ and HF7 ‘YUV Clip/RGB Clip.’  
 The YUV Clip/RGB Clip menu appears.
- 2 In the <RGB Clip> group, press [RGB Clip], turning it on.
- 3 In the <RGB Clip Adjust> group, select the item you want to adjust.  
**Dark:** dark clip adjustment  
**White:** white clip adjustment
- 4 Adjust the following parameters.

| Knob | Parameter | Adjustment              | Setting values   |
|------|-----------|-------------------------|--|
| 1    | Red       | Red signal adjustment   | −50.00 to +149.99 <sup>a)</sup><br>−49.99 to +150.00 <sup>b)</sup> |
| 2    | Green     | Green signal adjustment | −50.00 to +149.99 <sup>a)</sup><br>−49.99 to +150.00 <sup>b)</sup> |
| 3    | Blue      | Blue signal adjustment  | −50.00 to +149.99 <sup>a)</sup><br>−49.99 to +150.00 <sup>b)</sup> |

| Knob | Parameter | Adjustment                  | Setting values     |
|------|-----------|-----------------------------|--------------------|
| 4    | All       | Simultaneous RGB adjustment | Red value is shown |

- a) When Dark is selected  
 b) When White is selected

**To return the parameters to their default settings**  
 In the <RGB Clip> group, press [Unity].

# Special Functions

## Chapter

# 10

## Side Flags

### Overview

The term “side flags” refers to the areas to left and right of an image with aspect ratio 4:3 embedded within a 16:9 frame, when these areas are filled with a separate image selected from the utility 1 bus. You can adjust the width of the side flag area.

### Side Flag Settings

#### Input source aspect ratio, auto side flags, and auto crop settings

##### Aspect ratio 4:3 setting

Set the input signal to aspect ratio 4:3. If set to 16:9, the side flags are disabled.

##### Auto side flag setting

This function automatically applies side flags when a 4:3 signal is selected in the cross-point control block.

##### Auto crop setting

When carrying out a DME wipe, this function automatically crops the image during transition to 4:3.

##### Adjusting the width of the side flag area

You can set the left and right sides separately.

*For the operation for the above setting, see “Settings for Switcher Configuration (Config Menu)” in Chapter 20 (Volume 2).*

#### Enabling and disabling side flags with a menu operation

You can enable or disable side flags for the backgrounds (A and B) of each of the M/E and PGM/PST banks.

As an example, to enable side flags for background B row on the M/E-1 bank, use the following procedure.

- 1 In the menu control block, press the top menu selection button [MISC], then select VF1 ‘Enable’ and HF3 ‘Side Flags.’

The Misc >Enable >Side Flags menu appears. The status area shows the buttons for Bkgd A and Bkgd B for each of the M/E-1 to M/E-5, and PGM/PST (P/P) banks.

- 2 In the <M/E-1 Side Flags> group, press [Bkgd B].

Each time you press the button toggles between Enable and Disable.

#### To display a menu for the aspect ratio 4:3, auto side flags, and auto crop settings

In the Misc >Enable >Side Flags menu, press [Setup >SWER Side Flags].

#### To display a menu for assigning the side flags on/off function to a cross-point button

In the Misc >Enable >Side Flags menu, press [Side Flags Button Assign].

#### Enabling and disabling side flags with a button operation

For example, to enable side flags for the background B row of the M/E-1 bank, use the following procedure.

- 1 First, in the Setup menu assign the rightmost cross-point button to the [SIDE FLAG] button.

*For details of the assignment operation, see “Assigning a Cross-Point Button to Enable/Disable Side Flags” in Chapter 19 (Volume 2).*

- 2 Press the [SIDE FLAG] button at the right end of the background B row of the M/E-1 bank.

The button you pressed lights amber, and this enables the side flags.

### Notes

- The operations of enabling or disabling the side flags by menu operation and by control panel button operation are linked.
- When the auto side flags are on, selecting a 4:3 video material automatically lights the [SIDE FLAG] button, but if you press this button, turning it off, the side flags are temporarily disabled. However, when you select a different 4:3 video material, the [SIDE FLAG] button automatically lights once again, enabling the side flags.

## Creating an image with side flags

For example, to create an image with side flags in the background B row of the M/E-1 bank, use the following procedure.

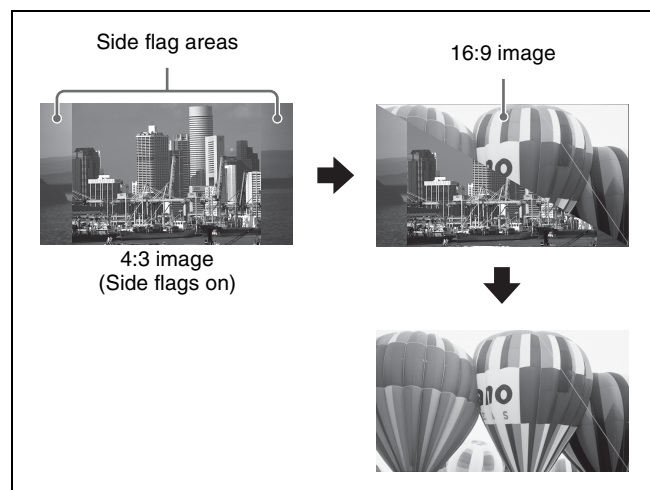
- 1** In the M/E-1 bank cross-point control block, hold down the [UTIL] button, and in the background A row select the signal (utility bus 1 signal) you want to insert in the side flag areas.
- 2** In the background B row, press the cross-point button corresponding to the 4:3 video material.  
  
At this point, if auto side flags are on, this automatically adds side flags to the 4:3 video material.  
*For details, see “Settings for Switcher Configuration (Config Menu)” in Chapter 20 (Volume 2).*
- 3** Use either of the following methods to turn the side flags on.
  - Use the Misc >Enable >Side Flags menu (*see page 206*).
  - Use a cross-point button operation (*see previous item*).

This adds side flags to the 4:3 video material.

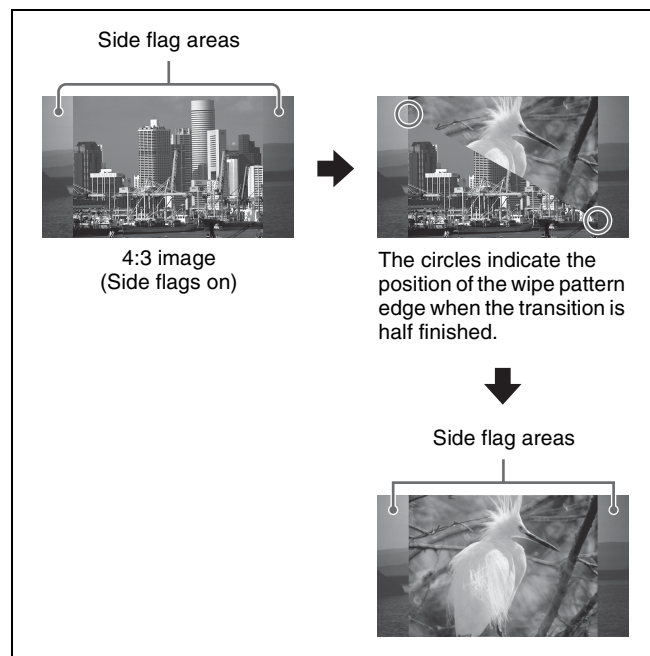
## Wipe Action on Images with Side Flags

When a wipe is carried out on an image with side flags, all wipe patterns can be used.  
The following illustration shows the action in a wipe.

### Wipe from a 4:3 image to a 16:9 image



### Wipe from a 4:3 image to another 4:3 image (when side flags are on for both images)



## DME Wipe Action for an Image with Side Flags

When a DME wipe is carried out on an image with side flags, all wipe patterns can be used.  
Depending on the setting (On/Off) of [Auto Crop] in the Engineering Setup >Switcher >Config menu, the appearance of the 4:3 image changes.

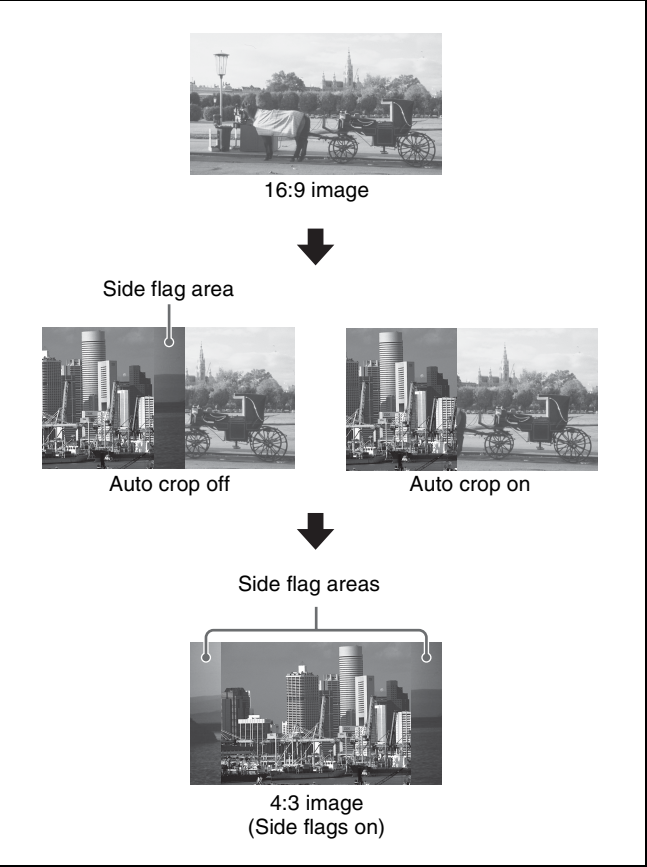
## Notes

- When using the DME through SDI interface with [Auto Crop] being off, side flags are not added to the new image during DME wipe.
- For signals with the following DME wipe pattern selected on the DME external video bus (gray part shown in the pattern illustration), side flags are not applied when auto side flags are set to Off.
  - Two-channel page turn
  - Two-channel page roll
  - Two-channel frame in-out
  - Two-channel brick
  - Three-channel brick

The following illustration shows the action in a DME wipe.

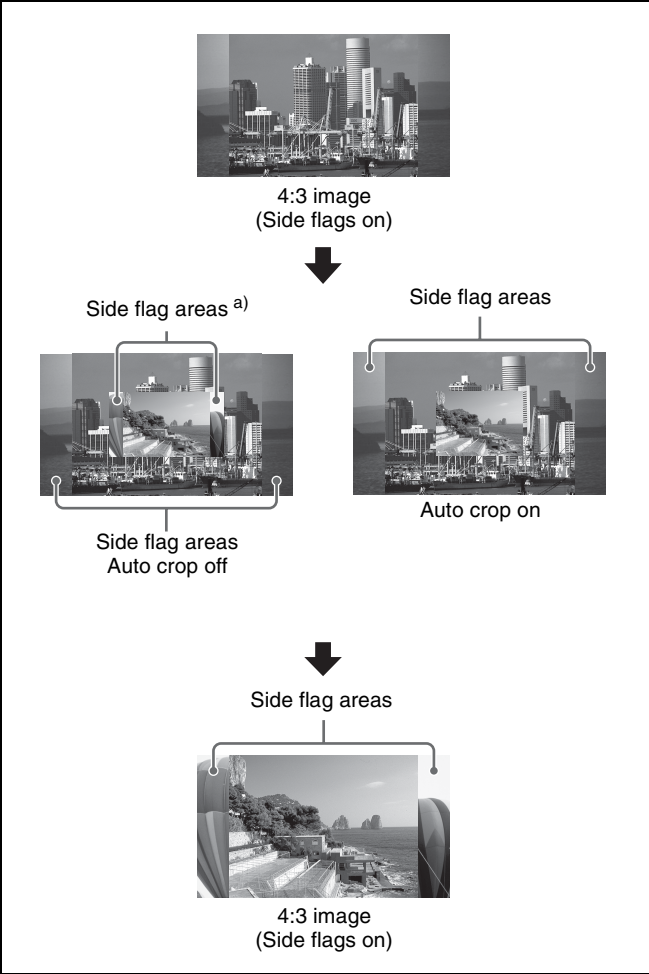
### DME wipe from a 4:3 image to a 16:9 image

#### Wipe action using slide (No. 1001)



### DME wipe from a 4:3 image to another 4:3 image (when side flags are on for both images)

#### Wipe action using squeeze (No. 1031)



a) When using the DME through SDI interface, side flags are not added during a DME wipe.

# Multi Program 2

## Overview

### What is Multi Program 2?

By operating the switcher in Multi Program 2 mode, a single switcher mix/effects bank can be used to create two separate video outputs, referred to as “main” and “sub.” You can set backgrounds, keys, and transitions for each of main and sub. Keys 2 to 8, however, are common to main and sub.

#### Notes

To enable this function requires the BZS-8200X (for the MVS-8000X) or BZS-7200X (for the MVS-7000X) Multi Program 2 software.

### Using the software

To use the Multi Program 2 software, you are required to enter an install key which validates the software. If the software has been factory installed, the install key is not required.

For the method of obtaining an install key, contact your Sony representative.

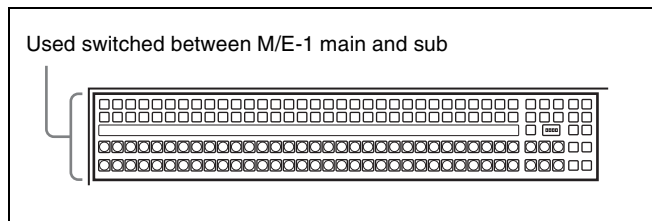
To obtain a key, you may be required to submit the unique device ID of the switcher you are using. You can check the unique device ID in the Install menu of the switcher.

*For details of the operation, see “Installation and Device Setup (Install/Unit Config Menu)” in Chapter 18 (Volume 2).*

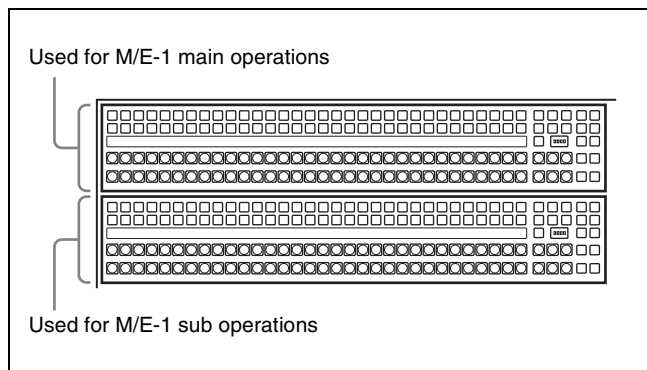
### Assigning main and/or sub to switcher banks

For Multi Program 2 operations, a single switcher bank may be shared, and switched between main and sub, or two separate switcher banks may be used, each dedicated to main or sub.

**Example 1:** Assigning M/E-1 main and sub to a single switcher bank, and switching between them



**Example 2:** Assigning separate switcher banks as “M/E-1 main dedicated” and “M/E-1 sub dedicated”



### Video creation operations in Multi Program 2 mode

For each of main and sub, there are differences from the operations in standard mode.

*For details, see “Differences between Multi Program 2 Mode and Standard Mode” (page 214).*

### Sequence of Operations in Multi Program 2

#### Basic operation sequence

Enter the BZS-8200X or BZS-7200X install key (first time only)



Set Multi Program 2 operating mode for each switcher bank



Assign output signals, and set the background configuration, key configuration, and key preview configuration



For each switcher bank, make a main/sub assignment (one of main dedicated, sub dedicated, and main and sub shared)



For a switcher bank assigned to main and sub shared, assign the [MAIN] and [SUB] delegation buttons



Create the main and sub images



Execute the transition

#### Optional operations

- Making separate main and sub assignments for buttons in the transition control block
- Making cross-point settings
- Enabling DME wipe operations for sub
- Inhibiting utility 2 bus signal selection
- Inhibiting key operations for main or sub keyer

- Including Multi Program 2 data in keyframes and snapshots
- Changing the key assignment for each output
- Changing the matrix size to Standard
- Making settings for keyframe timeline operation
- Enabling reentry between the main and sub sides of the same M/E bank

## Basic Operations (Required)

### Entering the install key of the software (first time only)

After installing the BZS-8200X or the BZS-7200X Multi Program 2 software in the switcher, carry out the following procedure.

- 1 In the status area of the Engineering Setup >System >Install/Unit Config menu, select the switcher (SWRx), and press [License].

The License menu appears.

- 2 In the License menu, enter the install key.

*For details of the operation, see “Installation and Device Setup (Install/Unit Config Menu)” in Chapter 18 (Volume 2).*

- 3 Shut down the menus (*see page 57*).

- 4 Power the switcher and SCU off and on again.

### Setting the operating mode for each switcher bank

To set a desired switcher bank to Multi Program 2 mode, use the following procedure.

- 1 Display the Engineering Setup >Switcher >Config menu.
- 2 Select the switcher bank from M/E-1 to M/E-5, and P/P.
- 3 In the <M/E Config> group, select [Multi Program2].
- 4 Repeat steps 2 and 3 as required, to set the operating mode for all desired switcher banks.

### Assigning output signals for Multi Program 2 mode

#### To assign signals to outputs

Use the Engineering Setup >Switcher >Config >M/E Output Assign menu.

The difference from standard mode is that OUT1 is fixed, set to PGM1 (main program), and OUT6 is fixed, set to PGM2 (sub program), and that for the OUT2 to OUT5 signals you can assign any signal selected from the following.

PGM1, PGM2, PGM3, PGM4, PVW1, PVW2, K-PVW1, K-PVW2, CLEAN, SUB CLEAN

#### Notes

Each of main and sub can use a maximum of four of the six outputs (OUT1 to OUT6). The outputs can be used within the following limits.

- OUT1, OUT2: main only
- OUT3, OUT4: can be used for either main or sub
- OUT5, OUT6: sub only

*For details, see “Selecting the System Operation Mode” in Chapter 18 (Volume 2).*

#### To set the background and key configuration

Use the Engineering Setup >Switcher >Config >PGM Config menu.

The following are the differences from standard mode.

**Background configuration:** Consists of the following combinations.

- For main: Clean, Bkgd A, Bkgd B
- For sub: Sub Clean, Utility 2, Utility 3

**Key configuration:** Key1 can be set to “Enable” only when the background is Clean, Bkgd A, or Bkgd B.

*For details, see “Setting the Operation Mode” in Chapter 20 (Volume 2).*

#### To set the key preview configuration

Use the Engineering Setup >Switcher >Config >K-PVW Config menu.

The following are the differences from standard mode.

**Background configuration:** Clean or Sub Clean

**Key configuration:** Key1 can be set to “On” or “Link” only when the background is Clean.

*For details, see “Setting the Operation Mode” in Chapter 20 (Volume 2).*

#### To assign sub outputs to output connectors

Use the Engineering Setup >Switcher >Output >Output Assign menu.

You can assign a sub output signal to a switcher output connector number.

*For details, see “Assigning Output Signals” in Chapter 20 (Volume 2).*



## Assigning main and/or sub to switcher banks

For each switcher bank for which Multi Program 2 mode is selected, set whether this is main dedicated, sub dedicated, or main and sub shared.

### To assign main and sub to a single switcher bank

- 1 In the Engineering Setup >Panel >Config >MP2 Main/Sub Assign menu, select the switcher bank.
- 2 In the <Main/Sub Assign> group, select [Main&Sub].

**Main:** use for main operations.

**Sub:** use for sub operations.

**Main&Sub:** use for both main and sub operations.

When “Main&Sub” is selected, it is necessary to assign [MAIN] and [SUB] delegation buttons to the control panel buttons.

### To assign main and sub to two consecutive switcher banks

For example, to assign the first row (first switcher bank) to M/E-1 main, and the second row (second switcher bank) to M/E-1 sub, use the following procedure.

- 1 In the status area of the Engineering Setup >Panel >Config >MP2 Main/Sub Assign menu, select 1st Row (M/E-1), then press [Main] in the <Main/Sub Assign> group.
- 2 Press [Dual M/E Assign] to assign M/E to two banks.  
In this state, both 1st Row and 2nd Row are set to main.
- 3 Set 2nd Row to [Sub].

This cancels the shift/non-shift assignment for dual M/E in standard mode.

#### Notes

It is not possible to assign the combinations of Main with Main&Sub, or Sub with Main&Sub.

## Assigning the [MAIN] and [SUB] delegation buttons to buttons on the control panel

- 1 In the Engineering Setup >Panel >Config menu, press [Program Button].  
The Program Button menu appears.
- 2 Press [Transition Module1].  
The Transition Module1 menu appears.

- 3 Select the switcher bank in the <Bank Select> group.  
The buttons in the transition control block on the left appear in the currently assigned state.
- 4 Press the button whose assignment you wish to change.  
The button you press appears in reverse video.
- 5 From the list on the right, select [MAIN], and press [Set].  
The indication on the button changes according to the selection.
- 6 Repeat Step 4 and 5 to assign [SUB].

## Examples of Operations in the Multi Program 2 Mode (When Sharing a Switcher Bank)

To create video on the M/E or PGM/PST bank assigned to both main and sub operations, use the following procedure.

- 1 Press the [MAIN] button, turning it on, and turning off the [SUB] button.
- 2 With the normal operations, create the main video.
- 3 Press the [SUB] button, turning it on, and turning off the [MAIN] button.  
Now you can create the sub video.
- 4 Create the sub video.

The basic method of operation is the same as for the main video, except that the utility 2 bus signal is assigned to background A, and the utility 3 bus signal is assigned to background B.

For sub, only keys 2 to 8 can be used, and for wipes, standard wipe patterns only. There are also other differences in operation from standard mode.

*For details, see “Differences between Multi Program 2 Mode and Standard Mode” (page 214) and “Restrictions on Using Multi Program 2 Mode” (page 215).*

- 5 Press the [MAIN] and [SUB] buttons simultaneously, turning them on.  
If both buttons are lit, the control panel shows the status of main.
- 6 Carry out the transition.

Both main and sub video images are switched.

## Optional Operations

### Making separate main and sub assignments for buttons in the transition control block

If you are using two switcher M/E banks dedicated to main and sub for Multi Program 2 operations, you can make separate transition control block button assignments for main and sub.

#### Notes

When using one M/E bank as “Main&Sub”, separate settings are not possible.

The following example describes the operation for the left part (Transition Module1 menu), but operations in the Transition Module2 and Transition Module3 menus are similar.

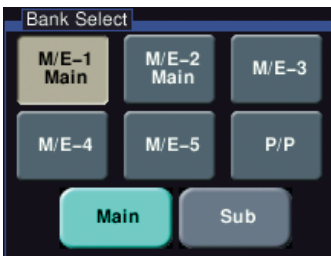
- 1 In the Engineering Setup >Panel >Config menu, press [Link/Program Button].

The Link/Program Button menu appears.

- 2 Press [Transition Module1].

The Transition Module1 menu appears.

- 3 Press [Main] in the <Bank Select> group.



- 4 Select the bank of the transition control block you want to set.

Here, by way of example, press [M/E-1 Main].

The current assignment of the buttons appears in the screen.

- 5 Set the assignment for main.

*For details of settings, see “Setting Transition Control Block Button Assignments” in Chapter 19 (Volume 2).*

- 6 Press [Sub], and set the assignment for sub.

This makes separate assignments for main and sub.

## Making cross-point settings

Cross-point assign tables can be set not only for main output but also for sub output.

You can set cross-point assign tables for the following banks.

M/E-1 SUB to M/E-5 SUB

P/P SUB

The table actually used is that for which the control panel delegation button is lit.

*For details, see “Cross-Point Settings (Xpt Assign Menu)” in Chapter 19 (Volume 2).*

## Enabling DME wipe operations for sub

By factory default, DME wipe operations are inhibited for sub background. To enable them, in the Engineering Setup >Switcher >Config menu, set [DME Wipe Sub Enable] to On.

This setting applies to the whole control panel (all M/E banks and PGM/PST bank).

#### Notes

If a DME wipe for sub is recalled in a snapshot or keyframe, the image will not be handled correctly.

## Inhibiting utility 2 bus signal selection

In Multi Program 2 mode, you can inhibit other uses of the utility 2 bus signal in order to use the signal as the background for sub.

This setting applies to the whole control panel (all M/E banks and PGM/PST bank).

In the Engineering Setup >Panel >Config >MP2 Main/Sub Assign menu, set [Util2 Inhibit] to On.

This prevents the key row delegation button [UTIL2] from lighting.

## Inhibiting key operations for main or sub keyer

In the Engineering Setup >Panel >Config >Operation Inhibit >M/E Operation Inhibit menu, you can make settings to inhibit key operations on each of the main and sub keyers independently.

*For details, see “Inhibiting Utility 2 Bus and Key Operations” in Chapter 19 (Volume 2).*

## Including Multi Program 2 data in recall operations of keyframes and snapshots

In the Engineering Setup >Switcher >Config menu, set [Recall M/E Config] to On.

When a keyframe or snapshot is stored or recalled, the following data is included.

## M/E Config, PGM Config, M/E Output Assign, and Key PVW Config

For details of the above data, see “Setting the operating mode for each switcher bank” (page 210) and “Assigning output signals for Multi Program 2 mode” (page 210).

This setting applies to the whole control panel (all M/E banks and PGM/PST bank).

### Notes

M/E Config data is saved, even when this setting is Off.

## Changing the key assignment for each output (Misc menu)

In Multi Program 2 mode you can change the key assignments independently.

The following describes an example using M/E-1, but the operation is the same for other banks.

### Notes

- This setting is linked to the setting in the Engineering Setup >Switcher > Config >PGM Config menu.
- It is not possible to make this setting while the above PGM Config menu is locked, or [Recall M/E Config] (see previous item) is set to Off.

- 1 In the M/E-1 menu, select first VF7 ‘Misc,’ then HF5 ‘Key Assign.’

The Key Assign menu appears, and the current key assignment is shown in the status area.

- 2 Change the setting in “Key Enable” as required.

### Keys recalled in a snapshot recall

If a snapshot is recalled independently on main or sub, this only retrieves the settings for the key assigned to the recalled side. For example, if key 1 and key 2 are assigned on main, and key 3 and key 4 are assigned on sub, then if you recall a snapshot on main, this only retrieves the settings for key 1 and key 2, and the state of key 3 and key 4 assigned on sub is not affected.

## Changing the matrix size to Standard

When using a router, if the matrix size is set to [128×128], it is not possible to control the utility 3 bus on the S-Bus. When using Multi Program 2, in the <Matrix Size> group of the Engineering Setup >Router/Tally >Router menu, select other than [128 × 128].

For details, see “Assigning Switcher Inputs and Outputs to S-Bus Space” in Chapter 23 (Volume 2).

As for the bus number of the utility 3 bus, a DME Key bus number is used as follows.

| No. | Bus (Standard) | Bus (MP2)      |
|-----|----------------|----------------|
| 70  | M/E-1 DME Key  | M/E-1 Utility3 |
| 85  | M/E-2 DME Key  | M/E-2 Utility3 |
| 100 | M/E-3 DME Key  | M/E-3 Utility3 |
| 115 | P/P DME Key    | P/P Utility3   |

## Making settings for timeline-related keyframe operations

### To assign sub regions to the region selection buttons in the numeric keypad control block

In the Engineering Setup >Panel >Config >10 Key Region Assign menu, assign regions to the region selection buttons in the numeric keypad control block.

For details, see “Overall Control Panel Settings (Config Menu)” in Chapter 19 (Volume 2).

### To make region and reference region selections using a menu

During snapshot or keyframe operations, you can select a region (including sub) in the Key Frame >Region Select menu. This is convenient for selecting some of the regions assigned to the numeric keypad control block or changing the reference region.

For details, see “Specifying the Region and Edit Points” in Chapter 13 (Volume 2).

### To assign regions shown in the Timeline menu

You can select how regions assigned to region selection buttons appear in the Key Frame >Time Line menu.

For details, see “Settings in the Timeline Menu” in Chapter 13 (Volume 2).

## Enabling reentry between the main and sub sides of the same M/E bank

In the Engineering Setup >Switcher >Config menu, set [MP2 Free Re-Entry] to On.

### Notes

- Reentry adds a 1H delay to the video. Nested reentry may lead to problems in the video.
- A maximum of ten reentry stages are possible, with the final output having a delay of 5H.
- The selection order of reentry signals affects the number of lines by which the output signal is lowered.
- If a delay occurs in the image, even when the through mode is set, the ancillary data does not pass through.
- For example, it is possible to select the reentry of M/E-1 main on M/E-1 main.

## Restrictions on mutual reentry when using Multi Program 2

The snapshot function is affected by this reentry function. When [MP2 Free Re-Entry] is On, and any of the switcher banks are in Multi Program 2 mode, then the following restrictions apply.

If you save and recall snapshots simultaneously with more than one region specified, the recorded state is played back in the order of precedence of regions (M/E-1 >M/E-2 >M/E-3 >M/E-4 >M/E-5 >P/P). Therefore, if you save and recall snapshots with more than one region specified, the cross-point settings may not be recalled correctly.

To recall the snapshots correctly, press the cross-point button before recalling the snapshots, to select a signal other than the reentry signal, then recall the snapshots.

## Functions Added in Multi Program 2 Mode

- You can set video processing for the utility 3 bus signal.
- In the control panel and DCU GPI input settings and switcher GPI link settings, the actions that can be

selected now also include “Sub Cut” and “Sub Auto Trans.”

- A switcher GPI link can now be set also for the utility 3 bus.
- To the macro event configuration parameters and macro attachment settings, “Main & Sub” and “Sub” have been added.
- For cross-point button link settings, M/E-1 to M/E-5, and P/P “Sub Program,” “Sub Preset,” and “Sub Trans PGM” have been added to the link source bus.
- Snapshot attributes can now be set independently for main and sub.
- There are additional menus for sub which can be recalled by pressing a button twice.
- You can set [MP2 Auto Correct] to On or Off in the Effect menu or Snapshot menu. When this is set to On, for example, copy destination and source data is automatically recognized as main or sub, and the data interchanged.
- You can assign [SUB TRANS] to the key control block. This button functions as a [TRNS] button for the sub region.

## Differences between Multi Program 2 Mode and Standard Mode

The differences from operation in standard mode are as follows.

| Item               |                         | Main   | Sub   |
|--------------------|-------------------------|--|---|
| Keys <sup>a)</sup> |                         | Keys 1 to 8 can be used  | Keys 2 to 8 only can be used  |
| Wipes (background) | Patterns                | Same as standard mode  | <ul style="list-style-type: none"> <li>• Only standard patterns can be used</li> <li>• Pattern mix is not possible</li> </ul>   |
|                    | Modifiers               | Same as standard mode  | <ul style="list-style-type: none"> <li>• Pairing, modulation, spring, spiral, and split cannot be used</li> <li>• Edge fill mattes are single-color only</li> <li>• Replication can be selected from four patterns</li> </ul> |
| Wipes (key)        |                         | Same as wipes (background) for sub   |   |
| DME wipes          | Use                     | Can be used  | Cannot be used (Can be used, with a setting change)   |
|                    | Patterns for 1 channel  | For a dedicated interface, each of main and sub can be used.<br>For the SDI interface, only one of main and sub can be used. |   |
|                    | Patterns for 2 channels | Only one of main and sub can be used.  |   |
|                    | Patterns for 3 channels | For each M/E, the number of DMEs that can be used is the same as in standard mode.   |   |
|                    | Backgrounds             | Wipe edge fill matte (including color mix and other settings in the Matte Adjust menu)                                       | Wipe edge fill matte (single-color only)  |
|                    | Modifiers               | Same as standard mode  | Wipe border colors are single-color only  |

| Item  |                    | Main  | Sub  |
|---|--------------------|---|--|
| Transitions   | Key priority       | Cannot be used  |  |
|   | Transition preview | Cannot be used  |  |
|   | Preset color mix   | Color matte or video signal selected on the utility 2 bus | Color matte only                                     |
| Snapshots   | Cross-point hold   | Utility 2 cannot be set                                   | Utility 3 is added. BKGD A/B and Key1 cannot be set. |
| Control from an editor                                |                    | Same as standard mode                                     | Cannot be used                                       |
| Operation setting for switcher GPI inputs and outputs |                    | Same as standard mode                                     | Cannot be used                                       |

a) Keys 2 to 8 are common to main and sub.

### Notes

- Allow a transition to complete before carrying out main and sub delegation switching.
- The sub background A bus (utility 2 bus) is shared with wipe edge border fill. Making a change to one affects the other.
- Even if the wipe border width is set to the same numeric value for main and sub, the same image is not obtained.

## Restrictions on Using Multi Program 2 Mode

- The following functions are not available for sub:
  - Data copy and swap
  - Default recall (except for parametric recall)
- Reentry is limited to four levels. Reentry is not possible for main and sub of the same M/E. However, this restriction can be removed.  
*For details, see “Enabling reentry between the main and sub sides of the same M/E bank” (page 213).*
- In the following cases, a transition using the fader lever may not be performed correctly:
  - When the main and sub bus toggle modes are set differently
  - For a pattern mix, preset color mix, and so on
- For an Internal bus link, GPI link, or External bus link, the “Utility 2” bus cannot be selected.
- Screen aspect, show key, and [MCRO ATTCH ENBL] button settings are common to main and sub.
- If a snapshot is recalled simultaneously for main and sub, or a keyframe is executed simultaneously for main and sub, then for the following common to main and sub the main settings are reflected.
  - Key
  - M/E Config
  - DME external video bus and utility 1 bus
- When a macro attachment is set on the DME utility 1 bus or DME utility 2 bus, it is not possible to make separate main and sub settings.
- When snapshots with different M/E Config settings are recalled:

- If M/E Config data is not to be included in the snapshot data, the current system settings are used for snapshot reproduction.
- If M/E Config data is to be included in the snapshot data first M/E Config data is set, and then other snapshot data is recalled.
- The bus override function is only available on the following buses:
  - M/E-1 to M/E-5 Main BKGD A/B buses
  - M/E-1 to M/E-5 Sub BKGD A/B buses (UTIL-2, UTIL-3 buses)
  - P/P Main PGM/PST bus
  - P/P Sub PGM/PST buses (UTIL-2, UTIL-3 buses)
- When a master snapshot or master timeline is executed with a key being assigned to both main and sub, it is uncertain which data will be reflected.
- When recalling a master snapshot with different register numbers for main and sub, the recall timing may differ by one field or more between main and sub.
- The link state is maintained even when M/E Config is changed. Set the link setting again, as required.
- Since keys 2 to 4 are shared between main and sub, when the main and sub fader lever positions are different, if you move the fader lever, the video changes instantaneously to the value of the most recently moved fader lever.
- When the transition type for main or sub is set to preset color mix, it is not possible to carry out independent key transition operation (common to main and sub).
- When the signal format is 1080P, snapshots, wipe snapshots, and effects created using a wipe for sub do not function correctly with a signal format other than 1080P. Similarly, those created with other than the 1080 signal format do not function correctly with a signal format of 1080P.

# 3D Support

## Overview

Installing the following software enables video creation in 3D mode.

- BZS-8560X (for MVS-8000X) or BZS-7560X (for MVS-7000X) as the switcher upgrade software
- BZDM-8560 (for MVE-8000A/MVE-9000) or BZS-7561X (for MKS-7470X/7471X) as the DME upgrade software

### Notes

- On the MVS-8000X, the M/E-4 bank is not used for 3D mode.
- On the MVS-7000X, the M/E configuration in 3D mode will be the same as that in 2M/E mode (*see page 222*).
- The following signal formats support 3D.  
1080i/50, 1080i/59.94, 720P/50, 720P/59.94
- For details of the board configurations required for 3D mode, consult your Sony representative.

## Using the software

To use the switcher upgrade software and DME upgrade software, you need to enter an install key to enable the software. It is not necessary to enter an install key if the software was factory-installed.

*Ask your Sony representative about entering the install key.*

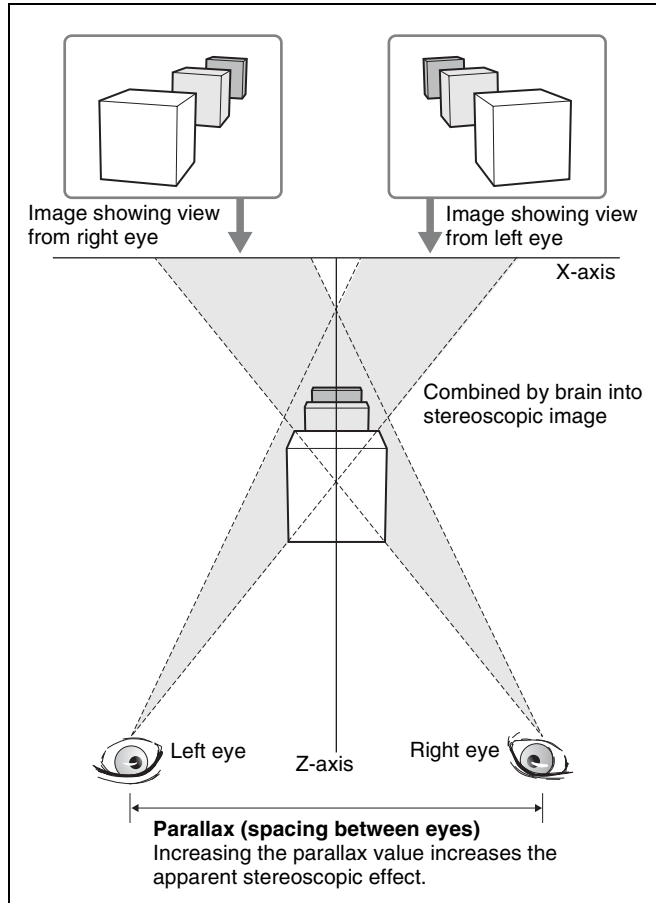
At this time, the unique device ID may be required. You can check the unique device ID in the Install menu of the switcher and DME.

*For details of this operation, see “Installation and Device Setup (Install/Unit Config menu)” in Chapter 18 (Volume 2).*

## How the 3D display works

In 3D mode, two different images, for the left eye and the right eye, are displayed simultaneously, to be combined by the brain into a stereoscopic image.

Therefore, switcher and DME hardware is duplicated, with input signals for the left eye and right eye (*see the following figure*).



## Preparations

### Switching the system to 3D mode

#### Notes

It is only possible to switch to 3D mode when the system signal format is set to one of the following.  
1080i/50, 1080i/59.94, 720P/50, 720P/59.94

- 1 Display the Engineering Setup >System >Format menu.
- 2 Press [3D Mode], turning it on.  
A popup window appears, with a message.
- 3 Check the message, and select [Yes].

### Input primary numbers for left and right signals

For the signals used in 3D mode for the left eye view and right eye view (referred to simply as left and right signals), select a combination of primary input numbers from two types (signals in the same slot and signals in different slots).

For some signals, such as titles, the same signal is used for both left and right.

### Specify whether to use a combination of left and right signals in the same slot or different slots

- 1** Display the Engineering Setup >System > Install/Unit Config > Unit Config menu.
- 2** In <3D Connector Pair> group, select either of the following.
  - 1-2 Mode:** Specify a pair of left and right signals in the same slot.
  - 1-21 Mode:** Specify a pair of left and right signals in different slots.
- 3** Press [Execute].

### Combinations of left and right signals (Input terminals)

The following combinations of left and right signals are available depending on whether to use the signals in the same slot or different slots.

#### If [1-2 Mode] is selected on MVS-8000X

| Left signals  | Right signals |
|---------------|---------------|
| <b>Slot 5</b> |               |
| Input 1       | Input 2       |
| Input 3       | Input 4       |
| :             | :             |
| Input 19      | Input 20      |
| <b>Slot 6</b> |               |
| Input 21      | Input 22      |
| Input 23      | Input 24      |
| :             | :             |
| Input 39      | Input 40      |
| <b>Slot 7</b> |               |
| Input 41      | Input 42      |
| Input 43      | Input 44      |
| :             | :             |
| Input 59      | Input 60      |
| <b>Slot 8</b> |               |
| Input 61      | Input 62      |
| Input 63      | Input 64      |
| :             | :             |
| Input 79      | Input 80      |
| <b>Slot 9</b> |               |
| Input 81      | Input 82      |
| Input 83      | Input 84      |
| :             | :             |

| Left signals     | Right signals    |
|------------------|------------------|
| Input 99         | Input 100        |
| <b>Slot 10</b>   |                  |
| Input 101        | Input 102        |
| Input 103        | Input 104        |
| :                | :                |
| Input 119        | Input 120        |
| <b>Slot 11</b>   |                  |
| Input 121        | Input 122        |
| Input 123        | Input 124        |
| :                | :                |
| Input 139        | Input 140        |
| <b>Slot 12</b>   |                  |
| Input 141        | Input 142        |
| Input 143        | Input 144        |
| <b>Slot 3</b>    |                  |
| Premium input 1  | Premium input 2  |
| Premium input 3  | Premium input 4  |
| :                | :                |
| Premium input 19 | Premium input 20 |

#### If [1-21 Mode] is selected on MVS-8000X

| Left signals   | Right signals |
|----------------|---------------|
| <b>Slot 5</b>  |               |
| Input 1        | Input 21      |
| Input 2        | Input 22      |
| :              | :             |
| Input 20       | Input 40      |
| <b>Slot 7</b>  |               |
| Input 41       | Input 61      |
| Input 42       | Input 62      |
| :              | :             |
| Input 60       | Input 80      |
| <b>Slot 9</b>  |               |
| Input 81       | Input 101     |
| Input 82       | Input 102     |
| :              | :             |
| Input 100      | Input 120     |
| <b>Slot 11</b> |               |
| Input 121      | Input 122     |
| Input 123      | Input 124     |
| :              | :             |
| Input 139      | Input 140     |
| <b>Slot 12</b> |               |
| Input 141      | Input 142     |
| Input 143      | Input 144     |

| Left signals     | Right signals    |
|------------------|------------------|
| <b>Slot 3</b>    |                  |
| Premium input 1  | Premium input 2  |
| Premium input 3  | Premium input 4  |
| :                | :                |
| Premium input 19 | Premium input 20 |

### If [1-2 Mode] is selected on MVS-7000X

| Left signals  | Right signals |
|---------------|---------------|
| <b>Slot 5</b> |               |
| Input 1       | Input 2       |
| Input 3       | Input 4       |
| :             | :             |
| Input 19      | Input 20      |
| <b>Slot 6</b> |               |
| Input 21      | Input 22      |
| Input 23      | Input 24      |
| :             | :             |
| Input 39      | Input 40      |
| <b>Slot 7</b> |               |
| Input 41      | Input 42      |
| Input 43      | Input 44      |
| :             | :             |
| Input 59      | Input 60      |
| <b>Slot 8</b> |               |
| Input 61      | Input 62      |
| Input 63      | Input 64      |
| :             | :             |
| Input 79      | Input 80      |

### If [1-21 Mode] is selected on MVS-7000X

| Left signals  | Right signals |
|---------------|---------------|
| <b>Slot 5</b> |               |
| Input 1       | Input 21      |
| Input 2       | Input 22      |
| :             | :             |
| Input 20      | Input 40      |
| <b>Slot 7</b> |               |
| Input 41      | Input 61      |
| Input 42      | Input 62      |
| :             | :             |
| Input 60      | Input 80      |

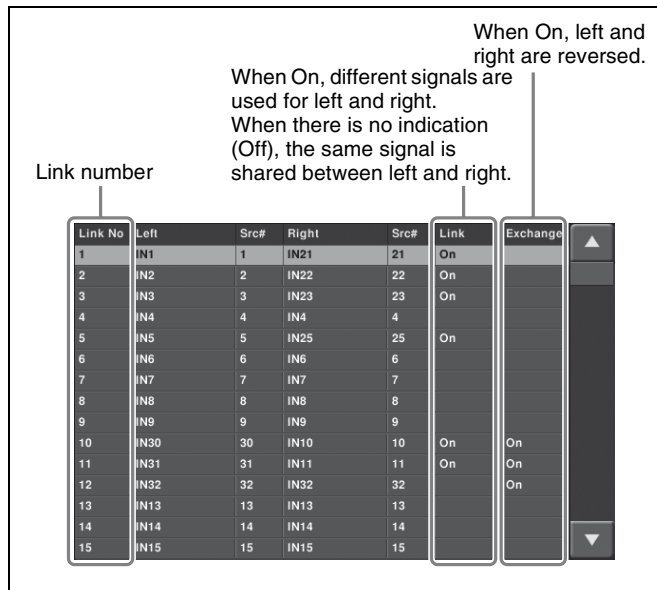
## Setting input signals for 3D mode

For each primary input, to select whether separate left and right signals are used, or the same signal is shared between left and right, use the following procedure.

**1** Display the Engineering Setup >Switcher > Config >3D Config menu.

**2** Press [Input Link].

The Input Link menu appears.



**3** Using any of the following methods, select the link number to operate on.

- Press directly on the list.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knobs.

| Knob | Parameter | Adjustment   | Setting values     |
|------|-----------|--|--------------------|
| 1    | Link No   | Link number  | 1 to maximum value |
| 3    | Num       | Select the number of consecutive numbers from the selected link number | 1 to maximum value |

**4** Press [3D Input Link], and set the link to either of the following.

- To use separate left and right signals, set to On.
- To use the same signal shared between left and right, set to Off (no indication).

### Notes

When this is set to “Off,” one signal of the predetermined pair cannot be used. For example, for IN1 and IN21, IN21 cannot be used, and is grayed out in the list.

**5** Repeat steps **3** and **4**, to set all of the primary inputs in 3D mode.



## Using pairs of primary input numbers reversed right-to-left

Press [L/R Input Exchange], setting it to On, to swap the left and right signals, and reverse the indications in the list. For example, when the left signal is IN1, and the right signal is IN21, this assigns IN21 to the left signal and IN1 to the right signal.

### Notes

When [3D Input Link] is off and [L/R Input Exchange] is set to On, then the other input of the pair can be used. For example, when using IN1 shared between left and right, you can also use IN21 shared between left and right, and IN21 also appears in the list.

## To assign inputs with the primary input numbers reversed left-to-right to cross-points

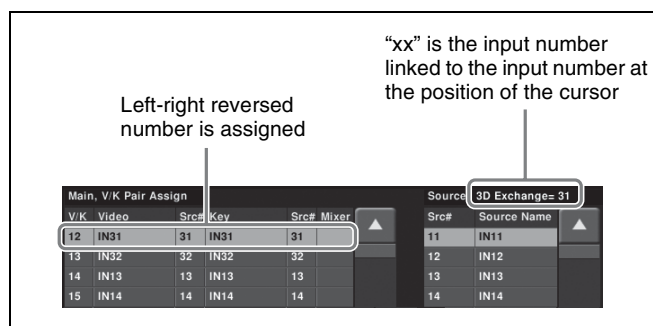
- 1 In the Input Link menu, set [L/R Input Exchange] to On, then display the Engineering Setup >Panel >Xpt Assign >Main, V/K Pair Assign menu.

In the Source field, “3D Exchange=xx” appears (“xx” is the input number linked to the input number at the position of the cursor).

In the example of the following figure, for IN11 “3D Exchange=31” appears.

- 2 Press [Set].

This sets IN31 in place of IN11.



## Combinations of left and right signals (output connectors)

The left and right signals are combined for the slots as follows.

### If [1-2 Mode] is selected on MVS-8000X

| Left signals   | Right signals |
|----------------|---------------|
| <b>Slot 13</b> |               |
| Output 1       | Output 2      |
| Output 3       | Output 4      |
| :              | :             |
| Output 19      | Output 20     |

| Left signals   | Right signals |
|----------------|---------------|
| <b>Slot 14</b> |               |
| Output 25      | Output 26     |
| Output 27      | Output 28     |
| :              | :             |
| Output 43      | Output 44     |
| <b>Slot 15</b> |               |
| MSD1           | MSD2          |
| Output 21      | Output 22     |
| Output 23      | Output 24     |
| Output 45      | Output 46     |
| Output 47      | Output 48     |

### If [1-21 Mode] is selected on MVS-8000X

| Left signals   | Right signals |
|----------------|---------------|
| <b>Slot 13</b> |               |
| Output 1       | Output 25     |
| Output 2       | Output 26     |
| :              | :             |
| Output 20      | Output 44     |
| <b>Slot 15</b> |               |
| MSD1           | MSD2          |
| Output 21      | Output 22     |
| Output 23      | Output 24     |
| Output 45      | Output 46     |
| Output 47      | Output 48     |

### If [1-2 Mode] is selected on MVS-7000X

| Left signals   | Right signals |
|----------------|---------------|
| <b>Slot 9</b>  |               |
| Output 1       | Output 2      |
| Output 3       | Output 4      |
| :              | :             |
| Output 19      | Output 20     |
| <b>Slot 10</b> |               |
| Output 25      | Output 26     |
| Output 27      | Output 28     |
| :              | :             |
| Output 43      | Output 44     |
| <b>Slot 11</b> |               |
| MSD1           | MSD2          |
| Output 21      | Output 22     |
| Output 23      | Output 24     |
| Output 45      | Output 46     |
| Output 47      | Output 48     |

### If [1-21 Mode] is selected on MVS-7000X

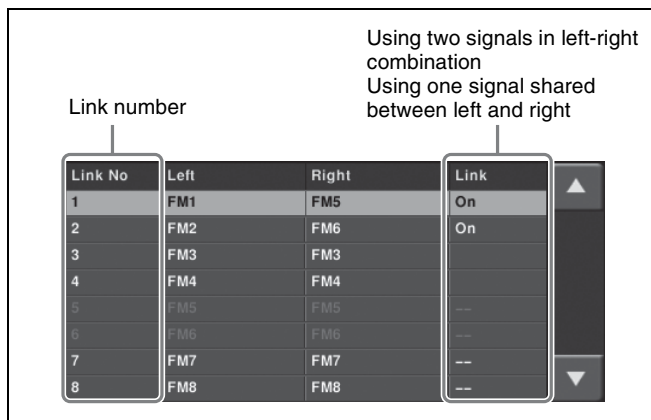
| Left signals   | Right signals  |
|----------------|----------------|
| <b>Slot 9</b>  | <b>Slot 10</b> |
| Output 1       | Output 25      |
| Output 2       | Output 26      |
| :              | :              |
| Output 20      | Output 44      |
| <b>Slot 11</b> |                |
| MSD1           | MSD2           |
| Output 21      | Output 22      |
| Output 23      | Output 24      |
| Output 45      | Output 46      |
| Output 47      | Output 48      |

### Setting frame memory outputs for 3D mode

Select whether to use frame memory outputs 1 to 8 in combinations of left and right signals for 3D mode. The left and right combinations are fixed, as 1 and 5, 2 and 6, 3 and 7, and 4 and 8.

- 1 Display the Engineering Setup >Switcher >Config >3D Config menu.
- 2 Press [FM Output Link].

The FM Output Link menu appears.



- 3 Using any of the following methods, select the link number.
  - Press directly on the list.
  - Press the arrow keys to scroll the reverse video cursor.
  - Turn the knobs.

| Knob | Parameter | Adjustment  | Setting values |
|------|-----------|-------------|----------------|
| 1    | Link No   | Link number | 1 to 8         |

| Knob | Parameter | Adjustment   | Setting values |
|------|-----------|--|----------------|
| 3    | Num       | Select the number of consecutive numbers from the selected link number | 1 to 8         |

- 4 Press [FM Link], and set the link to either of the following.
  - To use the frame memory outputs in left and right combinations, set to On.
  - To use the same frame memory output for left and right, set to Off (no indication).

#### Notes

When [FM Link] is On, frame memory output does not include ancillary data for the right image.

- 5 Repeat steps 3 and 4, to set all of the frame memory outputs for 3D mode.

### Functions for which left and right frame memory outputs are coupled when [FM Link] is On

Pair mode On/Off, clip playback, clip transition <sup>1)</sup>, clip transition snapshot

Carry out operations other than the above separately for left and right.

1) When [FM Link] is On, a clip for the right frame memory to be used in the clip transition cannot be selected in the following menus.

- M/E-1 >Misc >Transition >Clip Transition >Clip menu
- M/E-2 >Misc >Transition >Clip Transition >Clip menu
- P/P >Misc >Transition >Clip Transition >Clip menu
- The selection must be made in the Frame Memory >Clip >Recall menu

### Switching the type of DME output signal (video/key) assigned to a monitor signal

The function for switching the signal type of the monitor output (one channel) to video or key is assigned to one of the Prefs buttons of the Menu control block or one of the buttons of the Utility/Shotbox control block (DME MON KEY command).

For details of the assignment, see “Settings Button Assignment (Prefs/Utility Menu)” in Chapter 19 (Volume 2).

### To switch the signal type of DME output (video/key) assigned to a monitor signal

Press the DME MON KEY command assigned button and turn it on to assign DME key output to a monitor signal. Then press the button and turn it off to assign DME video output to a monitor signal.

For details of selection of the DME channels to be assigned to a monitor signal, see “Assigning a DME output signal as a monitor signal” (page 108).

## Selecting the signal output from a DME monitor output connector

- 1 Display the Engineering Setup >DME >Output >Monitor Output menu.
- 2 Press [DME1] or [DME2] to select the DME to operate on.
- 3 On the left, select MONI OUT#1 or MONI OUT#2.
- 4 On the right, select the signal.  
You can select any of Ch1 Video, Ch1 Key, Ch2 Video, and Ch2 Key.
- 5 Press [Set].  
This assigns the signal.

## Restrictions in 3D Mode

In 3D mode, the following restrictions apply.

| Restrictions                                  | Details   |
|---|---|
| Functions that cannot be used in the switcher | <ul style="list-style-type: none"> <li>• 73 or more signal inputs (MVS-8000X) or 41 or more signal inputs (MVS-7000X)</li> <li>• 11 or more premium input signals (MVS-8000X only)</li> <li>• 25 or more signal outputs</li> <li>• M/E-2 bank <sup>a)</sup></li> <li>• M/E-3 bank</li> <li>• Key 5 to Key 8 <sup>b)</sup></li> <li>• DME utility buses 1, 2</li> <li>• Color corrector 2</li> <li>• Format converter</li> <li>• AUX mix transition</li> <li>• Logical M/E Assign in the Engineering Setup &gt;Switcher &gt;Config menu</li> </ul> |
| Functions that cannot be used on the DME      | <ul style="list-style-type: none"> <li>• DME channels 3, 4, 7, 8</li> <li>• DME monitor output numbers 3 and 4</li> <li>• Editor ports 3 and 4 when the editor port operation mode is set to "Independent"</li> </ul>   |
| Other restrictions                            | <ul style="list-style-type: none"> <li>• Auto chroma keying is carried out on the left image.</li> <li>• Tallies are generated based on the left signal in the PGM/PST bank.</li> <li>• Dual Simul cannot be selected in the Engineering Setup &gt;System &gt;System Config menu.</li> </ul>  |

a) In MVS-8000X

b) In MVS-7000X

## Video Creation in 3D Mode

### Adjusting the parallax using the DME

By adjusting the parallax (*see page 216*), you can control the degree of depth perception.

- 1 Display the Global Effect >Ch1 to Ch4 >3D Mode menu.
- 2 To adjust the parallax, press [Parallax].
- 3 Turn the knobs to adjust the following parameters.

| Knob | Parameter    | Adjustment                        | Setting values |
|------|--------------|-----------------------------------|----------------|
| 1    | 1ch Parallax | Adjust the parallax for channel 1 | 0.00 to 8.00   |
| 2    | 2ch Parallax | Adjust the parallax for channel 2 | 0.00 to 8.00   |

### Notes

If the position of an image in three-dimensional space is in the plane of the monitor screen, adjusting the parallax does not change the 3D effect. In this case, adjust the parameters in the local coordinate space so that the image is either in front of or behind the plane of the screen before adjusting the parallax.

- 4 To adjust the perspective without changing a size or shape, press [Disparity].
- 5 Turn the knobs to adjust the following parameters.

| Knob | Parameter     | Adjustment  | Setting values |
|------|---------------|---|----------------|
| 1    | 1ch Disparity | Adjust the degree of depth perception for channel 1 | –8.00 to 8.00  |
| 2    | 2ch Disparity | Adjust the degree of depth perception for channel 2 | –8.00 to 8.00  |

# M/E Configuration Switching

On the MVS-7000X, a single mix/effect board MKS-7210X can be shared among a number of M/E banks.

On up to a maximum of three boards, 2M/E mode, 3M/E mode, or 4M/E mode can be assigned. It is also possible to set no assignment.

Using this function, you can select the M/E configuration of the whole switcher from the following.

| Number of assigned M/Es | Number of keys available on a single M/E |   |
|-------------------------|--|---|
| 1                       | 8  |   |
| 2                       | 4  |   |
| 3                       | M/E-1, M/E-2                             | 2 |
|                         | PGM/PST                                  | 4 |
| 4                       | 2  |   |

In this manual, using a single MKS-7210X board is referred to as 1M/E mode, 2M/E mode, 3M/E mode, or 4M/E mode depending on the maximum number of M/Es on which the board is used.

## Notes

- When three or four M/Es are assigned to a board, the other two boards are automatically indicated as “Disable”, and assignment is no longer possible.

## Restrictions in 3M/E mode and 4M/E mode

In 3M/E mode and 4M/E mode, the following restrictions apply.

| Classification | 3M/E mode        |   | 4M/E mode        |  |
|----------------|------------------|---|------------------|--|
| Operation mode | All M/Es and P/P | DSK mode and multi-program 2 mode cannot be set.  | All M/Es and P/P | <ul style="list-style-type: none"> <li>DSK mode and multi-program 2 mode cannot be set.</li> <li>[Utility 2] cannot be selected for the background in multi-program mode.</li> </ul> |
|                | M/E-1, M/E-2     | [Utility 2] cannot be selected for the background in multi-program mode.  |                  |  |
| M/E assignment | All M/Es and P/P | Logical M/E Assign cannot be used.  | All M/Es and P/P | Logical M/E Assign cannot be used.   |
| Wipes          | All M/Es and P/P | <ul style="list-style-type: none"> <li>Pattern mix cannot be used.</li> <li>Pattern number 162 wipes cannot be used.</li> </ul> | All M/Es and P/P | <ul style="list-style-type: none"> <li>Pattern mix cannot be used.</li> <li>Pattern number 162 wipes cannot be used.</li> </ul>  |
|                | M/E-2            | <ul style="list-style-type: none"> <li>Random/diamond dust wipes can be used.</li> <li>Dust mix cannot be used.</li> </ul>      | M/E-2, M/E-3     | <ul style="list-style-type: none"> <li>Random/diamond dust wipes can be used.</li> <li>Dust mix cannot be used.</li> </ul>   |
| Wipe border    | M/E-2            | Wipe border colors are single-color only.   | M/E-2, M/E-3     | Wipe border colors are single-color only.  |

- When the signal format is 1080P, each MKS-7210X board can only be used on a single 1M/E and the number of available keys is 4.
- In 2M/E mode, DME selection on a single M/E is as follows.
  - Two places when the dedicated interface is used.
  - One place when the SDI interface is used.

## Setting the number of M/Es for each board

Use the following procedure.

- Display the Engineering Setup >System >Install/Unit Config >Unit Config >M/E Split menu.



- In each of the <M/E Split (1st Board)> to <M/E Split (3rd Board)> groups, select one of [1ME] to [4ME].

For no assignment to any M/E, select [Disable].

- Press [Execute].

| Classification   | 3M/E mode    |   | 4M/E mode        |  |
|------------------|--------------|---|------------------|--|
| M/E outputs      | M/E-1, M/E-2 | Out5 and Out6 cannot be used.   | All M/Es and P/P | Out5 and Out6 cannot be used.  |
| Signal selection | M/E-1, M/E-2 | PROC V and PROC K signals cannot be selected with any cross-point button.   | All M/Es and P/P | PROC V and PROC K signals cannot be selected with any cross-point button.  |
| Utility bus      | M/E-1        | Since only one utility bus is available, utility 1 bus is used instead of utility 2 bus in the following functions. <sup>a)</sup> <ul style="list-style-type: none"> <li>• Wipe border</li> <li>• Preset color mix</li> <li>• Backgrounds of DME wipes</li> </ul> | M/E-1, P/P       | Since only one utility bus is available, utility 1 bus is used instead of utility 2 bus in the following functions. <ul style="list-style-type: none"> <li>• Wipe border</li> <li>• Preset color mix</li> <li>• Backgrounds of DME wipes</li> </ul>                                      |
|                  | M/E-2        | Since only one utility bus is available, you cannot select the following functions. <ul style="list-style-type: none"> <li>• Key border</li> <li>• Sub mask</li> <li>• Preset color mix</li> <li>• Wipe border</li> </ul>   | M/E-2, M/E-3     | Since only one utility bus is available, you cannot select the following functions. <ul style="list-style-type: none"> <li>• Key border</li> <li>• Sub mask</li> <li>• Preset color mix</li> <li>• Wipe border</li> </ul>  |
|                  | M/E-2        | If you select a DME wipe which uses a utility bus for a background image, a color matte signal is used instead of a utility bus signal.   | M/E-2, M/E-3     | If you select a DME wipe which uses a utility bus for a background image, a color matte signal is used instead of a utility bus signal.  |
| Side flags       | M/E-2        | Side flags cannot be used.  | M/E-2, M/E-3     | Side flags cannot be used.   |
| DME              | M/E-1, M/E-2 | The same restrictions as those for 4M/E apply.  | All M/Es and P/P | <ul style="list-style-type: none"> <li>• For the dedicated interface, DME can be used in only one place for each M/E.</li> <li>• For the SDI interface, DME wipes and processed keys cannot be used.</li> <li>• Only one-channel mode patterns can be selected for DME wipes.</li> </ul> |
|                  | P/P          | DMEs can be used in two places for a dedicated interface, or one place for an SDI interface.  |                  |  |

a) No restriction is applied to P/P. Thus, both utility buses 1 and 2 can be used for P/P.

# DME Operations

## Chapter

# 11

## DME

DME (Digital Multi Effects) allows you to add three-dimensional effects such as image movement, rotation, magnification and shrinking, as well as a wide variety of special effects. DME is the general name for all of these effects.

You can use up to eight channels as dedicated DME channels.

Each channel can be used on its own or in combination with other channels, which allows you to create advanced effects with more complexity.

Functions that can be used differ with the models of DME.

For details, see “Functional Differences With Models of DME” (page 362) in Appendix.

## Three-Dimensional Transformations

Transformation is the process of placing a video image in a three-dimensional DME coordinate space and subjecting it to manipulations such as movement, rotation, magnification or shrinking.

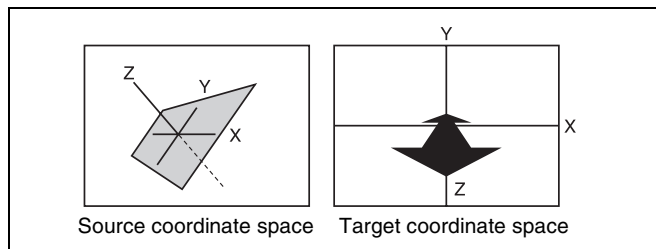
### Three-dimensional coordinate space

#### Source coordinate space and target coordinate space

Images are placed in one of two types of coordinate space: source coordinate space and target coordinate space.

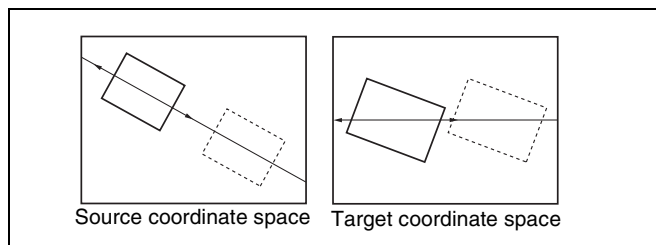
- The source coordinate space is a three-dimensional coordinate space with reference to the image itself. The X- and Y-axes are defined parallel to the plane of the image, and the Z-axis is defined perpendicular to the plane of the image. When you move the image, the coordinate axes also move.
- The target coordinate space is a three-dimensional coordinate space with reference to the output monitor screen. The X- and Y-axes are defined parallel to the

plane of the monitor screen, and the Z-axis is defined perpendicular to the plane of the monitor screen. The coordinates do not move even if the image moves.



Source coordinate space and target coordinate space

For example, as shown in the following figure, the image moves in a different direction when you move it along the X-axis of the source coordinate space and along the X-axis of the target coordinate space.

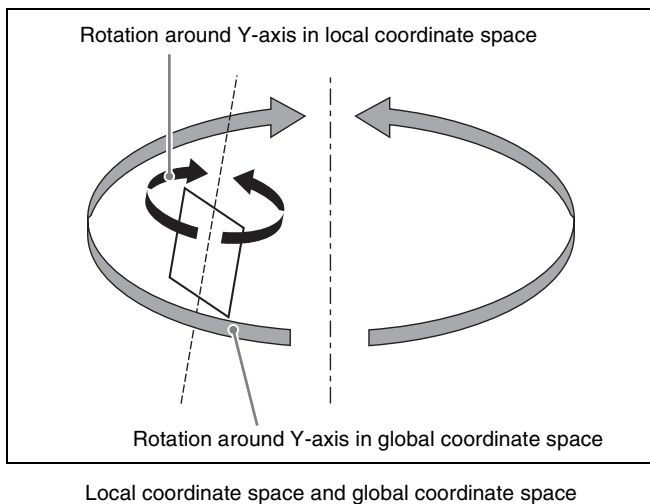


Movement along the X-axes of the source coordinate space and target coordinate space

### Local coordinate space and global coordinate space

The coordinates of an individual DME channel are called its local coordinate space. The coordinates common to all channels are called the global coordinate space.

By switching from local to global coordinate space, you can add new movement to the movement of images in individual channels, and also apply transformation effects to multiple channels that have been combined by Global effects (see page 304).



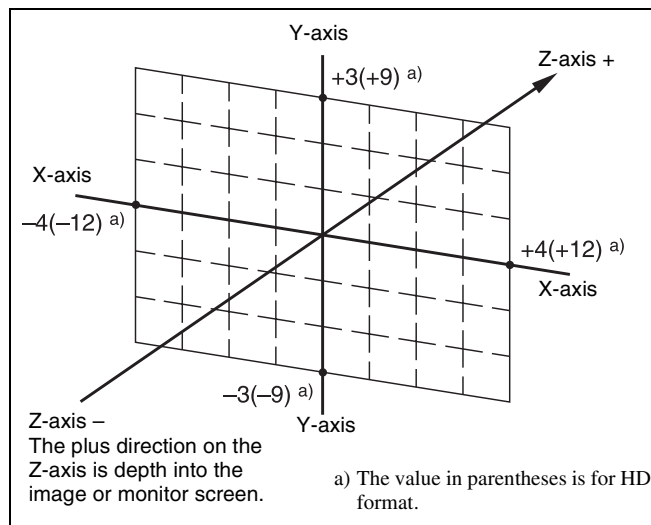
### Three-dimensional parameters

Three-dimensional parameters are X, Y, and Z values which define the position of an image, its axis of rotation, the position of an imaginary point of view on the image, and so on.

The standard values of parameters are as follows, depending on the aspect ratio of your monitor (4:3 or 16:9).

#### Values for 4:3 mode

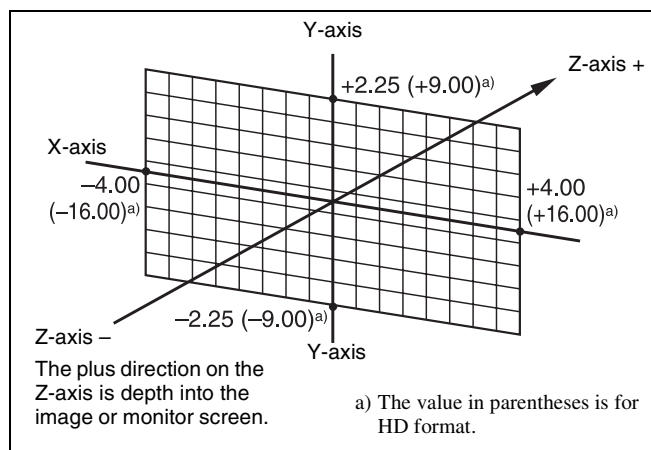
- **Origin at center of image (source coordinate space) or center of monitor (target coordinate space)**  
X = 0.00, Y = 0.00, Z = 0.00
- **Upper right corner of image or monitor**  
When using SD format signals: X = 4.00, Y = 3.00, Z = 0.00  
When using HD format signals: X = 12.00, Y = 9.00, Z = 0.00
- **Lower left corner of image or monitor**  
When using SD format signals: X = -4.00, Y = -3.00, Z = 0.00  
When using HD format signals: X = -12.00, Y = -9.00, Z = 0.00



Values for X-, Y-, and Z-axes (4:3 mode)

#### Values for 16:9 mode

- **Origin at center of image (source coordinate space) or center of monitor (target coordinate space)**  
X = 0.00, Y = 0.00, Z = 0.00
- **Upper right corner of image or monitor**  
When using SD format signals: X = 4.00, Y = 2.25, Z = 0.00  
When using HD format signals: X = 16.00, Y = 9.00, Z = 0.00
- **Lower left corner of image or monitor**  
When using SD format signals: X = -4.00, Y = -2.25, Z = 0.00  
When using HD format signals: X = -16.00, Y = -9.00, Z = 0.00



Values for X-, Y- and Z-axes (16:9 mode)

### Limits of three-dimensional parameters

The following table shows the limits of three-dimensional transformation parameters.

The three-dimensional parameters of an image change when you use the trackball or Z-ring to execute a transformation. You can also execute a transformation by entering parameter values from the numeric keypad control block.

| Operation mode     | Limits of three-dimensional transformation parameters |      |                        |
|--------------------|---|------|------------------------|
| Location XYZ       | HD format:  |      | –999.9999 to +999.9999 |
|                    | SD format:  | 4:3  | –333.3333 to +333.3333 |
|                    |   | 16:9 | –250.0000 to +250.0000 |
| Rotation, Spin     | –999.9999 to +999.9999                                |      |                        |
| Axis Location      | HD format:  |      | –999.9999 to +999.9999 |
|                    | SD format:  | 4:3  | –333.3333 to +333.3333 |
|                    |   | 16:9 | –250.0000 to +250.0000 |
| Location Size      | 0.0000 to +999.9999                                   |      |                        |
| Aspect             | 0.0000 to +2.0000                                     |      |                        |
| Perspective (X, Y) | HD format:  |      | –999.9999 to +999.9999 |
|                    | SD format:  | 4:3  | –333.3333 to +333.3333 |
|                    |   | 16:9 | –250.0000 to +250.0000 |
| Perspective (Z)    | 0.0000 to 999.9999                                    |      |                        |
| Skew               | –9.9999 to +9.9999                                    |      |                        |

## Detents

The system defines points called detents at regular intervals on the three-dimensional space. Pressing the [CTR] button (*see page 239*) in the device control block sets the current three-dimensional parameter values to the closest detent points.

The following table shows the interval between successive detents for each transformation operation mode (*see page 226*).

| Operation mode     | Detent interval      |
|--------------------|----------------------|
| Location XYZ       | 1.0000               |
| Rotation, Spin     | 0.2500               |
| Axis Location      | 1.0000               |
| Location Size      | 0.2500               |
| Aspect             | 1.0000 <sup>a)</sup> |
| Perspective (X, Y) | 1.0000               |
| Perspective (Z)    | 1.0000 <sup>a)</sup> |
| Skew               | 0.1000               |

a) When a value is smaller than 1, 1/Aspect or 1/Perspective (Z) is adjusted to an integral value.

## Three-dimensional parameter default values

Each of the transformation operation modes has default values for three-dimensional parameters. If required, you can return the current value to the defaults by pressing the [CTR] (*see page 239*) button in the device control block twice in rapid succession.

The following table shows the default parameter values for each transformation operation mode.

| Operation mode     | Default value |
|--------------------|---------------|
| Location XYZ       | 0.0000        |
| Rotation, Spin     | 0.0000        |
| Axis Location      | 0.0000        |
| Location Size      | 1.0000        |
| Aspect             | 1.0000        |
| Perspective (X, Y) | 0.0000        |
| Perspective (Z)    | 1.0000        |
| Skew               | 0.0000        |

## Resetting of parameter values set in the source coordinate space

In some transformation operation modes, if you switch to the target coordinate space after setting up a three-dimensional transformation in the source coordinate space, the setting values in the source coordinate space (three-dimensional parameter values) are converted to values in the target coordinate space (source/target conversion). Once a conversion has taken place, the original source coordinate space parameters do not return to their original values when you switch back to the source coordinate space. They are reset to zeros.

Source/target conversion occurs in the following operation modes:

- Location XYZ
- Rotation

## Transformation Operation Modes

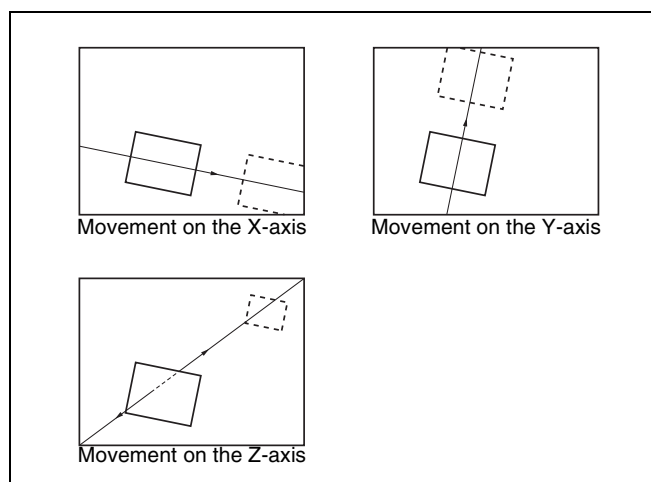
The following operation modes are available for three-dimensional DME transformations. These operations are carried out in the device control block (trackball or joystick). *For details, see “Three-Dimensional Transformation Operations” (page 238).*

### Location XYZ

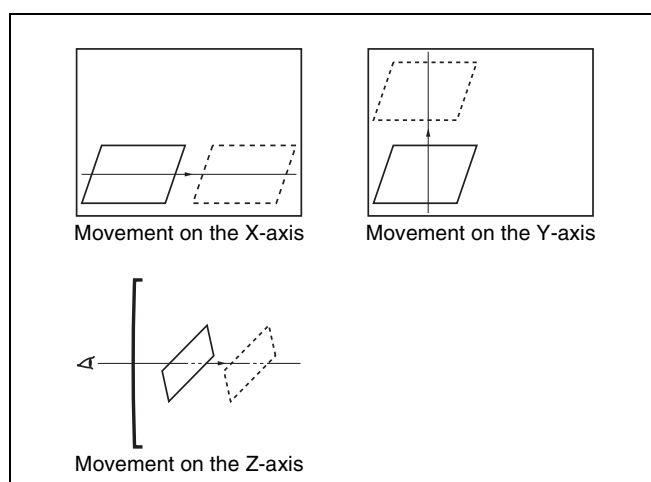
Moves the image on the X-axis, Y-axis, or Z-axis. The direction of movement differs depending on whether you are manipulating the image in the source coordinate space or the target coordinate space.



## Image movement in the source coordinate space



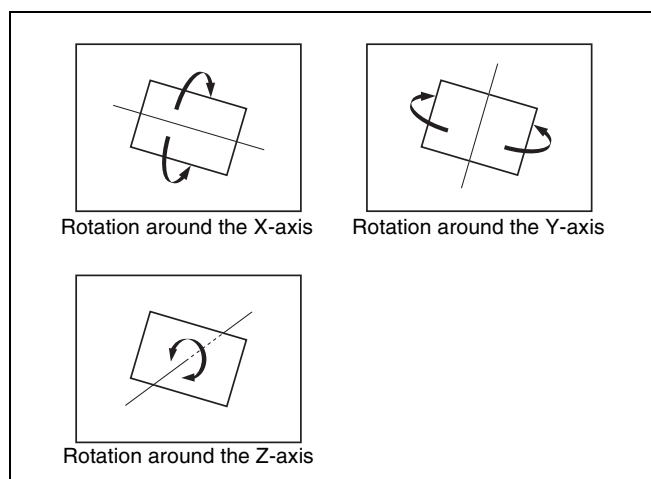
## Image movement in the target coordinate space



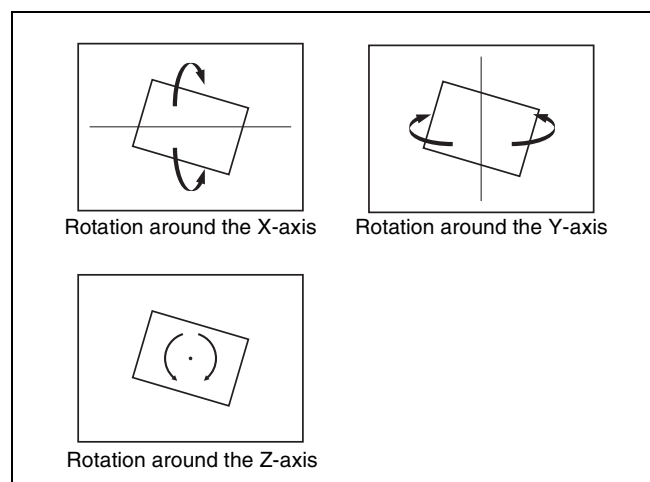
## Rotation

Rotates the image on the X-axis, Y-axis, or Z-axis. The type of rotation differs depending on whether you are manipulating the image in the source coordinate space or the target coordinate space.

### Image rotation in the source coordinate space



## Image rotation in the target coordinate space



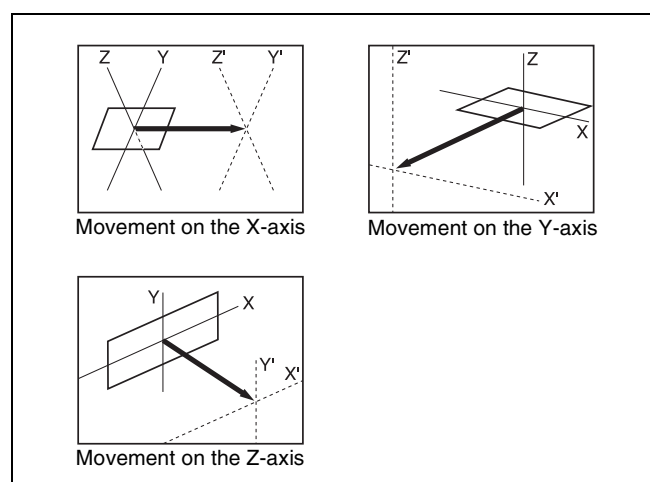
## Spin

When rotating the image in Rotation mode, it may not always be possible to achieve the kind of rotation around an axis that you want. Combining Rotation mode with Spin mode creates an effect that rotates the image around a specified axis. The type of rotation differs depending on whether you are manipulating the image in the source coordinate space or the target coordinate space. The way the image rotates around an axis is the same as in Rotation mode.

## Axis location

Moves an axis of rotation in the source coordinate space.

## Axis movement



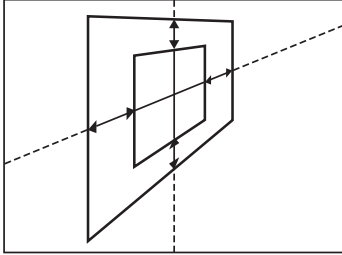
## Location size

Changes the size of the whole image.

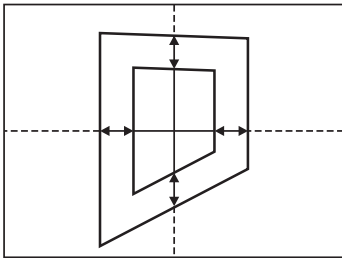
- Because shrinking and magnification of the image in the source coordinate space is done in three-dimensional space, magnifying the image emphasizes the sense of perspective.

- Because shrinking and magnification of the image in the target coordinate space is a conversion of the two-dimensional image displayed on the monitor, shrinking and magnification does not change the shape of the image.

### Magnification and shrinking in the source coordinate space

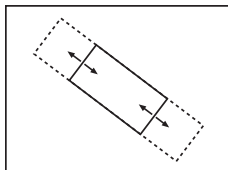


### Magnification and shrinking in the target coordinate space

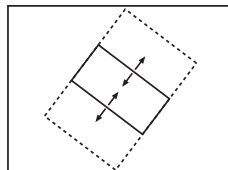


### Aspect

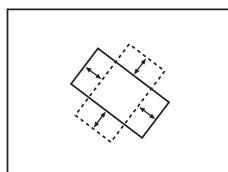
In the source coordinate space, changes the aspect ratio in the X-axis direction and Y-axis direction, either independently or simultaneously.



Change of aspect ratio in X-axis direction



Change of aspect ratio in Y-axis direction

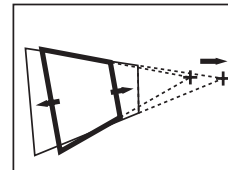


Simultaneous change aspect ratio in X-axis direction and Y-axis direction

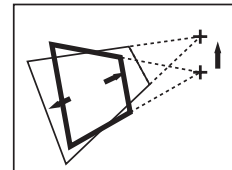
### Perspective

In the target coordinate space, changes the perspective on the image by changing the virtual view point, without changing the position of the image.

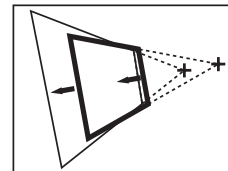
The X-axis and Y-axis values define the position of the view point. The Z-axis value defines its distance from the image.



Change of view point on X-axis



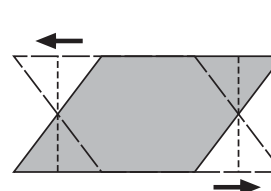
Change of view point on Y-axis



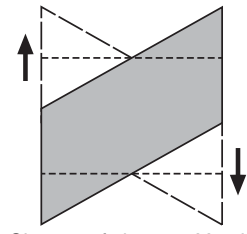
Change of distance from view point to image

### Skew

In the source coordinate space, change the skew of the image on the X-axis or Y-axis.



Change of skew on X-axis



Change of skew on Y-axis

## Graphics Display

Graphics display is a function that allows you to display wire frames, coordinate axes and a grid over the current DME image, to make it easier to create effects in three-dimensional coordinate space.

Graphics displayed by this function can also be output to the monitor output connector.

To make graphics display settings, use the DME menu. For details, see “Graphics Display Operation” (page 242).

You can display the following kinds of graphics.

### Wire frames

A wire frame displays an image enclosed in a frame, so that you can check the position and size of the image. If there is a shadow (see page 310), a frame is shown for the shadow as well.

### Coordinate axes

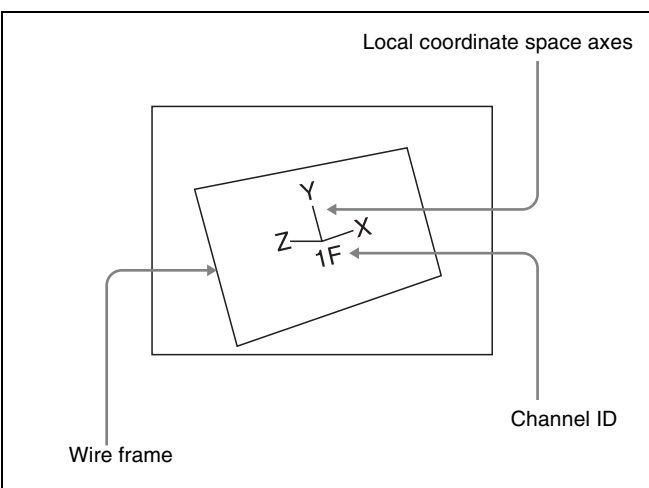
This is a three-dimensional display of coordinates in local or global coordinate space. You can check the origin of the axes and the directions of the X-, Y-, and Z-axes.

### Channel ID

This displays the channel number so that you can check which channel you are using, a useful feature when you are working with multiple channels.

Channel IDs are displayed differently in local and global coordinate space.

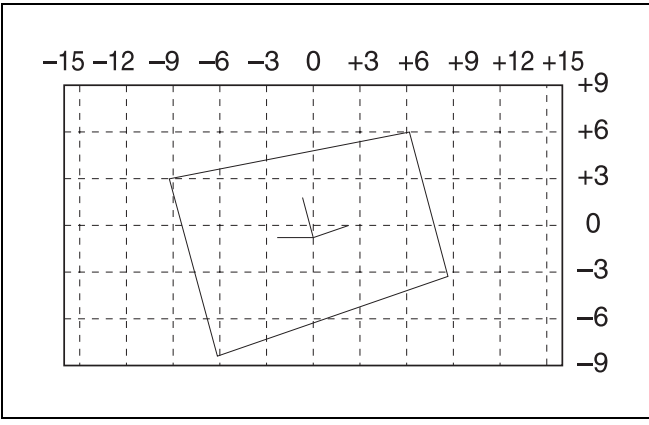
- In local coordinate space, the channel number is displayed along with “F” or “B” to indicate whether you are looking at the front (F) or back (B) of the current wire frame. For example, “1F” means the front of the wire frame on channel 1 in local coordinate space.
- In global coordinate space, the channel number is displayed along with “G” to indicate global. For example, “G2” means channel 2 in global coordinate space.



Wire frame, local coordinate space axes, and channel ID

### Grid

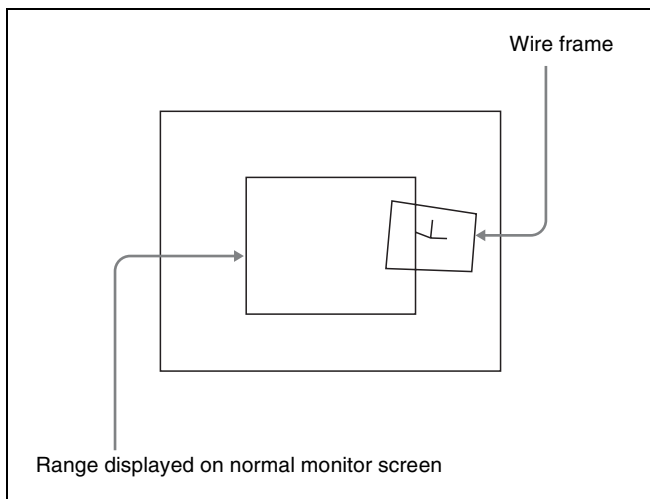
This is a grid pattern representing the whole of the monitor screen. The grid makes it easy to set the position of an image in two-dimensional coordinates.



Grid (16:9 mode)

### Shrinking the graphics display

You can shrink the graphics display so that you can see beyond the range displayed on the normal monitor screen. This makes it possible to visually set the location of images in a larger space. The range displayed on a normal monitor screen is indicated by a frame.



### To automatically erase the graphic display

Turn Auto Erase on. The graphic display is erased automatically whenever a keyframe is executed. It is displayed again after the keyframe ends, after the time set in Recovery Time.

### Flex Shadow center axis

When using the Flex Shadow function (see page 251), turn Flex Shadow Axis on to display the Flex Shadow center axis. This is an effective aid in making settings for this function.

### Notes

The Flex Shadow center axis function is not supported on the MVE-8000A.

## Three-Dimensional Parameter Display

You can display a three-dimensional parameter list for the currently controlled image. When more than one DME channel is selected, the status of the reference channel is displayed.


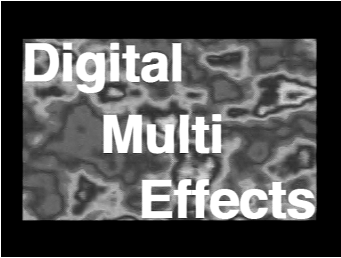

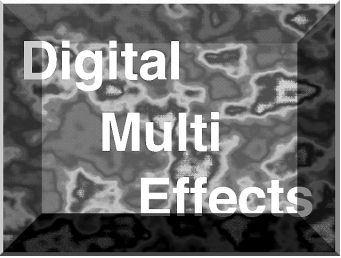
*For the method of displaying a parameter list and an example display, see “Viewing the three-dimensional parameter details” (page 241).*



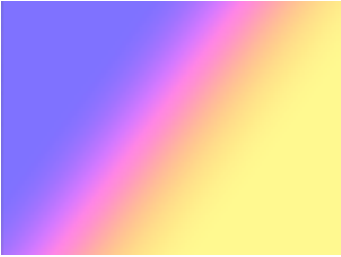
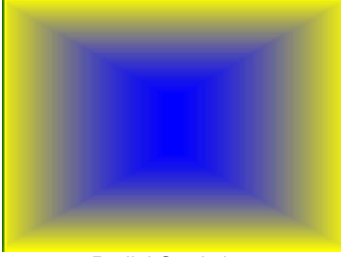
## Special Effects



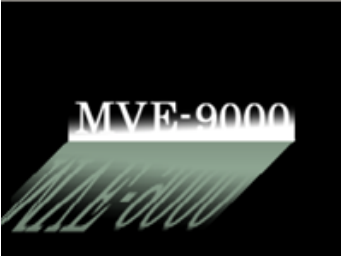
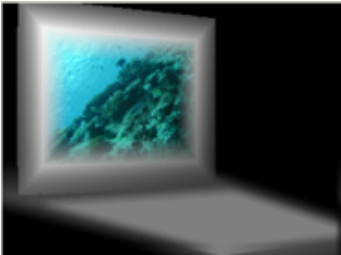
You can use DME to add a variety of special effects. The special effects shown below can be applied.

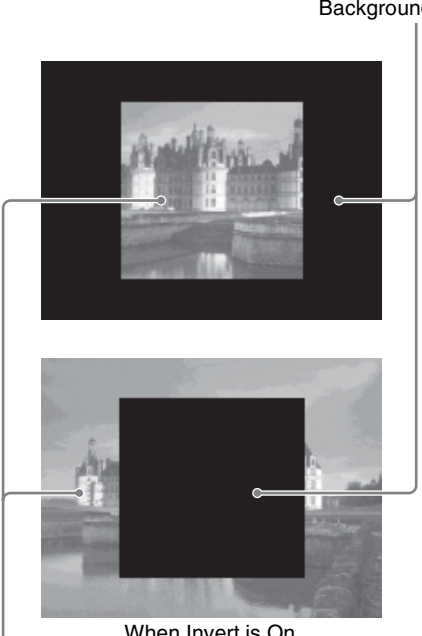
Functions that can be used differ with the models of DME. For details, see “Functional Differences With Models of DME” (page 362).

Edge effects

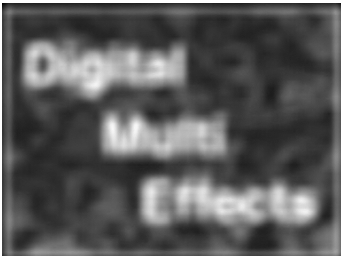
| Name                            | Effect/Image   |
|---------------------------------|--|
| Border<br>(See page 244.)       | <div>Adds a border to the image frame. You can adjust the width (or thickness) of the border, its color, and the softness of the border edges.</div> <div></div>  |
| Crop<br>(See page 245.)         | <div>Crops away the edges of the image. You can crop the top, bottom, left, and right sides individually or all together. You can also soften the cropped edges.</div> <div></div>   |
| Beveled Edge<br>(See page 246.) | <div>Gives an image a beveled edge. You can set the edge width and color. The inner edge softness and edge boundary softness can also be set.</div> <div><div><p>Color</p></div><div><p>Lights</p></div></div> |


| Name                          | Effect/Image  |
|-------------------------------|---|
| Key Border<br>(See page 247.) | <div>Adds borders to keys or gives a key consisting of an outline only.</div> <div></div>  |
| Art Edge<br>(See page 247.)   | <div>Adds edges to the inner and outer side of the input image.<br/>The following items can be set.<ul style="list-style-type: none"><li>• Art edge width and position</li><li>• Separate softening of the art edge inner and outer sides</li><li>• Color of art edges</li></ul></div> <div>Examples of Art Edge source</div> <div><div><p>Gradation Matte</p></div><div><p>Rainbow Matte</p></div><div><p>Radial Gradation</p></div></div> |

| Name                           | Effect/Image  |
|--------------------------------|---|
|                                |  <p>Radial Rainbow</p> <p>Examples of Art Edge source [Rainbow Matte]</p>   |
| Flex Shadow<br>(See page 251.) | <p>Allows a shadow to be added to the image using only one DME channel. The following settings can be made for the shadow.</p> <ul style="list-style-type: none"> <li>• The signal to use for the shadow <ul style="list-style-type: none"> <li>- External: Generate shadow using input key signal.</li> <li>- Internal: Generate shadow using an internally generated, full-size DME key signal.</li> </ul> </li> <li>• Shadow shrinking and magnification</li> <li>• Shadow position</li> <li>• Shadow color and density</li> <li>• Center axis of deformation</li> <li>• Shadow slant and perspective</li> </ul>  <p>Flex Shadow Source = External</p>  <p>Flex Shadow Source = Internal</p> |

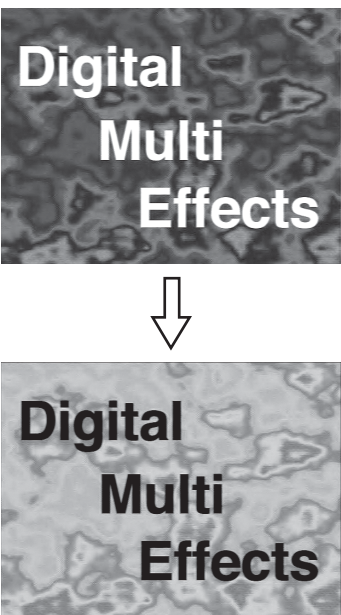
| Name                         | Effect/Image   |
|------------------------------|--|
| Wipe Crop<br>(See page 255.) | <p>Crops the video image to be visible inside or outside a wipe pattern.</p>  <p>Background</p> <p>When Invert is On</p> <p>Video image</p> |

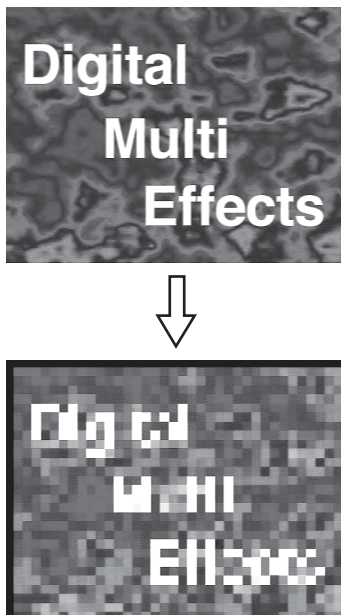
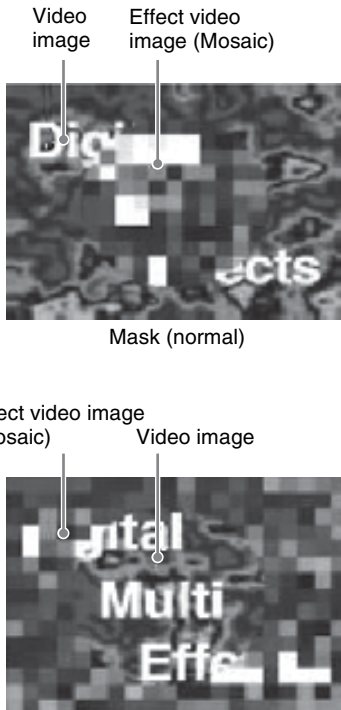
## Effects for entire image

| Name                       | Effect/Image  |
|----------------------------|---|
| Defocus<br>(See page 258.) | <p>Defocuses the whole image. The degree of defocusing can be set simultaneously or separately for video and key signals. However, when the DME dedicated interface is used, the degree of defocusing can be set for video signals only. You can also cancel the black level leaking that occurs at the edge of the screen when the Defocus effect is used.</p>  |
| Blur<br>(See page 259.)    | <p>Applies a rounded blurring to the whole image.</p>   |





| Name                          | Effect/Image  |
|-------------------------------|---|
| Multi Move<br>(See page 260.) | Shrinks the image and lines up a number of copies vertically and horizontally. You can specify the center point of the shrinking, the shrinking ratio, and the aspect ratio of the image screen.<br> |

## Effects for video image

| Name                             | Effect/Image   |
|----------------------------------|--|
| Sepia<br>(See page 261.)         | Overlays a specified color onto the image. You can adjust the sepia color that is overlaid, and specify the degree of mixing between the original image and the sepia image. |
| Mono<br>(See page 261.)          | Converts the image into a monochrome image.  |
| Posterization<br>(See page 261.) | Coarsens the luminance gradations of the image, for a painting-like effect.  |
| Solarization<br>(See page 261.)  | Coarsens the chroma gradations of the image, for a painting-like effect.   |
| Nega<br>(See page 262.)          | Reverses the luminance or chroma of the image.<br>  |
| Contrast<br>(See page 262.)      | Changes the contrast of the luminance and chroma of the image.   |

| Name                      | Effect/Image  |
|---------------------------|---|
| Mosaic<br>(See page 262.) | Divides the image into small tiles so that it looks like a mosaic. You can specify the size and aspect ratio of the tiles.<br> |
| Mask<br>(See page 265.)   | Masks part of the picture, so that special effects are applied only inside a selected pattern.<br>                           |



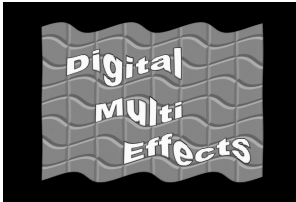
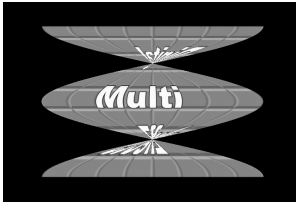
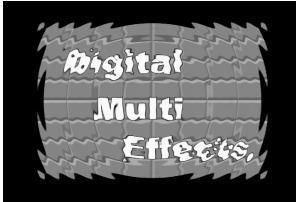
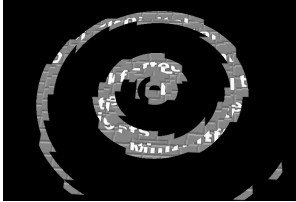


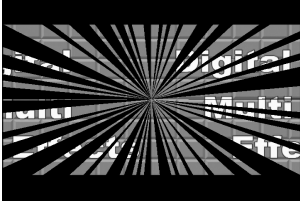
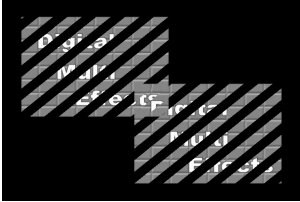
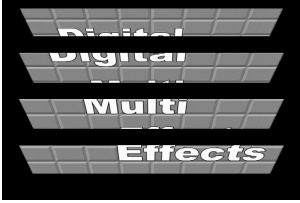
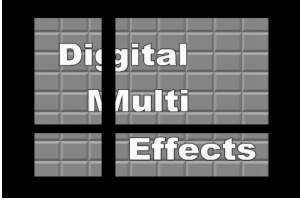



| Name                            | Effect/Image  |
|---------------------------------|---|
| Sketch<br>(See page 262.)       | Provides a sketch-like effect based on the outlines of the image, using different touches such as sketch, edge color, drawing, relief, and sharp.<br><br>Sketch                |
| Metal<br>(See page 264.)        | Provides a metallic gloss like that from gold, silver, or a rainbow colored surface. A metallic gloss can also be given to a freely selected color.<br>                        |
| Dim and Fade<br>(See page 264.) | The Dim effect makes the image darker as it recedes into the distance. The Fade effect makes the image fade into the background as it recedes into the distance.<br><br>Fade |
| Glow<br>(See page 265.)         | Softens the edges of highlights, giving an effect like being struck by a soft light.<br>   |





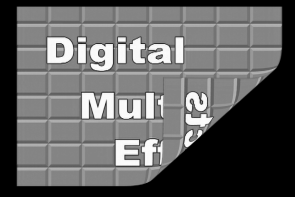

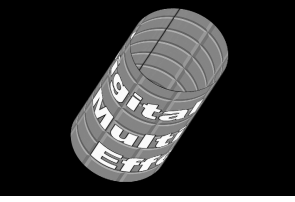
## Freeze effects

Freezes the input video. The video can also be frozen at a specified interval (*see page 267*).



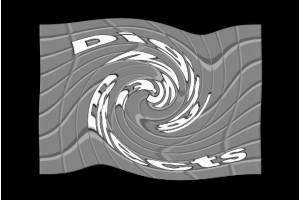

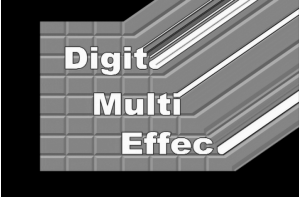
## Nonlinear effects

| Name                            | Effect/Image   |
|---------------------------------|--|
| Wave<br>(See page 268.)         | Produces a wave-like effect in the image.<br>   |
| Mosaic Glass<br>(See page 270.) | Makes the image rougher and finer at a specified interval.<br>                        |
| Flag<br>(See page 270.)         | Applies an effect like a flag waving in the wind.<br>                                 |
| Twist<br>(See page 270.)        | Twists the image.<br>   |
| Ripple<br>(See page 271.)       | Applies an effect like ripples moving across the image.<br>                         |
| Rings<br>(See page 274.)        | Partitions the image into rings that rotate while moving in the same direction.<br> |

| Name                            | Effect/Image  |
|---------------------------------|---|
| Broken Glass<br>(See page 274.) | Partitions the image like broken glass, with shards flying outward.<br>                                  |
| Flying Bar<br>(See page 275.)   | Divides the image into bars which peel off in two blocks as they move.<br>                               |
| Blind<br>(See page 275.)        | Divides the image into bars or wedges, with blocks rotating like the slats of venetian blinds.<br>       |
| Split<br>(See page 276.)        | Splits the image upper and lower, left and right.<br>   |
| Split Slide<br>(See page 276.)  | Divides the image into bars which slide alternately in reverse directions.<br>                         |
| Mirror<br>(See page 277.)       | Partitions the image vertically and horizontally, creating an image like a reflection in a mirror.<br> |
| Multi Mirror<br>(See page 277.) | Divides the image into originals and reflections, lining them up vertically and horizontally.<br>      |

| Name                            | Effect/Image   |
|---------------------------------|--|
| Kaleidoscope<br>(See page 278.) | Creates an image like a view into a kaleidoscope.<br>                                     |
| Lens<br>(See page 278.)         | Creates an image like a view through a lens.<br>  |
| Circle<br>(See page 279.)       | Makes a circle with the image.<br>  |
| Panorama<br>(See page 279.)     | Curves the upper and lower edges of the image to emphasize the sense of perspective.<br> |
| Page Turn<br>(See page 279.)    | Turns the image like a turning page.<br>  |
| Roll<br>(See page 280.)         | Rolls the image up.<br>   |
| Cylinder<br>(See page 280.)     | Winds the whole image onto a cylinder.<br>  |






| Name                               | Effect/Image  |
|------------------------------------|---|
| Sphere<br>(See page 281.)          | Winds the whole image onto a sphere.<br>                           |
| Explosion<br>(See page 281.)       | Divides the image into fragments which expand as they fly out.<br> |
| Swirl<br>(See page 281.)           | Swirls the image.<br>  |
| Melt<br>(See page 282.)            | Melts the image away from a specified part.<br>                   |
| Character Trail<br>(See page 283.) | Extends the edge of the image like a trail.<br>                  |

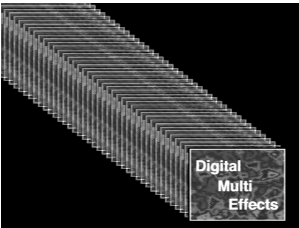
## Corner Pinning effect



| Name                              | Effect/Image   |
|-----------------------------------|--|
| Corner Pinning<br>(See page 302.) | Provides the effect of inserting the foreground in the background, allowing the four corners to be positioned freely, so that the image fills the quadrilateral outlined by the corners.<br><br><br>Background<br><br><br>Foreground (in cropped state)<br><br><br>Corner Pinning (when Crop Link is on) |

Lighting effects

| Name                            | Effect/Image  |
|---------------------------------|---|
| Lighting<br>(See page 284.)     | <div>Provides the effect of light striking the image.</div> <div><p>Normal</p><p>Specular</p><p>Mat</p></div> |
| Spotlighting<br>(See page 291.) | Creates the effect of a spotlight striking the surface of the image.  |

Recursive effects

| Name                     | Effect/Image  |
|--------------------------|---|
| Trail<br>(See page 286.) | <div>Recursively freezes the input video at regular intervals so that a trail of afterimages is created. You can make the afterimages stardust trails.</div> <div></div> |

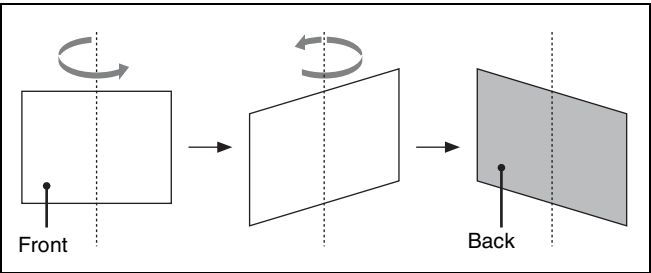
| Name                               | Effect/Image  |
|------------------------------------|---|
| Motion Decay<br>(See page 288.)    | <div>Blurs the motion of a moving video by creating afterimages of the moving video. You can make the afterimages stardust trails.</div> <div></div> |
| Keyframe Strobe<br>(See page 289.) | Freezes the video each time the effect passes a keyframe. You can make the afterimages stardust trails.   |
| Wind<br>(See page 290.)            | <div>Strobes the image at regular intervals, and moves the frozen image in a fixed direction, leaving an afterimage.</div> <div></div>               |

Background color

Adds a color or inputs an external signal to the background of the image (see page 299).

Separate sides (effects for front and back sides)

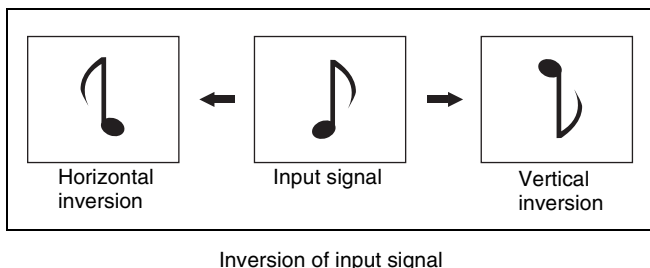
Applies separate video signals and key signals to the front and back of the image (see page 299).



Front and back sides

Signal inversion (Invert effect)

Inverts the input video signal and/or key signal horizontally or vertically. You can make separate settings for the front and back (see page 300).



## Key density adjustment

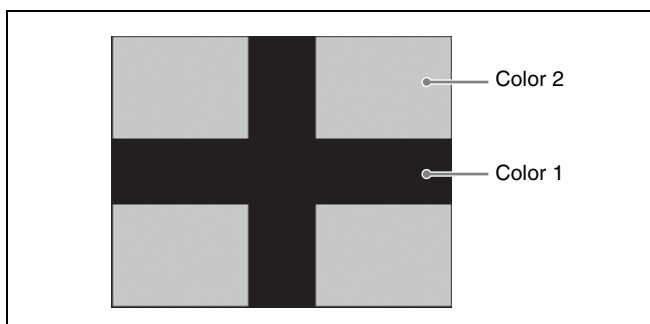
Adjusts the key density for the key signal input to the DME (see page 301).

## Key source selection

Selects either the key signals received from the switcher or the key signals generated in the DME for application to the front and back of the image (see page 236 or page 301).

## Color mix setting

This is a combination of two colors with a pattern generator. This color mix signal can be used to fill parts such as a background or border (see page 257).



## Global Effects

Global effects are special effects created by combining the images of successive channels. The following types of global effects are available.

- Combiner
- Brick
- Shadow

## Devices for DME Support

The following boards and processors provide DME support.

*The available functions depend on the type of DME being used. For details, see “Functional Differences With Models of DME” in Appendix (page 362).*

### MKS-7470X/7471X DME board set (MVS-7000X only)

Installing this in the MVS-7000X allows DME to be operated as though part of the switcher.

Each board supports two channels, and a maximum of two boards (four channels) can be used.

There are two types of interfaces available for connecting DMEs to the switcher: the dedicated interface and the SDI interface.

*For details, see “Setting the Interface Between the DME and the Switcher” in Chapter 20 (Volume 2).*

The use of the SDI interface requires an MKS-8110X 20-input board and an MKS-7171X DME output connector board. When using the SDI interface, the following operations are different from using the dedicated interface.

- Setting the input signals from the switcher to the MKS-7470X/7471X (AUX bus outputs), and signals returned to the switcher (reentry inputs).

*For details, see “Setting the AUX Bus Output and Reentry Input” in Chapter 20 (Volume 2).*

- Selecting the combiner channels not in the key control block, but in the Global Effect menu.

*For details, see “Procedure for combine operation when using an SDI interface” (page 306)*

### MVE-8000A multi format DME processor

The MVE-8000A is a “Digital Multi Effects” with multi-format support.

For the MVE-8000A, an optional MKE-8021A Input/Output Board is available as a dedicated interface for integrated use with the switcher.

There are two types of interfaces available for connecting DMEs to the switcher: the dedicated interface and the SDI interface.

#### Notes

When using the SDI interface, the following operations are different from using the dedicated interface.

*For details, see “Setting the Interface Between the DME and the Switcher” in Chapter 20 (Volume 2).*

- Setting the input signals from the switcher to the MVE-8000A (AUX bus outputs), and signals returned to the switcher (reentry inputs). However, “Ext In” cannot be set for the DME channel.

*For details, see “Setting the AUX Bus Output and Reentry Input” in Chapter 20 (Volume 2).*

- Selecting the combiner channels not in the key control block, but in the Global Effect menu (see page 305).

### MVE-9000 multi format DME processor

The MVE-9000 is a “Digital Multi Effects” with multi-format support.  
For the MVE-9000, an optional MKE-9021A Input/Output Board is available as a dedicated interface for integrated use with the switcher.  
There are two types of interfaces available for connecting DMEs to the switcher: the dedicated interface and the SDI interface.

For details, see “Setting the Interface Between the DME and the Switcher” in Chapter 20 (Volume 2).

#### Notes

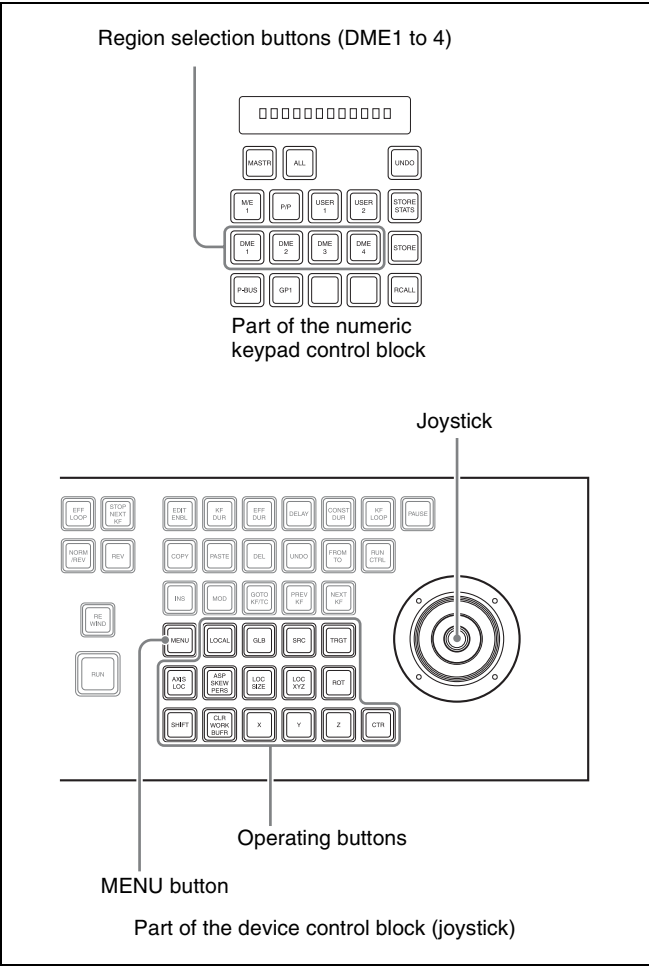
When using the SDI interface, the following operations are different from when using the dedicated interface.

- Setting the input signals from the switcher to the MVE-9000 (AUX bus outputs), and signals returned to the switcher (reentry inputs).  
For details, see “Setting the AUX Bus Output and Reentry Input” in Chapter 20 (Volume 2).
- Selecting the combiner channels not in the key control block, but in the Global Effect menu (see page 305).

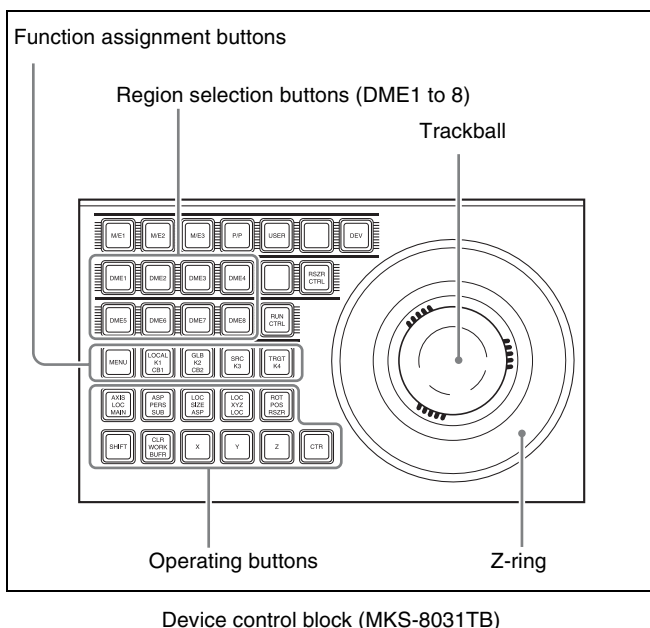
## Three-Dimensional Transformation Operations

To carry out three-dimensional DME transformations, use either part of the device control block (joystick) and numeric keypad control block or the optional device control block (MKS-8031TB trackball module).

### Basic Operations



Controls used for DME operations



## Buttons used when the three-dimensional transform operation mode is enabled

**LOCAL:** Enable operations in the DME local coordinate space.

**GLB (global):** Enable operations in the DME global coordinate space.

The [LOCAL] and [GLB] buttons can be selected at the same time.

**SRC (source):** Enable operations in the DME source coordinate space.

**TRGT (target):** Enable operations in the DME target coordinate space.

The [SRC] and [TRGT] buttons cannot be selected at the same time. When these buttons are held down, trackball and Z-ring operation is switched to fine control (fine mode).

**AXIS LOC (location):** When this button is lit, the trackball moves the rotational axis of the image in the X-axis and Y-axis directions, and the Z-ring moves the axis in the Z-axis direction.

**ASP PERS (aspect/perspective):** When the [SRC] button is lit, pressing this button enables the trackball to control the X-axis and Y-axis directions independently, and the Z-ring controls the X-axis and Y-axis directions together, to vary the aspect ratio. When the [SHIFT] button is held down and this button is pressed, the trackball controls the skew of the image in the X-axis and Y-axis directions.

When the [TRGT] button is lit, pressing this button enables the trackball to control the perspective of the image in the X-axis and Y-axis directions.

The Z-ring controls the distance to the viewpoint.

**LOC (location) SIZE:** When this button is lit, the Z-ring controls the image size.

The trackball moves the image in the X-axis and Y-axis directions.

**LOC (location) XYZ:** When this button is lit, the trackball moves the image in the X-axis and Y-axis directions, and the Z-ring moves the image in the Z-axis direction.

**SHIFT:** While holding down this button, pressing the [ASP PERS] button or [ROT] button switches to the shifted version of the corresponding function.

**CLR WORK BUFR (clear work buffer):** Press this button once to clear only the three-dimensional transform parameters of the information held in the work buffer. Pressing twice in rapid succession, or holding down [SHIFT] and pressing [CLR WORK BUFR] button returns all parameter values to the defaults.

**ROT (rotation):** When this button is lit, the trackball rotates the image about the X- and Y-axes, and the Z-ring rotates the image about the Z-axis.

Pressing this while holding down the [SHIFT] button enables rotation of the image in the “Spin” mode. The trackball and Z-ring operate in the same manner.

**X, Y, Z:** These restrict which axes the trackball and Z-ring can control. You can select more than one.

When one of these buttons is selected, you can enter the parameter value for the corresponding axis using the numeric keypad control block.

**CTR (center):** Pressing this button changes the values of the three-dimensional parameters currently controlled by the trackball and Z-ring to the closest detent values. Pressing twice in rapid succession or holding down [SHIFT] and pressing [CLR WORK BUFR] button returns the parameter values to their defaults.

## Transforming an image in three-dimensional coordinate space

For details of the three-dimensional transformations, see “Three-Dimensional Transformations” (page 224).

- 1 With the region selection buttons, select the target channel of the operation.

You can press several of the buttons simultaneously to select several channels. In this case, the button that you pressed first lights in green, while buttons pressed subsequently light in amber.

- 2 With the function assignment buttons, select the three-dimensional coordinate space in which to perform the transformation.

**LOCAL button:** Selects local coordinate space.

**GLB button:** Selects global coordinate space. You can select this button and the [LOCAL] button simultaneously.

**SRC button:** Selects the source coordinate space.

**TRGT button:** Selects the target coordinate space ([SRC] and [TRGT] cannot be selected at the same time).



**3** Press the button for the operation you want to do, turning it on, to select the transformation mode.

The joystick is assigned to the selected three-dimensional coordinate space transformation mode (see page 226).

**To move the image:** Press the [LOC XYZ] button, turning it on.

You can move the image with the joystick. Pressing the [LOC SIZE] button instead of the [LOC XYZ] button, turning it on, makes it possible to move the image on the X- and Y-axes.

**To rotate the image:** Press the [ROT] button, turning it on.

You can rotate the image with the joystick. To rotate the image in Spin mode, press the [ROT] button, turning it on, while holding down the [SHIFT] button. You can operate in the same way with the joystick.

**To move an axis of rotation:** With the [SRC] button selected in step 2, press the [AXIS LOC] button, turning it on.

You can move the axis of rotation of the image with the joystick.

**To magnify or shrink the image:** Press the [LOC SIZE] button, turning it on.

You can magnify and shrink the image by rotating the joystick knob. Rotate counterclockwise to shrink, and clockwise to magnify.

**To change the aspect ratio of the image:** With the [SRC] button selected in step 2, press the [ASP PERS] button, turning it on.

You can change the aspect ratio with the joystick.

**To change the perspective on the image:** With the [TRGT] button selected in step 2, press the [ASP PERS] button, turning it on.

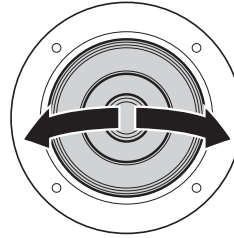
You can change the perspective of the image on the X- and Y-axes by moving the joystick horizontally or vertically, and change the distance to the view point by rotating the joystick knob.

**To change the skew of the image:** With the [SRC] button selected in step 2, press the [ASP PERS] button, turning it on, while holding down the [SHIFT] button.

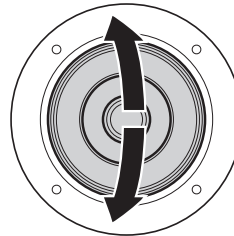
You can change the skew of the image along the X- and Y-axes with the joystick.

**4** Depending on the axis of the change, operate the joystick as follows.

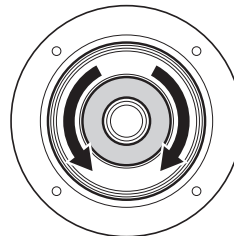
- To change on the X-axis, move the joystick horizontally. Parameter values increase as you move to the right, and decrease as you move to the left.



- To change on the Y-axis, move the joystick vertically. Parameter values increase as you move upward, and decrease as you move downward.



- To change on the Z-axis, rotate the joystick knob. Parameter values increase as you rotate clockwise, and decrease as you rotate counterclockwise. However, when you have pressed the [LOC XYZ] button to move the image, Z-axis parameters increase as you rotate counterclockwise, and decrease as you rotate clockwise.



**To reduce the rate of change of the parameters (fine mode)**

Carry out the trackball or Z-ring operations while holding down the [SRC] or [TRGT] button.

**5** To restrict the change in the transformation to a specific axis, press the [X], [Y], or [Z] button, tuning it on.

This enables the joystick on the selected axis only.

Functions assignable to joystick operations

| Button  | Usable coordinate space | Joystick X-direction   | Joystick Y-direction   | Joystick Z-direction   |
|---------|-------------------------|------------------------|------------------------|------------------------|
| LOC XYZ | Source, target          | Move image on X-axis   | Move image on Y-axis   | Move image on Z-axis   |
| ROT     | Source, target          | Rotate image on Y-axis | Rotate image on X-axis | Rotate image on Z-axis |

Functions assignable to joystick operations

| Button         | Usable coordinate space | Joystick X-direction               | Joystick Y-direction               | Joystick Z-direction                                |
|----------------|-------------------------|------------------------------------|------------------------------------|---|
| SHIFT+ROT      | Source, target          | Rotate image on Y-axis (Spin mode) | Rotate image on X-axis (Spin mode) | Rotate image on Z-axis (Spin mode)                  |
| AXIS LOC       | Source                  | Move X-axis of rotation            | Move Y-axis of rotation            | Move Z-axis of rotation                             |
| LOC SIZE       | Source, target          | Move image on X-axis               | Move image on Y-axis               | Magnify and shrink image                            |
| ASP PERS       | Source                  | Change aspect ratio on X-axis      | Change aspect ratio on Y-axis      | Change aspect ratio on X- and Y-axes simultaneously |
|                | Target                  | Shift view point on X-axis         | Shift view point on Y-axis         | Change distance from view point to image            |
| SHIFT+ASP PERS | Source                  | Change skew on X-axis              | Change skew on Y-axis              | Change aspect ratio on X- and Y-axes simultaneously |

## Three-Dimensional Parameter Display

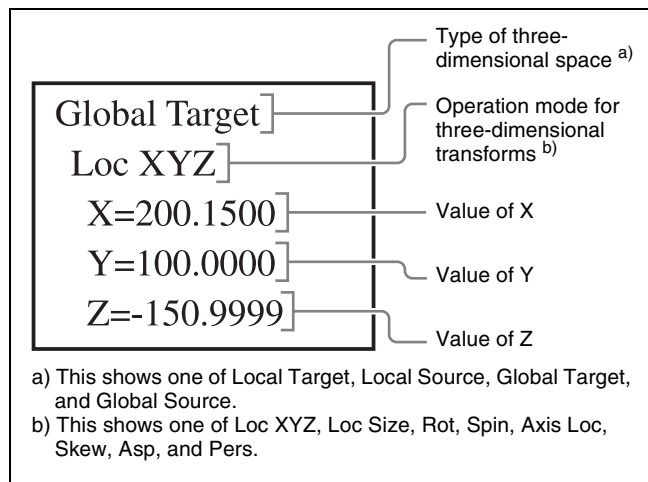
You can check the values of the three-dimensional parameters in the DME menu.

### Displaying the three-dimensional parameters in the DME menu

In the menu control block, select the top menu selection button [DME].

The DME menu appears. The status area shows the three-dimensional parameters currently controlled by the device control block.

- When multiple DME channels are selected, this shows the parameters for the reference channel.
- When both Global and Local are selected, the three-dimensional parameters are shown for the channel (the reference channel) for which the button is lit green.



Example three-dimensional parameter display (DME menu)

### Viewing the three-dimensional parameter details

In the DME menu, press the menu title button (the [DME] in the upper left part of the screen).

The Status menu appears. This menu shows the three-dimensional parameters for the DME reference channel currently selected in the device control block.

|              |                  |                 |                    |             |
|--------------|------------------|-----------------|--------------------|-------------|
| Page 4100    | DME              | 1 2 3 4 5 6 7 8 | Effect#: 0 (-----) | Free KF: 0  |
| > Status     | Master           |                 | KF# 0 / 0          | 00:00:00:00 |
| Edge         | Local            | X               | Y                  | Z           |
|              | Size:            |                 |                    | 1.0000      |
|              | Aspect:          | 1.0000          | 1.0000             | 1.0000      |
|              | Skew:            | 0.0000          | 0.0000             | 0.0000      |
| Video Modify | Location:        | -4.4420         | -0.1820            | 0.0400      |
|              | Axis Location:   | 0.0000          | 0.0000             | 0.0000      |
|              | Rotation:        | 0.6330          | -0.1068            | 0.0152      |
|              | Source Spin:     | 0.0000          | 0.0000             | 0.0000      |
| Freeze       | Target Spin:     | 0.0000          | 0.0000             | 0.0000      |
|              | Perspective:     | -0.0660         | -0.0440            | 1.0000      |
|              | Target Loc/Size: | -0.2360         | -0.1360            | 1.0000      |
| Non-Linear   | Global           | X               | Y                  | Z           |
|              | Size:            |                 |                    | 1.0000      |
| Light/Trail  | Location:        | -2.8300         | -0.0540            | 0.0000      |
|              | Axis Location:   | 0.0000          | 0.0000             | 0.0000      |
|              | Rotation:        | 0.6330          | -0.1068            | 0.0152      |
|              | Source Spin:     | 0.0000          | 0.0000             | 0.0000      |
| Input/Output | Target Spin:     | 0.0000          | 0.0000             | 0.0000      |
|              | Perspective:     | -0.0660         | -0.0440            | 1.0000      |
|              | Target Loc/Size: | -0.2360         | -0.1360            | 1.0000      |

Example three-dimensional parameter details

### Entering Three-Dimensional Parameter Values

In addition to setting three-dimensional parameter values with the trackball and Z-ring, you can enter them directly from the numeric keypad control block.

### Entering three-dimensional parameter values

- 1 In the device control block, press the [X], [Y], or [Z] button, turning it on.

The numeric keypad control block enters a mode in which you can enter parameters for the selected axis.

- 2 Enter a parameter value with the numeric keypad.

The number of significant digits after a decimal point is four.

- 3 Press the [ENTER] button.

The parameter value is changed, and the image changes.

### To enter difference values

You can enter difference values by pressing the [+/-] button, entering the difference from the current value, and pressing the [TRIM] button to confirm. The [+/-] button toggles between “+” (plus) and “-” (minus) each time it is pressed.

### Resetting three-dimensional parameter values

Pressing the [CTR] button in the device control block sets the current three-dimensional parameter values to the closest detent points (page 226).

To reset three-dimensional parameter values to the defaults (page 226) for the current transformation operation mode, press the [CTR] button twice in rapid succession.

### Clearing the working buffer

The working buffer is memory that holds the instantaneous state of an effect. To clear (initialize) only the three-dimensional transform parameters in the working buffer, press the [CLR WORK BUFR] button in the device control block.

To clear all of the parameters in the working buffer and initialize the DME system, press the [CLR WORK BUFR] button twice in rapid succession. It is necessary to do this for both the local coordinate space and global coordinate space.

As the initial DME state, you can specify whether to use the factory default settings or user settings in the Setup menu.

*For details see “Selecting the State After Powering On (Start Up Menu)” in Chapter 18 (Volume 2).*

## Graphics Display Operation

Use the DME menu to make graphics display settings. You can make separate settings for separate channels. To select a target DME channel, use the device control block.

*For the types of graphics displayed, see “Graphics Display” (page 228).*

### Displaying graphics

- 1 In the menu control block, select the top menu selection button [DME].

The DME menu appears.

- 2 Select VF6 ‘Input/Output’ and HF4 ‘Graphic.’

The Graphic menu appears.

- 3 Turn [Graphic] on.

The system enters graphics display mode, enabling graphics to be displayed in the monitor screen.

- 4 Turn on the buttons of the graphics you want to show.

**To show axes:** Turn [Axis] on.

**To show axis names:** Turn [Axis Name] on.

**To show the channel ID:** Turn [Ch ID] on.

**To show a wire frame:** Turn [Wire Frame] on.

**To show the grid:** Turn [Grid] on.

**To show the flex shadow axis:** Turn [Flex Shadow Axis] on.

The selected graphics appear in the monitor screen.

#### Notes

The flex shadow axis function is not supported on the MVE-8000A.

- 5 If you want to shrink the graphics display to show the range not displayed on a normal monitor, turn [Scale] on and set the following parameters.

| Knob | Parameter | Adjustment                                     | Setting values |
|------|-----------|--|----------------|
| 1    | Scale     | Degree to which the graphics display is shrunk | 0.00 to 100.00 |

As the value of the setting grows, the monitor shrinks further toward the center point.

- 6 To automatically erase the graphic display while the keyframes are executing, press [Auto Erase], turning it on, and then set the following parameter.



| Knob | Parameter    | Adjustment  | Setting values    |
|------|--------------|---|-------------------|
| 1    | Recover Time | Time until graphic display appears again after keyframe execution | 0 to 300 (frames) |

## Outputting graphics to the monitor output connector

In the Graphic menu, press [Monitor Out], turning it on. Graphics are displayed on the device connected to the monitor output connector.

## Canceling Virtual Images

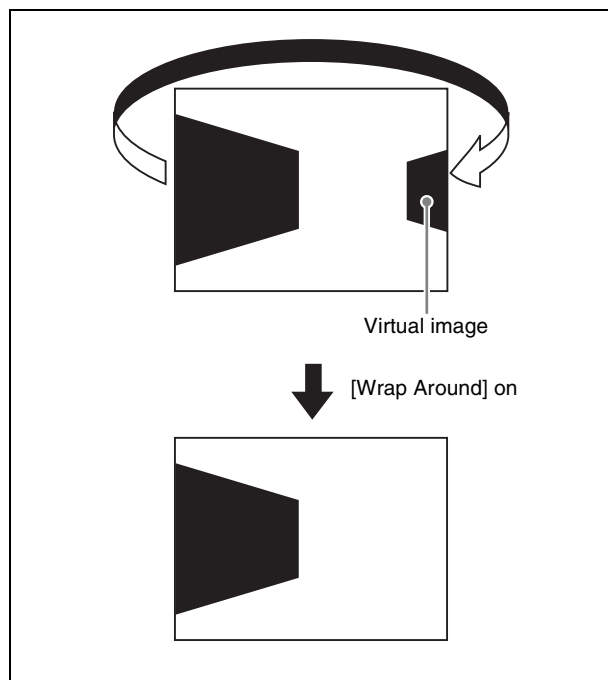
When a transformation is executed with an extreme degree of perspective set for an image, the part of the image exceeding the virtual view point is displayed wrapped around on the monitor screen. The wrapped-around portion is referred to as a virtual image. Using the DME menu, you can make a setting not to show the virtual images.

### Canceling virtual images

- 1 In the DME menu, select VF6 'Input/Output' and HF2 'Video/Key.'

The Video/Key menu appears.

- 2 Press [Wrap Around], turning it on.



## Applying Special Effects (Operations Common to Special Effects)

In this section, explanations of the operating procedures for individual special effects begin with selections from the DME menu. The following are common operations that you must do prior to selecting from the DME menu.

- 1 In the device control block, select the target DME channel.
- 2 In the menu control block, select the top menu selection button [DME].

The DME menu appears.

# Applying Special Effects (Edge Effects)

## Border Settings

### Adding a border

- 1 In the DME menu, select VF1 'Edge' and HF1 'Border/Crop.'

The Border/Crop menu appears.

- 2 Press [Border], turning it on.

- 3 Set the parameters.

The valid ranges of the parameter values depend on the combination of signal format (SD/HD) and aspect ratio (4:3/16:9) selected in the system, as follows.

#### 4:3 mode

Parameter group [1/2]

| Knob | Parameter | Adjustment                           | Setting values   |
|------|-----------|--------------------------------------|------------------|
| 1    | H         | Border width on left and right sides | Left value shown |
| 2    | V         | Border width on top and bottom sides | Top value shown  |
| 3    | All       | Border width on all sides            | Left value shown |
| 5    | Density   | Border density                       | 0.00 to 100.00   |

Parameter group [2/2]

| Knob | Parameter | Adjustment                  | Setting values                               |
|------|-----------|-----------------------------|--|
| 1    | Top       | Border width on top side    | -6.00 to +6.00 (SD)<br>-18.00 to +18.00 (HD) |
| 2    | Left      | Border width on left side   | -8.00 to +8.00 (SD)<br>-24.00 to +24.00 (HD) |
| 3    | Right     | Border width on right side  | -8.00 to +8.00 (SD)<br>-24.00 to +24.00 (HD) |
| 4    | Bottom    | Border width on bottom side | -6.00 to +6.00 (SD)<br>-18.00 to +18.00 (HD) |
| 5    | Density   | Border density              | 0.00 to 100.00                               |

#### 16:9 mode

Parameter group [1/2]

| Knob | Parameter | Adjustment                           | Setting values   |
|------|-----------|--------------------------------------|------------------|
| 1    | H         | Border width on left and right sides | Left value shown |
| 2    | V         | Border width on top and bottom sides | Top value shown  |
| 3    | All       | Border width on all sides            | Left value shown |
| 5    | Density   | Border density                       | 0.00 to 100.00   |

Parameter group [2/2]

| Knob | Parameter | Adjustment                  | Setting values                               |
|------|-----------|-----------------------------|--|
| 1    | Top       | Border width on top side    | -4.50 to +4.50 (SD)<br>-18.00 to +18.00 (HD) |
| 2    | Left      | Border width on left side   | -8.00 to +8.00 (SD)<br>-32.00 to +32.00 (HD) |
| 3    | Right     | Border width on right side  | -8.00 to +8.00 (SD)<br>-32.00 to +32.00 (HD) |
| 4    | Bottom    | Border width on bottom side | -4.50 to +4.50 (SD)<br>-18.00 to +18.00 (HD) |
| 5    | Density   | Border density              | 0.00 to 100.00                               |

### Setting the border color

The operation differs depending on the DME used (MVE-8000A, MVE-9000 or MKS-7470X/7471X).

#### When the MVE-8000A is used

Press [Border Color], turning it on, and set the following parameters.

| Knob | Parameter  | Adjustment | Setting values |
|------|------------|------------|----------------|
| 1    | Luminance  | Luminance  | 0.00 to 100.00 |
| 2    | Saturation | Saturation | 0.00 to 100.00 |
| 3    | Hue        | Hue        | 359.99 to 0.00 |

#### When the MVE-9000 or MKS-7470X/7471X is used

Use the buttons in the <Border Fill> group to select the signal to insert in the border.

**Flat Color:** single color

**Mix Color:** mix color signal set in the Color Mix menu  
(see page 257)

**Ext Video:** an external video signal input to the Ext IN connector

If Flat Color is selected, adjust the following parameters.

| Knob | Parameter | Adjustment | Setting values |
|------|-----------|------------|----------------|
| 1    | Luminance | Luminance  | 0.00 to 100.00 |

| Knob | Parameter  | Adjustment | Setting values |
|------|------------|------------|----------------|
| 2    | Saturation | Saturation | 0.00 to 100.00 |
| 3    | Hue        | Hue        | 359.99 to 0.00 |

If Mix Color or Ext Video selected, the border color changes according to the mix color signal or external video signal.

## Softening the border edges

Press [Border Soft], turning it on, and set the following parameters.

| Knob | Parameter | Adjustment                       | Setting values |
|------|-----------|----------------------------------|----------------|
| 1    | Soft      | Softness of inner side of border | 0.00 to 100.00 |

## Crop Settings

### Cropping the image

- 1 In the DME menu, select VF1 'Edge' and HF1 'Border/Crop.'

The Border/Crop menu appears.

- 2 Press [Crop], turning it on.

- 3 Set the parameters.

The valid ranges of the parameter values depend on the combination of signal format (SD/HD) and aspect ratio (4:3/16:9) selected in the system, as follows.

#### 4:3 mode

Parameter group [1/2]

| Knob | Parameter | Adjustment                             | Setting values   |
|------|-----------|--|------------------|
| 1    | H         | Crop positions on left and right sides | Left value shown |
| 2    | V         | Crop positions on top and bottom sides | Top value shown  |
| 3    | All       | Crop positions on all sides            | Left value shown |

Parameter group [2/2]

| Knob | Parameter | Adjustment                | Setting values                             |
|------|-----------|---------------------------|--|
| 1    | Top       | Crop position on top side | -3.00 to +3.00 (SD)<br>-9.00 to +9.00 (HD) |

Parameter group [2/2]

| Knob | Parameter | Adjustment                   | Setting values                               |
|------|-----------|------------------------------|--|
| 2    | Left      | Crop position on left side   | -4.00 to +4.00 (SD)<br>-12.00 to +12.00 (HD) |
| 3    | Right     | Crop position on right side  | -4.00 to +4.00 (SD)<br>-12.00 to +12.00 (HD) |
| 4    | Bottom    | Crop position on bottom side | -3.00 to +3.00 (SD)<br>-9.00 to +9.00 (HD)   |

#### 16:9 mode

Parameter group [1/2]

| Knob | Parameter | Adjustment                             | Setting values   |
|------|-----------|--|------------------|
| 1    | H         | Crop positions on left and right sides | Left value shown |
| 2    | V         | Crop positions on top and bottom sides | Top value shown  |
| 3    | All       | Crop positions on all sides            | Left value shown |

Parameter group [2/2]

| Knob | Parameter | Adjustment                   | Setting values                               |
|------|-----------|------------------------------|--|
| 1    | Top       | Crop position on top side    | -2.25 to +2.25 (SD)<br>-9.00 to +9.00 (HD)   |
| 2    | Left      | Crop position on left side   | -4.00 to +4.00 (SD)<br>-16.00 to +16.00 (HD) |
| 3    | Right     | Crop position on right side  | -4.00 to +4.00 (SD)<br>-16.00 to +16.00 (HD) |
| 4    | Bottom    | Crop position on bottom side | -2.25 to +2.25 (SD)<br>-9.00 to +9.00 (HD)   |

#### Signs of numeric settings

For H, V, and All settings, the sign (+/-) of the setting need not be considered. For example, in the case of an H setting, the value for Left is automatically regarded as a negative value, and the value for Right as a positive value, to display the image.

The following is an example of these settings.

| Parameter | Entered value | Setting    |
|-----------|---------------|------------|
| H         | 1.5           | Left=-1.50 |
|           |               | Right=1.50 |
|           | -1.5          | Left=-1.50 |
|           |               | Right=1.50 |

- 4 To soften the edges of the image, press [Edge Soft], turning it on, and set the following parameter.

| Knob | Parameter | Adjustment        | Setting values |
|------|-----------|-------------------|----------------|
| 1    | Soft      | Softness of edges | 0.00 to 100.00 |

### Notes

Edges cannot be softened when the Crop effect is disabled.

### To specify whether to invert the crop area when inverting the video image

In the <Invert/Crop Process> group, select either of the following.

**Crop → Invert:** Set an axis of symmetry at the center of the input video, and invert both the desired area of video and the crop area horizontally and vertically around that axis of symmetry. The order of effect application is Crop > Invert.

**Invert → Crop:** Set an axis of symmetry at the center of the input video, and invert only the desired area of video horizontally and vertically around that axis of symmetry. The order of effect application is Invert > Crop.

## Beveled Edge Settings

### Applying a beveled edge

- 1 In the DME menu, select VF1 'Edge' and HF2 'Beveled Edge.'

The Beveled Edge menu appears.

- 2 Press [Beveled Edge], turning it on.

- 3 Set the parameters.

The valid ranges of the parameter values depend on the combination of signal format (SD/HD) and aspect ratio (4:3/16:9) selected in the system, as follows.

#### 4:3 mode

| Knob | Parameter | Adjustment  | Setting values                          |
|------|-----------|---|---|
| 1    | H         | Simultaneously adjust width of left and right edges | 0.00 to 4.00 (SD)<br>0.00 to 12.00 (HD) |
| 2    | V         | Simultaneously adjust width of top and bottom edges | 0.00 to 3.00 (SD)<br>0.00 to 9.00 (HD)  |

| Knob | Parameter | Adjustment                                    | Setting values   |
|------|-----------|---|------------------|
| 3    | All       | Simultaneously adjust width of all four edges | Value of H shown |

#### 16:9 mode

| Knob | Parameter | Adjustment  | Setting values                          |
|------|-----------|---|---|
| 1    | H         | Simultaneously adjust width of left and right edges | 0.00 to 4.00 (SD)<br>0.00 to 16.00 (HD) |
| 2    | V         | Simultaneously adjust width of top and bottom edges | 0.00 to 2.25 (SD)<br>0.00 to 9.00 (HD)  |
| 3    | All       | Simultaneously adjust width of all four edges       | Value of H shown                        |

- 4 In the <Edge Mode> group, select the type of edge.

**Light:** effect of light striking the edge

| Knob | Parameter | Adjustment  | Setting values      |
|------|-----------|---|---------------------|
| 1    | Top       | Adjust luminance of top edge                      | -100.00 to +100.00  |
| 2    | Left      | Adjust luminance of left edge                     | -100.00 to +100.00  |
| 3    | Right     | Adjust luminance of right edge                    | -100.00 to +100.00  |
| 4    | Bottom    | Adjust luminance of bottom edge                   | -100.00 to +100.00  |
| 5    | All       | Simultaneously adjust luminance of all four edges | Value of Left shown |

**Color:** colored edges. When this is selected, set the following parameters in the <Color Adjust> group.

#### • To set the density

| Knob | Parameter | Adjustment               | Setting values |
|------|-----------|--------------------------|----------------|
| 1    | Density   | Adjust the color density | 0.00 to 100.00 |

#### • To set the colors for each edge (Top, Left, Right, Bottom, All)

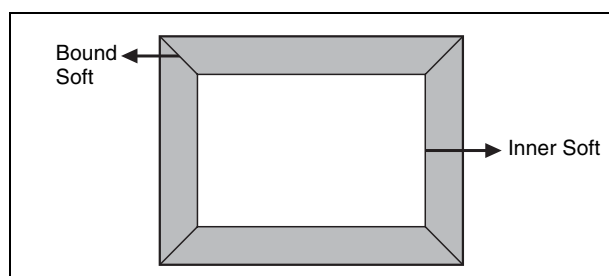
| Knob | Parameter | Adjustment | Setting values               |
|------|-----------|------------|------------------------------|
| 1    | Luminance | Luminance  | 0.00 to 100.00 <sup>a)</sup> |

| Knob | Parameter  | Adjustment | Setting values               |
|------|------------|------------|------------------------------|
| 2    | Saturation | Saturation | 0.00 to 100.00 <sup>a)</sup> |
| 3    | Hue        | Hue        | 359.99 to 0.00 <sup>a)</sup> |

a) For the All adjustment, the value for Left is shown.

- 5** To soften the inside of the edges and the boundaries between adjacent edges, turn on [Edge Soft], and adjust the following parameters.

| Knob | Parameter  | Adjustment                      | Setting values |
|------|------------|---------------------------------|----------------|
| 1    | Inner Soft | Softness of the inside of edges | 0.00 to 100.00 |
| 2    | Bound Soft | Softness of the edge boundaries | 0.00 to 100.00 |



## Key Border Settings

### Notes

The Key Border function is not supported on the MVE-8000A.

### Applying key borders

- 1** In the DME menu, select VF1 'Edge' and HF3 'Key Border.'

The Key Border menu appears.

- 2** Press [Key Border], turning it on.

### Notes

The key border function and Glow function (*see page 265*) cannot be turned on at the same time. Only the one most recently turned on is effective.

- 3** Set the following parameters.

| Knob | Parameter | Adjustment  | Setting values   |
|------|-----------|---|------------------|
| 1    | H         | Simultaneously adjust width of left and right key borders | 0.00 to 100.00   |
| 2    | V         | Simultaneously adjust width of top and bottom key borders | 0.00 to 100.00   |
| 3    | All       | Simultaneously adjust width of all four key borders       | Value of H shown |
| 4    | Soft      | Softness of the key borders                               | 0.00 to 100.00   |
| 5    | Density   | Density of the key borders                                | 0.00 to 100.00   |

- 4** To set the key border color, press [Flat Color] and adjust the following parameters.

| Knob | Parameter  | Adjustment | Setting values |
|------|------------|------------|----------------|
| 1    | Luminance  | Luminance  | 0.00 to 100.00 |
| 2    | Saturation | Saturation | 0.00 to 100.00 |
| 3    | Hue        | Hue        | 359.99 to 0.00 |

### To select an outline only key

Press [Outline], turning it on.

## Art Edge Settings

### Notes

The Art Edge function is not supported on the MVE-8000A.

### Applying art edges

- 1** In the DME menu, select VF1 'Edge' and HF4 'Art Edge.'

The Art Edge menu appears.

- 2** Press [Art Edge], turning it on.

### Notes

The Defocus, Blur, Key Border, and Glow effects cannot be applied to the Art Edge sections.

- 3** Set the parameters.

The valid ranges of the parameter values depend on the combination of signal format (SD/HD) and aspect ratio (4:3/16:9) selected in the system, as follows.

#### 4:3 mode

Parameter group [1/2]

| Knob | Parameter | Adjustment  | Setting values      |
|------|-----------|---|---------------------|
| 1    | H         | Simultaneously adjust width of left and right edges | Value of Left shown |
| 2    | V         | Simultaneously adjust width of top and bottom edges | Value of Top shown  |
| 3    | All       | Simultaneously adjust width of all four edges       | Value of Left shown |
| 5    | Density   | Density of edges                                    | 0.00 to 100.00      |

Parameter group [2/2]

| Knob | Parameter | Adjustment           | Setting values                          |
|------|-----------|----------------------|---|
| 1    | Top       | Width of top edge    | 0.00 to 6.00 (SD)<br>0.00 to 18.00 (HD) |
| 2    | Left      | Width of left edge   | 0.00 to 8.00 (SD)<br>0.00 to 24.00 (HD) |
| 3    | Right     | Width of right edge  | 0.00 to 8.00 (SD)<br>0.00 to 24.00 (HD) |
| 4    | Bottom    | Width of bottom edge | 0.00 to 6.00 (SD)<br>0.00 to 18.00 (HD) |
| 5    | Density   | Density of edges     | 0.00 to 100.00                          |

#### 16:9 mode

Parameter group [1/2]

| Knob | Parameter | Adjustment  | Setting values      |
|------|-----------|---|---------------------|
| 1    | H         | Simultaneously adjust width of left and right edges | Value of Left shown |
| 2    | V         | Simultaneously adjust width of top and bottom edges | Value of Top shown  |
| 3    | All       | Simultaneously adjust width of all four edges       | Value of Left shown |
| 5    | Density   | Density of edges                                    | 0.00 to 100.00      |

Parameter group [2/2]

| Knob | Parameter | Adjustment           | Setting values                          |
|------|-----------|----------------------|---|
| 1    | Top       | Width of top edge    | 0.00 to 4.50 (SD)<br>0.00 to 18.00 (HD) |
| 2    | Left      | Width of left edge   | 0.00 to 8.00 (SD)<br>0.00 to 32.00 (HD) |
| 3    | Right     | Width of right edge  | 0.00 to 8.00 (SD)<br>0.00 to 32.00 (HD) |
| 4    | Bottom    | Width of bottom edge | 0.00 to 6.00 (SD)<br>0.00 to 18.00 (HD) |
| 5    | Density   | Density of edges     | 0.00 to 100.00                          |

### Adjusting the position of art edges

- 1 In the Art Edge menu, press [Edge Position], turning it on.
- 2 Adjust the following parameters.

The valid ranges of the parameter values depend on the combination of signal format (SD/HD) and aspect ratio (4:3/16:9) selected in the system, as follows.

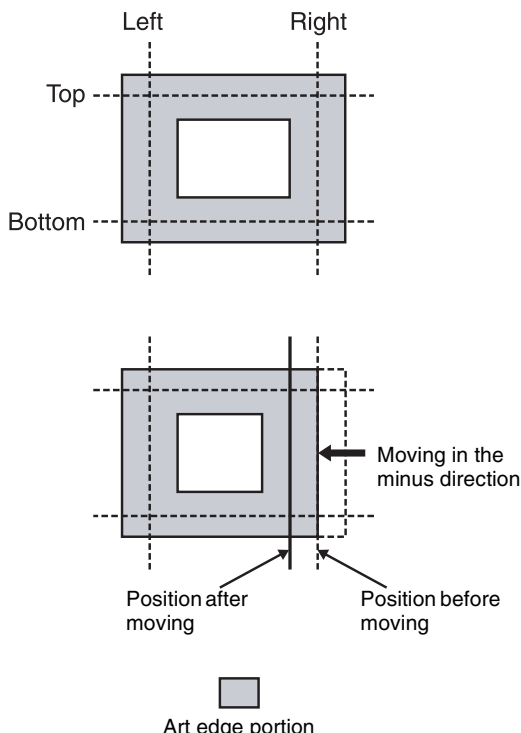
#### 4:3 mode

| Knob | Parameter | Adjustment                            | Setting values                               |
|------|-----------|---------------------------------------|--|
| 1    | Top       | Position of top edge                  | -3.00 to +3.00 (SD)<br>-9.00 to +9.00 (HD)   |
| 2    | Left      | Position of left edge                 | -4.00 to +4.00 (SD)<br>-12.00 to +12.00 (HD) |
| 3    | Right     | Position of right edge                | -4.00 to +4.00 (SD)<br>-12.00 to +12.00 (HD) |
| 4    | Bottom    | Position of bottom edge               | -3.00 to +3.00 (SD)<br>-9.00 to +9.00 (HD)   |
| 5    | All       | Adjust the position of all four edges | Value of H shown                             |

#### 16:9 mode

| Knob | Parameter | Adjustment                            | Setting values                               |
|------|-----------|---------------------------------------|--|
| 1    | Top       | Position of top edge                  | -2.25 to +2.25 (SD)<br>-9.00 to +9.00 (HD)   |
| 2    | Left      | Position of left edge                 | -4.00 to +4.00 (SD)<br>-16.00 to +16.00 (HD) |
| 3    | Right     | Position of right edge                | -4.00 to +4.00 (SD)<br>-16.00 to +16.00 (HD) |
| 4    | Bottom    | Position of bottom edge               | -2.25 to +2.25 (SD)<br>-9.00 to +9.00 (HD)   |
| 5    | All       | Adjust the position of all four edges | Value of H shown                             |

Example: Moving the right edge position in the “minus” direction.



## Softening the inner and outer sides of art edges

- 1 In the Art Edge menu, press [Soft], turning it on.
- 2 Adjust the following parameters.

| Knob | Parameter | Adjustment   | Setting values |
|------|-----------|--|----------------|
| 1    | Inner H   | Simultaneously adjust softness of left and right inner edges | 0.00 to 100.00 |
| 2    | Inner V   | Simultaneously adjust softness of top and bottom inner edges | 0.00 to 100.00 |
| 3    | Outer H   | Simultaneously adjust softness of left and right outer edges | 0.00 to 100.00 |
| 4    | Outer V   | Simultaneously adjust softness of top and bottom outer edges | 0.00 to 100.00 |

| Knob | Parameter | Adjustment   | Setting values         |
|------|-----------|--|------------------------|
| 5    | All       | Simultaneously adjust softness of all inner and outer edges. | Value of Outer H shown |

## Setting the way in which art edge colors change

- 1 In the <Art Edge Source> group of the Art Edge menu, select the color pattern to apply to the art edges.

**Flat Color:** Uses Color 1 (see page 251) as a flat color.

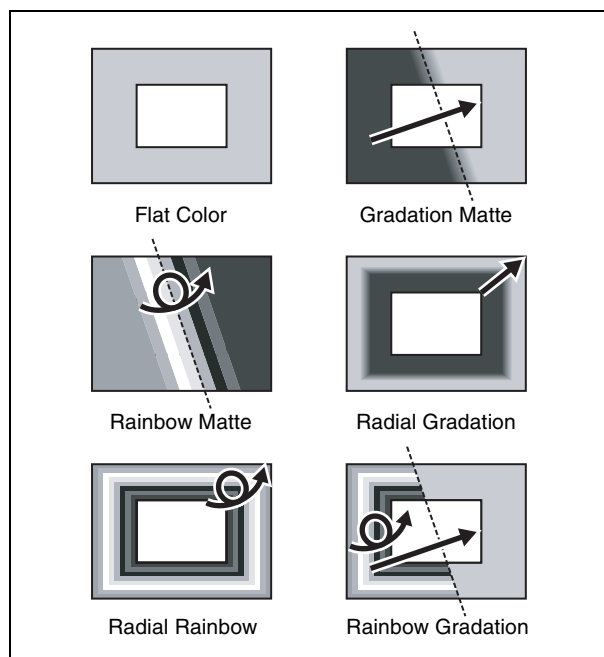
**Gradation Matte:** Color 1 changes to Color 2 (see page 251) at the border lines (see step 2 (page 249)).

**Rainbow Matte:** The color set as Color 1 changes hue into color on the border lines.

**Radial Gradation:** Color 1 on the inner side is mixed into Color 2 on the outer side, according to the shape of the art edge.

**Radial Rainbow:** The hue of Color 1 on the inner side changes into Color 2 on the outer side, according to the shape of the art edge.

**Rainbow Gradation:** Color 3 (see “Color 3 settings” (page 251)) overwrites Radial Rainbow, giving a gradation effect.



- 2 When you select other than [Flat Color], set the gradation border lines for the selected pattern.

### Border line parameters for Gradation Matte and Rainbow Matte

The valid ranges of the parameter values depend on the combination of signal format (SD/HD) and aspect ratio (4:3/16:9) selected in the system, as follows.

**4:3 mode**

| Knob | Parameter | Adjustment   | Setting values                               |
|------|-----------|--|--|
| 1    | H         | Position of gradation border in horizontal direction | −8.00 to +8.00 (SD)<br>−24.00 to +24.00 (HD) |
| 2    | V         | Position of gradation border in vertical direction   | −6.00 to +6.00 (SD)<br>−18.00 to +18.00 (HD) |
| 3    | Soft      | Softness of gradation border region                  | 0.00 to 100.00                               |

**16:9 mode**

| Knob | Parameter | Adjustment   | Setting values                               |
|------|-----------|--|--|
| 1    | H         | Position of gradation border in horizontal direction | −8.00 to +8.00 (SD)<br>−32.00 to +32.00 (HD) |
| 2    | V         | Position of gradation border in vertical direction   | −4.50 to +4.50 (SD)<br>−18.00 to +18.00 (HD) |
| 3    | Soft      | Softness of gradation border region                  | 0.00 to 100.00                               |

**Radial Gradation and Radial Rainbow parameters**

| Knob | Parameter | Adjustment                          | Setting values |
|------|-----------|-------------------------------------|----------------|
| 3    | Soft      | Softness of gradation border region | 0.00 to 100.00 |

**Rainbow Gradation parameters**

The valid ranges of the parameter values depend on the combination of signal format (SD/HD) and aspect ratio (4:3/16:9) selected in the system, as follows.

**• 4:3 mode**

| Knob | Parameter | Adjustment   | Setting values                               |
|------|-----------|--|--|
| 1    | H         | Position of gradation border in horizontal direction | −8.00 to +8.00 (SD)<br>−24.00 to +24.00 (HD) |
| 2    | V         | Position of gradation border in vertical direction   | −6.00 to +6.00 (SD)<br>−18.00 to +18.00 (HD) |

| Knob | Parameter | Adjustment                          | Setting values |
|------|-----------|-------------------------------------|----------------|
| 3    | RBW Soft  | Softness of rainbow border region   | 0.00 to 100.00 |
| 4    | GRD Soft  | Softness of gradation border region | 0.00 to 100.00 |

**• 16:9 mode**

| Knob | Parameter | Adjustment   | Setting values                               |
|------|-----------|--|--|
| 1    | H         | Position of gradation border in horizontal direction | −8.00 to +8.00 (SD)<br>−32.00 to +32.00 (HD) |
| 2    | V         | Position of gradation border in vertical direction   | −4.50 to +4.50 (SD)<br>−18.00 to +18.00 (HD) |
| 3    | RBW Soft  | Softness of rainbow border region                    | 0.00 to 100.00                               |
| 4    | GRD Soft  | Softness of gradation border region                  | 0.00 to 100.00                               |

- 3** When Gradation Matte or Rainbow Matte is selected, set modifiers as required.

**When turning [Angle] on in the <Rotation> group and slanting the pattern**

| Knob | Parameter | Adjustment                | Setting values               |
|------|-----------|---------------------------|------------------------------|
| 1    | Angle     | Rotation angle of pattern | −8.00 to +8.00 <sup>a)</sup> |

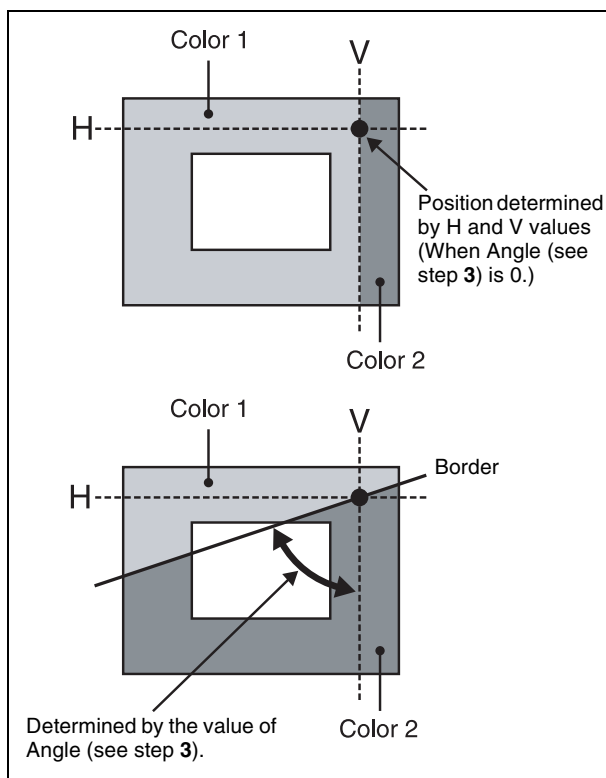
a) −1.00 is one rotation in counterclockwise direction. +1.00 is one rotation in clockwise direction. 0.00 is no rotation.

**When turning [Speed] on in the <Rotation> group and rotating the pattern at a specified speed**

| Knob | Parameter | Adjustment                | Setting values                   |
|------|-----------|---------------------------|----------------------------------|
| 1    | Speed     | Rotation speed of pattern | −100.00 to +100.00 <sup>a)</sup> |

a) −100.00 is four rotations per second in counterclockwise direction. +100.00 is four rotations per second in clockwise direction. 0.00 is no rotation.

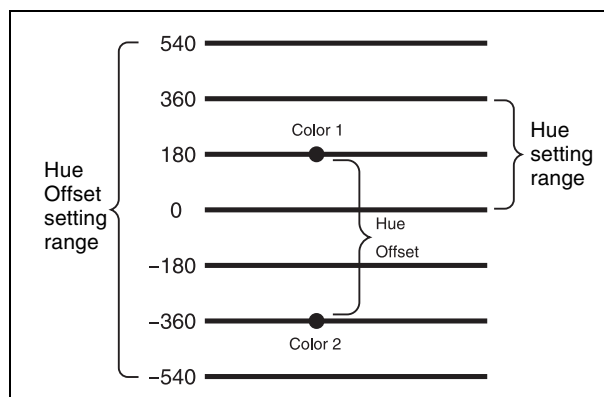




| Knob | Parameter  | Adjustment | Setting values   |
|------|------------|------------|------------------|
| 1    | Luminance  | Luminance  | 0.00 to 100.00   |
| 2    | Saturation | Saturation | 0.00 to 100.00   |
| 3    | Hue Offset | Hue range  | -540.0 to +540.0 |

### Relationship between Hue and Hue Offset

For example, when the Hue value of Color 1 is 180.00, and the Hue Offset value of Color 2 is -540.00, the relationship is as shown below, with the hue changing within the Hue Offset range of Color 1 and Color 2.



## Setting art edge colors

- 1 In the Art Edge menu, turn on the button (Color 1 to Color 3) for the color for which you want to make settings in the <Color Adjust> group.
- 2 Adjust the following parameters.

### Color 1 settings

| Knob | Parameter  | Adjustment | Setting values |
|------|------------|------------|----------------|
| 1    | Luminance  | Luminance  | 0.00 to 100.00 |
| 2    | Saturation | Saturation | 0.00 to 100.00 |
| 3    | Hue        | Hue        | 359.99 to 0.00 |

### Color 2 settings

#### Notes

Color 2 cannot be set when [Flat Color] is selected in the <Art Edge Source> group.

| Knob | Parameter  | Adjustment | Setting values   |
|------|------------|------------|------------------|
| 1    | Luminance  | Luminance  | 0.00 to 100.00   |
| 2    | Saturation | Saturation | 0.00 to 100.00   |
| 3    | Hue Offset | Hue range  | -540.0 to +540.0 |

### Color 3 settings

#### Notes

Color 3 can be set only when [Rainbow Gradation] is selected in the <Art Edge Source> group.

## Rounding art edge corners

Press [Round Corner], turning it on.

The art edge corners on the inner and outer sides are rounded.

#### Notes

This function is available only when [Soft] is on.

## Flex Shadow Settings

#### Notes

- The Flex Shadow function is not supported on the MVE-8000A.
- On the MKS-7470X/7471X, the Flex Shadow function can be used except for the following.
  - [External] in the Flex Shadow Source group
  - [Ext Video] in the Flex Shadow Fill group
- “Mix Color” or “Ext Video” can only be applied to one of the background (*see page 299*), flex shadow, trail (*see page 286*), and wind (*see page 290*) effects. If you select “Mix Color” or “Ext Video” in one of these settings, a selection of “Mix Color” or “Ext Video” in any of the other effects is disabled, and “Flat Color” is selected in its place.
- When executing combining four channels of DME images, “Mix Color” and “Ext Video” in the flex shadow and background effects cannot be selected.

## Applying a flex shadow

- 1 In the DME menu, select VF1 'Edge' and HF5 'Flex Shadow.'

The Flex Shadow menu appears.

- 2 Press [Flex Shadow], turning it on.

### Notes

The Flex shadow function cannot be enabled when the following functions are enabled.

- Any nonlinear effect
- Brick
- Shadow

- 3 Adjust the following parameters.

The valid ranges of the parameter values depend on the combination of signal format (SD/HD) and aspect ratio (4:3/16:9) selected in the system, as follows.

#### 4:3 mode

| Knob | Parameter          | Adjustment                                    | Setting values                               |
|------|--------------------|---|--|
| 1    | H                  | Move shadow horizontally                      | -8.00 to +8.00 (SD)<br>-24.00 to +24.00 (HD) |
| 2    | V                  | Move shadow vertically                        | -6.00 to +6.00 (SD)<br>-18.00 to +18.00 (HD) |
| 3    | Size All           | Enlarge or shrink horizontally and vertically | Value of Size H (see page 252) shown         |
| 4    | Soft <sup>a)</sup> | Softness of shadow                            | 0.00 to 100.00                               |
| 5    | Density            | Density of shadow                             | 0.00 to 100.00                               |

a) The Soft parameter is valid only when [Internal] is selected in the <Flex Shadow Source> group.

#### 16:9 mode

| Knob | Parameter          | Adjustment                                    | Setting values                               |
|------|--------------------|---|--|
| 1    | H                  | Move shadow horizontally                      | -8.00 to +8.00 (SD)<br>-32.00 to +32.00 (HD) |
| 2    | V                  | Move shadow vertically                        | -4.50 to +4.50 (SD)<br>-18.00 to +18.00 (HD) |
| 3    | Size All           | Enlarge or shrink horizontally and vertically | Value of Size H (see page 252) shown         |
| 4    | Soft <sup>a)</sup> | Softness of shadow                            | 0.00 to 100.00                               |
| 5    | Density            | Density of shadow                             | 0.00 to 100.00                               |

a) The Soft parameter is valid only when [Internal] is selected in the <Flex Shadow Source> group.

- 4 In the <Flex Shadow Source> group, select the signal to use for the flex shadow.

**External:** Generate the shadow using an input signal.

**Internal:** Generate the shadow using a full-size key signal.

- 5 In the <Flex Shadow Fill> group, select the signal to insert in the flex shadow.

**Flat Color:** single color

**Mix Color:** mix color signal set in the Color Mix menu (see page 257)

**Ext Video:** an external video signal input to the Ext IN connector

- 6 Only if Flat Color is selected in step 5, adjust the following parameters.

| Knob | Parameter  | Adjustment | Setting values |
|------|------------|------------|----------------|
| 1    | Luminance  | Luminance  | 0.00 to 100.00 |
| 2    | Saturation | Saturation | 0.00 to 100.00 |
| 3    | Hue        | Hue        | 359.99 to 0.00 |

## Adjusting the size of the flex shadow

- 1 In the Flex Shadow menu, press [Size], turning it on.

- 2 Set the following parameters.

| Knob | Parameter          | Adjustment                                    | Setting values        |
|------|--------------------|---|-----------------------|
| 1    | Size H             | Enlarge or shrink horizontally                | 0.00 to 2.00          |
| 2    | Size V             | Enlarge or shrink vertically                  | 0.00 to 2.00          |
| 3    | Size All           | Enlarge or shrink horizontally and vertically | Value of Size H shown |
| 4    | Soft <sup>a)</sup> | Softness of shadow                            | 0.00 to 100.00        |
| 5    | Density            | Density of shadow                             | 0.00 to 100.00        |

a) The Soft parameter is valid only when [Internal] is selected in the <Flex Shadow Source> group.

## Setting the center point of the flex shadow

- 1 In the Flex Shadow menu, press [Axis Loc], turning it on.

## 2 Adjust the following parameters.

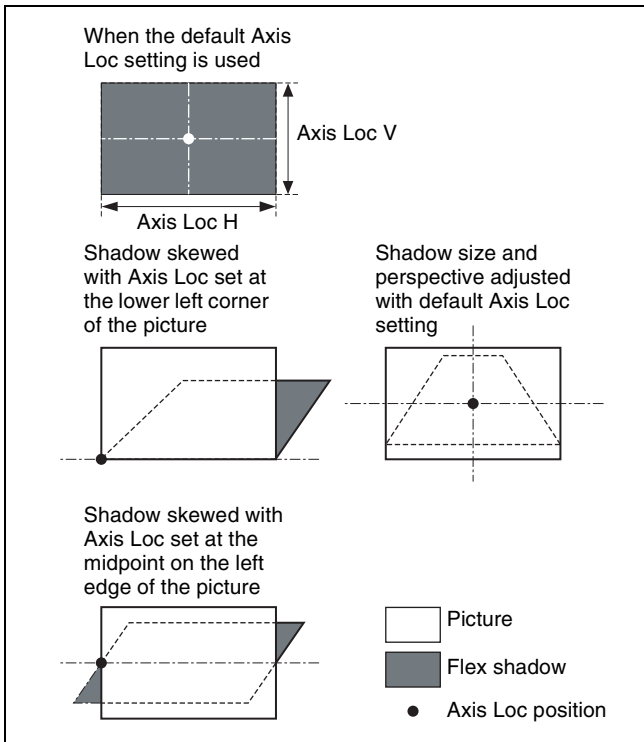
The valid ranges of the parameter values depend on the combination of signal format (SD/HD) and aspect ratio (4:3/16:9) selected in the system, as follows.

### 4:3 mode

| Knob | Parameter  | Adjustment                               | Setting values                               |
|------|------------|--|--|
| 1    | Axis Loc H | Move the shadow center axis horizontally | -8.00 to +8.00 (SD)<br>-24.00 to +24.00 (HD) |
| 2    | Axis Loc V | Move the shadow center axis vertically   | -6.00 to +6.00 (SD)<br>-18.00 to +18.00 (HD) |

### 16:9 mode

| Knob | Parameter  | Adjustment                               | Setting values                               |
|------|------------|--|--|
| 1    | Axis Loc H | Move the shadow center axis horizontally | -8.00 to +8.00 (SD)<br>-32.00 to +32.00 (HD) |
| 2    | Axis Loc V | Move the shadow center axis vertically   | -4.50 to +4.50 (SD)<br>-18.00 to +18.00 (HD) |



The flex shadow central axis appears when the [Flex Shadow Axis] function is enabled in the Graphic menu.

For details, see “Graphics Display Operation” (page 242).

## Skewing the flex shadow

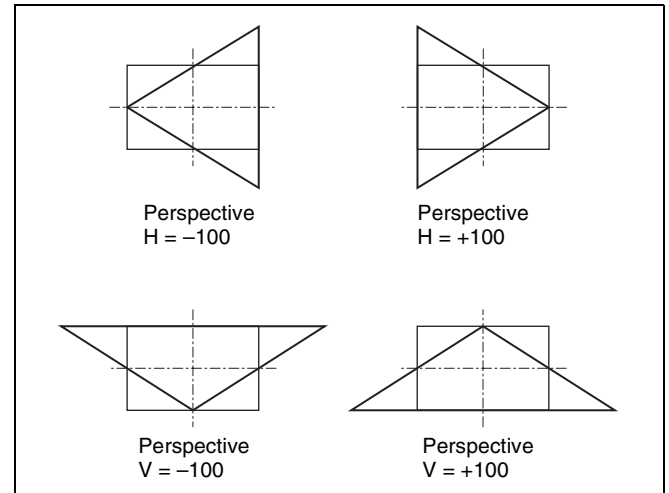
- 1 In the Flex Shadow menu, press [Skew], turning it on.
- 2 Adjust the following parameters.

| Knob | Parameter | Adjustment        | Setting values     |
|------|-----------|-------------------|--------------------|
| 1    | Skew H    | Skew horizontally | -100.00 to +100.00 |
| 2    | Skew V    | Skew vertically   | -100.00 to +100.00 |

## Adding perspective to the flex shadow

- 1 In the Flex Shadow menu, press [Perspective], turning it on.
- 2 Adjust the following parameters.

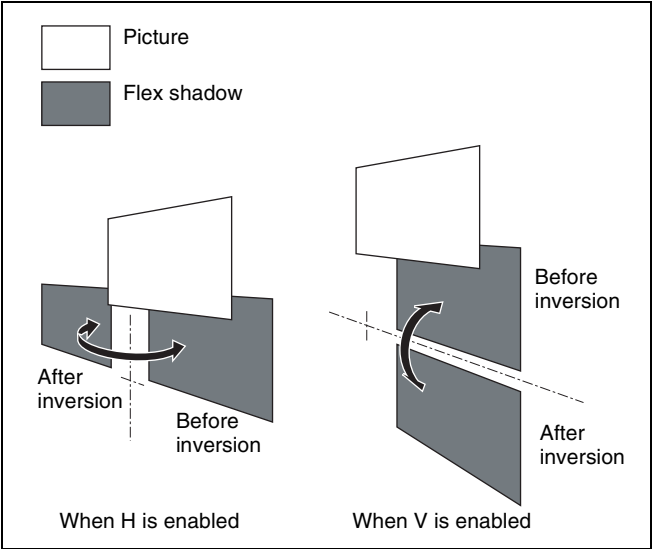
| Knob | Parameter     | Adjustment                 | Setting values     |
|------|---------------|----------------------------|--------------------|
| 1    | Perspective H | Add horizontal perspective | -100.00 to +100.00 |
| 2    | Perspective V | Add vertical perspective   | -100.00 to +100.00 |



## Inverting the flex shadow

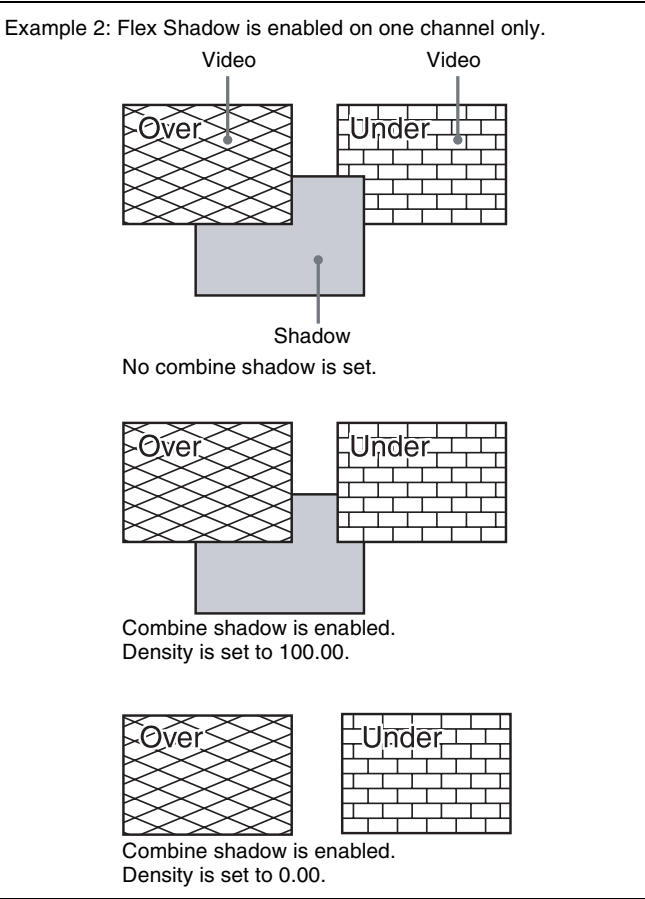
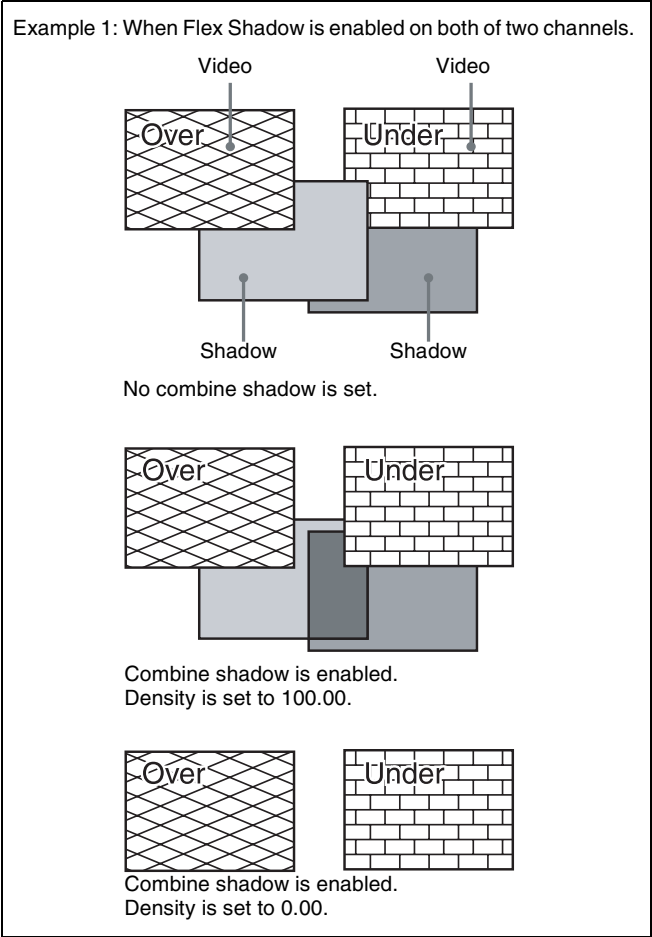
In the <Invert> group of the Flex Shadow menu, select the direction to invert the shadow.

- H:** Invert the shadow in the horizontal direction. The inversion is applied around the axis of the knob 2 parameter Axis Loc V set with [Axis Loc].
- V:** Invert the shadow in the vertical direction. The inversion is applied around the axis of the knob 1 parameter Axis Loc H set with [Axis Loc].



Setting a combine shadow

When there are several images, adds a flex shadow in the depth of an image or overlays multiple flex shadows.



- 1 In the Flex Shadow menu, press [Combine Shadow], turning it on.
- 2 Adjust the following parameter.

| Knob | Parameter | Adjustment                | Setting values |
|------|-----------|---------------------------|----------------|
| 1    | Density   | Density of combine shadow | 0.00 to 100.00 |

Notes

- The Combine Shadow effect is applied to all shadows, not only the sections where shadows overlap.
- Combine Shadow is enabled when the Flex Shadow effect and the global effect Combiner are enabled. In this state, Combine Shadow remains enabled even if the global effect is disabled.
- In Combine Shadow, the settings for the channel with the lowest number among the channels being combined are enabled.

Flex shadow creation example

The flow of flex pattern creation will be explained using the following pattern as an example.



- 1 Press [Flex Shadow], turning it on.
- 2 In the <Flex Shadow> group, select [External].
- 3 Turn [Axis Loc] on and use knob 2 to set the Axis Loc V parameter so that the center of the flex shadow deformation is at the bottom of the picture (for HD format and 16:9 mode: Axis Loc V = -9.00).  
The following steps will be easier if you display the flex shadow axis graphic by pressing [Flex Shadow Axis] in the Graphic menu.
- 4 Press [V] in the <Invert> group, turning it on, to invert the flex shadow vertically.
- 5 Turn [Size] on and use knob 2 to set the Size V parameter so that the shadow extends vertically (for HD format and 16:9 mode: Size V = 1.50).
- 6 Press [Skew], turning it on, and use knob 1 to set the Skew H parameter so that the parallel lines appear to emerge from the depth at the right (for HD format and 16:9 mode: Skew H = -50.00).

## Wipe Crop Settings

### Notes

- The wipe crop function is not supported on the MVE-8000A.
- When wipe crop is on, any mask that was on is turned off.
- When brick is on, wipe crop cannot be turned on. To turn wipe crop on, it is first necessary to turn brick off.
- In the <Shaped Video> group of the Video/Key menu, when [Output] is off, unless you set [Bkgd] in the HF1 'Bkgd' menu to on, the wipe crop effect will not function.

## Applying the wipe crop effect

### To select the pattern

- 1 In the DME menu, select VF1 'Edge' and HF6 'Wipe Crop.'

The Wipe Crop menu appears.

- 2 Press [Wipe Crop], turning it on.

- 3 Press [Pattern Select].

The Pattern Select menu appears.

- 4 From the displayed patterns (standard wipe patterns 1 to 24 and 304), press any pattern to select it.

In this state, you can use the knobs to adjust the size of the pattern. *For details of parameters, see the next item.*

### To set the pattern size and position

- 1 In the Wipe Crop menu, press [Position/Size].

- 2 Set the following parameters.

The setting range for the parameters depends on the signal format (SD/HD) and aspect ratio (4:3/16:9) selected in the system, as follows.

#### For SD format

| Knob | Parameter | Adjustment          | Setting values   |
|------|-----------|---------------------|--|
| 1    | H         | Horizontal position | -8.00 to +8.00   |
| 2    | V         | Vertical position   | -6.00 to +6.00 <sup>a)</sup><br>-4.50 to +4.50 <sup>b)</sup> |
| 3    | Size      | Pattern size        | 0.00 to 100.00   |
| 5    | Pattern   | Pattern number      | 1 to 24, 304   |

a) For 4:3 mode

b) For 16:9 mode

### Notes

When pattern number 304 is selected, the effect of settings in the <Edge> group varies with the Size setting.

#### For HD format

| Knob | Parameter | Adjustment          | Setting values   |
|------|-----------|---------------------|--|
| 1    | H         | Horizontal position | -24.00 to +24.00 <sup>a)</sup><br>-32.00 to +32.00 <sup>b)</sup> |
| 2    | V         | Vertical position   | -18.00 to +18.00   |
| 3    | Size      | Pattern size        | 0.00 to 100.00   |
| 5    | Pattern   | Pattern number      | 1 to 24, 304   |

a) For 4:3 mode

b) For 16:9 mode

## Notes

When pattern number 304 is selected, the effect of settings in the <Edge> group varies with the Size setting.

### To invert the regions of the cropping

In the Wipe Crop menu, press [Invert], turning it on.

### Setting the aspect ratio of the wipe crop pattern (Aspect)

1 In the Wipe Crop menu, press [Aspect], turning it on.

2 Set the following parameter.

| Knob | Parameter | Adjustment   | Setting values                   |
|------|-----------|--------------|----------------------------------|
| 1    | Aspect    | Aspect ratio | −100.00 to +100.00 <sup>a)</sup> |

a) When set to a negative value, the image is stretched vertically, to become taller.  
When set to a positive value, the image is stretched horizontally, to become wider.

### Rotating the wipe crop pattern (Rotation)

1 In the <Rotation> group of the Wipe Crop menu, select one of the following.

**Angle:** Incline the pattern through a fixed angle.

**Speed:** Rotate the pattern at a fixed speed.

2 Depending on the selection in step 1, set the following parameter.

#### When Angle is selected

| Knob | Parameter | Adjustment                | Setting values               |
|------|-----------|---------------------------|------------------------------|
| 1    | Angle     | Angle of pattern rotation | −8.00 to +8.00 <sup>a)</sup> |

a) −1.00 represents a whole turn counterclockwise, and +1.00 represents a whole turn clockwise. 0.00 is the original state.

#### When Speed is selected

| Knob | Parameter | Adjustment               | Setting values                   |
|------|-----------|--------------------------|----------------------------------|
| 1    | Speed     | Rotation rate of pattern | −100.00 to +100.00 <sup>a)</sup> |

a) −100.00 represents a speed of four whole turns counterclockwise per second, and +100.00 represents a speed of four whole turns clockwise per second. 0.00 is the stationary state.

### Applying modulation to the wipe crop pattern (Modulation)

1 In the <Modulation> group of the Wipe Crop menu, select one of the following.

**H (horizontal modulation):** Modulate the pattern to apply waving in the horizontal direction.

**V (vertical modulation):** Modulate the pattern to apply waving in the vertical direction.

2 Set the following parameters.

| Knob | Parameter | Adjustment              | Setting values     |
|------|-----------|-------------------------|--------------------|
| 1    | Amplitude | Amplitude of modulation | 0.00 to 100.00     |
| 2    | Frequency | Frequency of modulation | 0.00 to 100.00     |
| 3    | Speed     | Speed of waves          | −100.00 to +100.00 |

### Replicating the wipe crop pattern (Multiplication)

1 In the Wipe Crop menu, press [Multi], turning it on.

2 Set the following parameters.

| Knob | Parameter   | Adjustment                                    | Setting values       |
|------|-------------|---|----------------------|
| 1    | H Multi     | Number of repetitions of pattern horizontally | 1 to 63              |
| 2    | V Multi     | Number of repetitions of pattern vertically   | 1 to 63              |
| 3    | Invert Type | Replication layout                            | 1 to 4 <sup>a)</sup> |

a) See the replication patterns (page 135).

### Modifying the wipe crop pattern edge

You can apply a border to the wipe crop pattern, or soften the boundary.

1 In the <Edge> group of the Wipe Crop menu, select one of the following.

**Border:** border

**Soft:** soft edge

**Soft Border:** soft border

2 Depending on the selection in step 1, set the following parameters.

#### When Border is selected

| Knob | Parameter | Adjustment   | Setting values |
|------|-----------|--------------|----------------|
| 1    | Width     | Border width | 0.00 to 100.00 |

**When Soft is selected**

| Knob | Parameter | Adjustment    | Setting values |
|------|-----------|---------------|----------------|
| 1    | Soft      | Edge softness | 0.00 to 100.00 |

**When Soft Border is selected**

| Knob | Parameter  | Adjustment            | Setting values |
|------|------------|-----------------------|----------------|
| 1    | Width      | Border width          | 0.00 to 100.00 |
| 2    | Inner Soft | Border inner softness | 0.00 to 100.00 |
| 3    | Outer Soft | Border outer softness | 0.00 to 100.00 |

**Selecting the signal or color to be inserted in the wipe crop border**

When you are applying a border or soft border to the wipe crop, you can select the signal or color to be inserted in the border.

- 1 In the <Border Fill> group of the Wipe Crop menu, select one of the following.

**Flat Color:** flat color

**Mix Color:** a mix color signal combining color 1 and color 2 (see the next section, “Color Mix Settings”)

**Ext Video:** an external video signal input to the Ext IN connector

- 2 When Flat Color is selected in step 1 only, adjust the following parameters.

| Knob | Parameter  | Adjustment | Setting values |
|------|------------|------------|----------------|
| 1    | Luminance  | Luminance  | 0.00 to 100.00 |
| 2    | Saturation | Saturation | 0.00 to 100.00 |
| 3    | Hue        | Hue        | 359.99 to 0.00 |

**Color Mix Settings****Notes**

The color mix function is not supported on the MVE-8000A.

**Creating a color combination pattern****To select the pattern**

- 1 In the DME menu, select VF1 ‘Edge’ and HF7 ‘Color Mix.’

The Color Mix menu appears.

- 2 Press [Mix Pattern Select].

The Mix Pattern Select menu appears.

- 3 Press any of the displayed patterns (standard wipe patterns 1 to 24) to select it.

In this state, you can adjust the pattern size and border softness with the knobs.

*For details of the parameters, see the next item.*

**To set the pattern size and position**

- 1 In the Color Mix menu, press [Position/Size].

- 2 Set the following parameters.

The setting range for the parameters depends on the system selected signal format (SD/HD) and aspect ratio (4:3/16:9), as follows.

**For SD format**

| Knob | Parameter | Adjustment              | Setting values   |
|------|-----------|-------------------------|--|
| 1    | H         | Horizontal position     | −8.00 to +8.00   |
| 2    | V         | Vertical position       | −6.00 to +6.00 <sup>a)</sup><br>−4.50 to +4.50 <sup>b)</sup> |
| 3    | Size      | Pattern size            | 0.00 to 100.00   |
| 4    | Soft      | Softness of the pattern | 0.00 to 100.00   |
| 5    | Pattern   | Pattern number          | 1 to 24  |

a) For 4:3 mode  
b) For 16:9 mode

**For HD format**

| Knob | Parameter | Adjustment              | Setting values   |
|------|-----------|-------------------------|--|
| 1    | H         | Horizontal position     | −24.00 to +24.00 <sup>a)</sup><br>−32.00 to +32.00 <sup>b)</sup> |
| 2    | V         | Vertical position       | −18.00 to +18.00   |
| 3    | Size      | Pattern size            | 0.00 to 100.00   |
| 4    | Soft      | Softness of the pattern | 0.00 to 100.00   |
| 5    | Pattern   | Pattern number          | 1 to 24  |

a) For 4:3 mode  
b) For 16:9 mode

**To invert the regions of the two colors**

In the Color Mix menu, press [Color Invert], turning it on.

**Adjusting the color 1 and color 2**

- 1 In the Color Mix menu, to adjust color 1 press [Color1], and to adjust color 2 press [Color2].

2 Set the following parameters.

| Knob | Parameter  | Adjustment | Setting values |
|------|------------|------------|----------------|
| 1    | Luminance  | Luminance  | 0.00 to 100.00 |
| 2    | Saturation | Saturation | 0.00 to 100.00 |
| 3    | Hue        | Hue        | 359.99 to 0.00 |

Modifying the color combination pattern

See the following pages.

- “Setting the aspect ratio of the wipe crop pattern (Aspect)” (page 256)
- “Replicating the wipe crop pattern (Multiplication)” (page 256)
- “Rotating the wipe crop pattern (Rotation)” (page 256)
- “Applying modulation to the wipe crop pattern (Modulation)” (page 256)

Applying Special Effects  
(Effects on the Overall  
Video Signal)

Defocus Settings

Applying the Defocus effect

1 In the DME menu, select VF2 ‘Video Modify’ and HF1 ‘Defocus/Blur.’

The Defocus/Blur menu appears.

2 Press [Defocus], turning it on.

Notes

On the MVE-8000A, the Defocus and Glow effects cannot be enabled at the same time. The effect which was turned on most recently is enabled.

3 In the <Defocus Mode> group, select the signal to which to apply the defocus effect.

**Video/Key:** Video signal and key signal

**Video:** Video signal only

**Key:** Key signal only

Notes

“Key” can be selected only when the DME is connected through an SDI interface.

4 Set the parameters.

When Video/Key is selected (with DME dedicated interface)

| Knob | Parameter | Adjustment  | Setting values |
|------|-----------|---|----------------|
| 1    | H         | Horizontal defocusing of video and key signals              | 0.00 to 100.00 |
| 2    | V         | Vertical defocusing of video and key signals                | 0.00 to 100.00 |
| 3    | All       | Horizontal and vertical defocusing of video and key signals | H value shown  |



**When Video/Key is selected (with SDI-interfaced DME)**

Parameter group [1/2]

| Knob | Parameter | Adjustment  | Setting values      |
|------|-----------|---|---------------------|
| 1    | V/K H     | Horizontal defocusing of video and key signals              | Video H value shown |
| 2    | V/K V     | Vertical defocusing of video and key signals                | Video V value shown |
| 3    | V/K All   | Horizontal and vertical defocusing of video and key signals | Video H value shown |
| 4    | Video All | Horizontal and vertical defocusing of video signal          | Video H value shown |
| 5    | Key All   | Horizontal and vertical defocusing of key signal            | Key H value shown   |

Parameter group [2/2]

| Knob | Parameter | Adjustment                            | Settings values |
|------|-----------|---------------------------------------|-----------------|
| 1    | Video H   | Horizontal defocusing of video signal | 0.00 to 100.00  |
| 2    | Video V   | Vertical defocusing of video signal   | 0.00 to 100.00  |
| 3    | Key H     | Horizontal defocusing of key signal   | 0.00 to 100.00  |
| 4    | Key V     | Vertical defocusing of key signal     | 0.00 to 100.00  |

**When Video is selected**

| Knob | Parameter | Adjustment   | Setting values |
|------|-----------|--|----------------|
| 1    | H         | Horizontal defocusing of video signal              | 0.00 to 100.00 |
| 2    | V         | Vertical defocusing of video signal                | 0.00 to 100.00 |
| 3    | All       | Horizontal and vertical defocusing of video signal | H value shown  |

**When Key is selected (with SDI-interfaced DME)**

| Knob | Parameter | Adjustment                                       | Settings values |
|------|-----------|--|-----------------|
| 1    | H         | Horizontal defocusing of key signal              | 0.00 to 100.00  |
| 2    | V         | Vertical defocusing of key signal                | 0.00 to 100.00  |
| 3    | All       | Horizontal and vertical defocusing of key signal | H value shown   |

- 5** To cancel black level leaking that can occur at the edge of the screen when the Defocus effect is enabled, press [Clean Defocus], turning it on.

**Masking the Defocus effect with a selected pattern**

Press [Mask] to display the Mask menu, and set the pattern type and modifiers (*see page 265*).

**Blur Settings****Applying the Blur effect**

- 1** In the DME menu, select VF2 'Video Modify' and HF1 'Defocus/Blur.'

The Defocus/Blur menu appears.

- 2** Press [Blur], turning it on.

**Notes**

On the MVE-8000A, the Glow and Blur effects cannot be enabled at the same time. The effect which was turned on most recently is enabled.

- 3** When the DME is connected through an SDI interface, in the <Blur Mode> group, select the signal to which you want apply the Blur effect.

**Video/Key:** Video signal and key signal

**Video:** Video signal only

**Key:** Key signal only

- 4** Set the parameters.

**When the DME dedicated interface is used**

| Knob | Parameter | Adjustment                                     | Setting values |
|------|-----------|--|----------------|
| 1    | H         | Horizontal defocusing of video and key signals | 0.00 to 100.00 |

| Knob | Parameter | Adjustment  | Setting values |
|------|-----------|---|----------------|
| 2    | V         | Vertical defocusing of video and key signals                | 0.00 to 100.00 |
| 3    | All       | Horizontal and vertical defocusing of video and key signals | H value shown  |

#### When Video/Key is selected (with SDI-interfaced DME)

Parameter group [1/2]

| Knob | Parameter | Adjustment  | Settings values     |
|------|-----------|---|---------------------|
| 1    | V/K H     | Horizontal defocusing of video and key signals              | Video H value shown |
| 2    | V/K V     | Vertical defocusing of video and key signals                | Video V value shown |
| 3    | V/K All   | Horizontal and vertical defocusing of video and key signals | Video H value shown |
| 4    | Video All | Horizontal and vertical defocusing of video signal          | Video H value shown |
| 5    | Key All   | Horizontal and vertical defocusing of key signal            | Key H value shown   |

Parameter group [2/2]

| Knob | Parameter | Adjustment                            | Settings values |
|------|-----------|---------------------------------------|-----------------|
| 1    | Video H   | Horizontal defocusing of video signal | 0.00 to 100.00  |
| 2    | Video V   | Vertical defocusing of video signal   | 0.00 to 100.00  |
| 3    | Key H     | Horizontal defocusing of key signal   | 0.00 to 100.00  |
| 4    | Key V     | Vertical defocusing of key signal     | 0.00 to 100.00  |

#### When video is selected (with SDI-interfaced DME)

| Knob | Parameter | Adjustment                            | Settings values |
|------|-----------|---------------------------------------|-----------------|
| 1    | H         | Horizontal defocusing of video signal | 0.00 to 100.00  |

| Knob | Parameter | Adjustment   | Settings values |
|------|-----------|--|-----------------|
| 2    | V         | Vertical defocusing of video signal                | 0.00 to 100.00  |
| 3    | All       | Horizontal and vertical defocusing of video signal | H value shown   |

#### When Key is selected (with SDI-interfaced DME)

| Knob | Parameter | Adjustment                                       | Setting values |
|------|-----------|--|----------------|
| 1    | H         | Horizontal defocusing of key signal              | 0.00 to 100.00 |
| 2    | V         | Vertical defocusing of key signal                | 0.00 to 100.00 |
| 3    | All       | Horizontal and vertical defocusing of key signal | H value shown  |

### Masking the Blur effect with a selected pattern

Press [Mask] to display the Mask menu, and set the pattern type and modifiers (*see page 265*).

## Multi Move Settings

### Applying the Multi Move effect

- 1 In the DME menu, select VF2 'Video Modify' and HF2 'Multi Move.'

The Multi Move menu appears.

- 2 Press [Multi Move], turning it on.

- 3 Set the parameters.

The valid ranges of the parameter values depend on the combination of signal format (SD/HD) and aspect ratio (4:3/16:9) selected in the system, as follows.

#### 4:3 mode

| Knob | Parameter | Adjustment                        | Setting values                               |
|------|-----------|-----------------------------------|--|
| 1    | Center X  | X-value of shrinking center point | -4.00 to +4.00 (SD)<br>-12.00 to +12.00 (HD) |
| 2    | Center Y  | Y-value of shrinking center point | -3.00 to +3.00 (SD)<br>-9.00 to +9.00 (HD)   |
| 3    | Size      | Shrinking ratio                   | 0.00 to 100.00                               |

| Knob | Parameter | Adjustment                      | Setting values           |
|------|-----------|---------------------------------|--------------------------|
| 4    | Aspect    | Aspect ratio of shrunken images | –100.00 to +100.00<br>a) |

a) Specify minus values to stretch the image in the vertical direction, and plus values to stretch the image in the horizontal direction.

### 16:9 mode

| Knob | Parameter | Adjustment                        | Setting values                               |
|------|-----------|-----------------------------------|--|
| 1    | Center X  | X-value of shrinking center point | –4.00 to +4.00 (SD)<br>–16.00 to +16.00 (HD) |
| 2    | Center Y  | Y-value of shrinking center point | –2.25 to +2.25 (SD)<br>–9.00 to +9.00 (HD)   |
| 3    | Size      | Shrinking ratio                   | 0.00 to 100.00                               |
| 4    | Aspect    | Aspect ratio of shrunken images   | –100.00 to +100.00<br>a)                     |

a) Specify minus values to stretch the image in the vertical direction, and plus values to stretch the image in the horizontal direction.

## Sepia Settings

### Applying the Sepia effect

- 1 In the DME menu, select VF2 ‘Video Modify’ and HF3 ‘Color Modify.’

The Color Modify menu appears.

- 2 Press [Sepia], turning it on.

- 3 Set the following parameters.

| Knob | Parameter | Adjustment                            | Setting values    |
|------|-----------|---------------------------------------|-------------------|
| 1    | Mix Y     | Y signal mix amount                   | 0.00 to 100.00    |
| 2    | Mix C     | Chroma signal mix amount              | 0.00 to 100.00    |
| 3    | Mix All   | Y signal and chroma signal mix amount | Mix Y value shown |

- 4 To set the color of the sepia image, press [Sepia Color], turning it on, and adjust the parameters.

| Knob | Parameter  | Adjustment | Setting values |
|------|------------|------------|----------------|
| 1    | Luminance  | Luminance  | 0.00 to 100.00 |
| 2    | Saturation | Saturation | 0.00 to 100.00 |
| 3    | Hue        | Hue        | 359.99 to 0.00 |

## Masking the Sepia effect with a selected pattern

Press [Mask] to display the Mask menu, and set the pattern type and modifiers (*see page 265*).

## Mono Settings

### Applying the Mono effect

- 1 In the DME menu, select VF2 ‘Video Modify’ and HF3 ‘Color Modify.’

The Color Modify menu appears.

- 2 Press [Mono], turning it on.

## Masking the Mono effect with a selected pattern

Press [Mask] to display the Mask menu, and set the pattern type and modifiers (*see page 265*).

## Posterization and Solarization Settings

You can specify the degree of luminance coarsening.  
You can specify the degree of chroma coarsening.

### Applying the Posterization or Solarization effect

- 1 In the DME menu, select VF2 ‘Video Modify’ and HF3 ‘Color Modify.’

The Color Modify menu appears.

- 2 Press [Poster/Solar], turning it on.

- 3 Set the parameters.

| Knob | Parameter | Adjustment   | Setting values |
|------|-----------|--|----------------|
| 1    | Poster    | Coarseness of luminance gradations (Posterization parameter) | 0.00 to 100.00 |
| 2    | Solar     | Coarseness of chroma gradations (Solarization parameter)     | 0.00 to 100.00 |

## Masking the Posterization or Solarization effect with a selected pattern

Press [Mask] to display the Mask menu, and set the pattern type and modifiers (*see page 265*).

## Nega Settings

### Applying the Nega effect

- 1 In the DME menu, select VF2 'Video Modify' and HF3 'Color Modify.'

The Color Modify menu appears.

- 2 Press [Nega Y] or [Nega C], turning it on, or press both buttons, turning them on.

**Nega Y:** Reverse the luminance.

**Nega C:** Reverse the chroma.

### Masking the Nega effect with a selected pattern

Press [Mask] to display the Mask menu, and set the pattern type and modifiers (*see page 265*).

## Contrast Settings

### Applying the Contrast effect

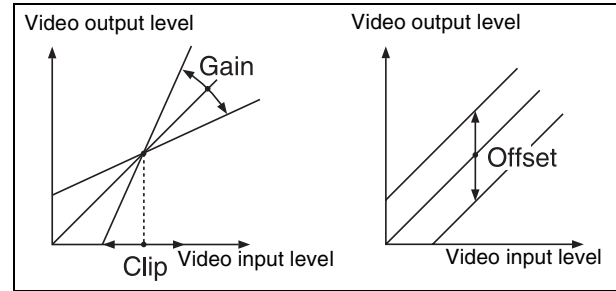
- 1 In the DME menu, select VF2 'Video Modify' and HF3 'Color Modify.'

The Color Modify menu appears.

- 2 Press [Contrast], turning it on.

- 3 Set the parameters.

| Knob | Parameter | Adjustment                       | Setting values     |
|------|-----------|----------------------------------|--------------------|
| 1    | Y Clip    | Luminance clip level             | +109.59 to -7.31   |
| 2    | Y Gain    | Luminance contrast gradient      | -100.00 to +100.00 |
| 3    | Y Offset  | Luminance offset level increment | -100.00 to +100.00 |
| 4    | C Gain    | Chroma contrast gradient         | -100.00 to +100.00 |



Clip, Gain, Offset

## Masking the Contrast effect with a selected pattern

Press [Mask] to display the Mask menu, and set the pattern type and modifiers (*see page 265*).

## Mosaic Settings

### Applying the Mosaic effect

- 1 In the DME menu, select VF2 'Video Modify' and HF4 'Mosaic.'

The Mosaic menu appears.

- 2 Press [Mosaic], turning it on.

- 3 Set the following parameters.

| Knob | Parameter | Adjustment            | Setting values                   |
|------|-----------|-----------------------|----------------------------------|
| 1    | Size      | Size of tiles         | 0.00 to 100.00                   |
| 2    | Aspect    | Aspect ratio of tiles | -100.00 to +100.00 <sup>a)</sup> |

a) Specify minus values to stretch the tiles in the vertical direction, and plus values to stretch the tiles in the horizontal direction.

### Masking the Mosaic effect with a selected pattern

Press [Mask] to display the Mask menu, and set the pattern type and modifiers (*see page 265*).

## Sketch Settings

### Applying the Sketch effect

- 1 In the DME menu, select VF7 'Enhanced Video Modify' and HF1 'Sketch.'

The Sketch menu appears.

- 2 Press [Sketch], turning it on.

- 3** Select the method for applying outlines in the <Sketch Mode> group.

**Sketch:** Apply an effect like a sketch.

**Edge Color:** Enhance the outlines.

**Draw:** Apply an effect like a line drawing.

**Relief:** Apply a bas-relief effect.

**Sharp:** Increase the apparent sharpness.

- 4** Set the following parameters, according to the method selected in step **3**.

#### When Sketch is selected

| Knob | Parameter | Adjustment                                  | Setting values                   |
|------|-----------|---|----------------------------------|
| 1    | Mix       | Mix amount for Sketch video and input video | 0.00 to 100.00 <sup>a)</sup>     |
| 2    | Clip      | Reference level for outline extraction      | -100.00 to +100.00 <sup>b)</sup> |
| 3    | Gain      | Image gain for outline extraction           | -100.00 to +100.00               |
| 4    | C Gain    | Chroma gain of input video                  | -100.00 to +100.00               |

a) 100.00 gives an image completely transformed by the Sketch effect. 0.00 is the original input image.

b) The larger the Clip value, the narrower the outline width.

#### When Edge Color is selected

| Knob | Parameter | Adjustment                                      | Setting values                   |
|------|-----------|---|----------------------------------|
| 1    | Mix       | Mix amount for Edge Color video and input video | 0.00 to 100.00 <sup>a)</sup>     |
| 2    | Clip      | Reference level for outline extraction          | -100.00 to +100.00 <sup>b)</sup> |

a) 100.00 gives an image completely transformed by the Sketch effect. 0.00 is the original input image.

b) The larger the Clip value, the narrower the outline width.

#### When Draw is selected

| Knob | Parameter | Adjustment                                | Setting values                   |
|------|-----------|---|----------------------------------|
| 1    | Mix       | Mix amount for Draw video and input video | 0.00 to 100.00 <sup>a)</sup>     |
| 2    | Clip      | Reference level for outline extraction    | -100.00 to +100.00 <sup>b)</sup> |
| 3    | Gain      | Image gain for outline extraction         | -100.00 to +100.00               |

a) 100.00 gives an image completely transformed by the Sketch effect. 0.00 is the original input image.

b) The larger the Clip value, the narrower the outline width.

#### When Relief is selected

| Knob | Parameter | Adjustment                                  | Setting values               |
|------|-----------|---|------------------------------|
| 1    | Mix       | Mix amount for Relief video and input video | 0.00 to 100.00 <sup>a)</sup> |
| 2    | Offset    | Relief luminance level                      | -100.00 to +100.00           |
| 3    | Gain      | Image gain for outline extraction           | -100.00 to +100.00           |
| 4    | Angle     | Direction of relief image light source      | -8.00 to +8.00               |

a) 100.00 gives an image completely transformed by the Sketch effect. 0.00 is the original input image.

#### When Sharp is selected

| Knob | Parameter | Adjustment   | Setting values |
|------|-----------|--|----------------|
| 1    | H         | Simultaneously adjust the left and right resolution    | 0.00 to 100.00 |
| 2    | V         | Simultaneously adjust the top and bottom resolution    | 0.00 to 100.00 |
| 3    | All       | Simultaneously adjust the resolution of all four sides | 0.00 to 100.00 |
| 5    | Coring    | Minimum value of edge to emphasize                     | 0.00 to 100.00 |

- 5** If you selected other than “Sharp” in step **3**, depending on the necessity, proceed as follows.

**To adjust the outline color for Edge Color or Draw**  
Turn [Edge Matte] on and set the following parameters to set the outline color.

| Knob | Parameter  | Adjustment | Setting values |
|------|------------|------------|----------------|
| 1    | Luminance  | Luminance  | 0.00 to 100.00 |
| 2    | Saturation | Saturation | 0.00 to 100.00 |
| 3    | Hue        | Hue        | 359.99 to 0.00 |

### To set the color of the sections other than the outlines for Draw

Press [Matte], turning it on, and adjust the following parameters to set the color of the sections other than the outlines.

| Knob | Parameter  | Adjustment | Setting values |
|------|------------|------------|----------------|
| 1    | Luminance  | Luminance  | 0.00 to 100.00 |
| 2    | Saturation | Saturation | 0.00 to 100.00 |
| 3    | Hue        | Hue        | 359.99 to 0.00 |

### To select the signal to mix with the relief pattern for Relief

In the <Chroma Type> group, select the signal to mix with the relief pattern.

**Matte:** Select a single color. The following parameters can be adjusted.

| Knob | Parameter  | Adjustment | Setting values |
|------|------------|------------|----------------|
| 2    | Saturation | Saturation | 0.00 to 100.00 |
| 3    | Hue        | Hue        | 359.99 to 0.00 |

**Video:** Select the input video signal.

- 6** To invert white and black in the extracted video, or to invert the outlines and the sections other than the outlines, press [Nega], turning it on.

### Masking the Sketch effect with a selected pattern

Press [Mask] to display the Mask menu and set the type of pattern and modifiers (*see page 265*).

## Metal Settings

### Applying the Metal effect

- 1** In the DME menu, select VF7 'Enhanced Video Modify' and HF2 'Metal.'

The Metal menu appears.

- 2** Press [Metal], turning it on.

- 3** Set the parameters.

| Knob | Parameter | Adjustment                                 | Setting values |
|------|-----------|--|----------------|
| 1    | Mix Ratio | Mix amount for Metal video and input video | 0.00 to 100.00 |
| 2    | Y Clip    | Clip level of input signal Y level         | 0.00 to 100.00 |

| Knob | Parameter | Adjustment  | Setting values     |
|------|-----------|---|--------------------|
| 3    | Y Gain    | Amount of gain for clip adjusted input signal Y level | -100.00 to +100.00 |
| 4    | Y Offset  | Offset added to clip and gain adjusted input Y signal | 0.00 to 100.00     |

- 4** In the <Metal Mode> group, select the type of metallic gloss.

**Gold:** Give a gold gloss to the input video.

**Silver:** Give a silver gloss to the input video.

**Rainbow:** Give a rainbow color gloss to the input video.

**Variable:** Give a metallic gloss to the input video in any color by adjusting the following parameters.

| Knob | Parameter  | Adjustment | Setting values |
|------|------------|------------|----------------|
| 2    | Saturation | Saturation | 0.00 to 100.00 |
| 3    | Hue        | Hue        | 359.99 to 0.00 |

### Masking the Metal effect with a selected pattern

Press [Mask] to display the Mask menu and set the type of pattern and modifiers (*see page 265*).

## Dim and Fade Settings

### Notes

The Dim and Fade functions are not supported on the MVE-8000A.

### Applying the Dim effect

- 1** In the DME menu, select VF7 'Enhanced Video Modify' and HF3 'Dim & Fade.'

The Dim & Fade menu appears.

- 2** Press [Dim], turning it on.

- 3** Set the following parameters.

| Knob | Parameter | Adjustment                                   | Setting values     |
|------|-----------|--|--------------------|
| 1    | Start     | Point where dimming starts (dim start point) | -100.00 to +100.00 |

| Knob | Parameter | Adjustment        | Setting values |
|------|-----------|-------------------|----------------|
| 2    | Gain      | Degree of dimming | 0.00 to 100.00 |

- 4** Press [Flat Color] and set the parameters for the color of the depths of the picture.

| Knob | Parameter  | Adjustment | Setting values |
|------|------------|------------|----------------|
| 1    | Luminance  | Luminance  | 0.00 to 100.00 |
| 2    | Saturation | Saturation | 0.00 to 100.00 |
| 3    | Hue        | Hue        | 359.99 to 0.00 |

## Applying the Fade effect

- 1** In the DME menu, select VF7 'Enhanced Video Modify' and HF3 'Dim & Fade.'

The Dim & Fade menu appears.

- 2** Press [Fade], turning it on.

- 3** Set the parameters.

| Knob | Parameter | Adjustment                                   | Setting values     |
|------|-----------|--|--------------------|
| 1    | Start     | Point where fading starts (fade start point) | -100.00 to +100.00 |
| 2    | Gain      | Degree of fading                             | 0.00 to 100.00     |

## Glow Settings

### Applying the Glow effect

- 1** In the DME menu, select VF7 'Enhanced Video Modify' and HF4 'Glow.'

The Glow menu appears.

- 2** Press [Glow], turning it on.

#### Notes

- On the MVE-9000 and MVS-7470X/7471X, the key border function and Glow function cannot be turned on at the same time. The function most recently turned on is effective.
- On the MVE-8000A, the Defocus and Glow effects or the Blur and Glow effects cannot be turned on at the same time. The effect most recently turned on is effective.

- 3** Set the parameters.

| Knob | Parameter | Adjustment                              | Setting values     |
|------|-----------|---|--------------------|
| 1    | Clip      | Reference level for highlight detection | 0.00 to 100.00     |
| 2    | Gain      | Amount of gain for highlights           | -100.00 to +100.00 |
| 3    | Soft      | Softness                                | 0.00 to 100.00     |

- 4** Press [Matte] and set the glow color.

| Knob | Parameter  | Adjustment | Setting values |
|------|------------|------------|----------------|
| 1    | Luminance  | Luminance  | 0.00 to 100.00 |
| 2    | Saturation | Saturation | 0.00 to 100.00 |
| 3    | Hue        | Hue        | 359.99 to 0.00 |

## Inverting the highlight areas

Press [Glow Invert], turning it on.

The highlight and non-highlight areas are inverted.

## Masking the Glow effect with a selected pattern

Press [Mask] to display the Mask menu and set the type of pattern and modifiers (*see page 265*).

#### Notes

When the signal format is 1080P on the MKS-7470X/7471X, masking will cause the edges to get blurred.

## Mask Settings

### Applying masks

- 1** In the DME menu, select VF2 'Video Modify' and HF7 'Mask.'

The Mask menu appears.

- 2** In the <Mask> group, press the button for the group of the effect to which you want to apply the mask, turning it on.

**Effect Gp 1:** Posterization, Solarization, Nega, Sepia, Mono, Contrast, Mosaic, Sketch, Metal

**Effect Gp 2:** Defocus, Blur, Glow

#### Notes

On the MVE-8000A, Effect Gp 1 and Effect Gp 2 cannot be turned on at the same time.

**3** Press [Position/Size].

**4** Set the mask source parameters.

The valid ranges of the parameter values depend on the combination of signal format (SD/HD) and aspect ratio (4:3/16:9) selected in the system, as follows.

#### 4:3 mode

| Knob | Parameter | Adjustment          | Setting values                               |
|------|-----------|---------------------|--|
| 1    | H         | Horizontal position | -8.00 to +8.00 (SD)<br>-24.00 to +24.00 (HD) |
| 2    | V         | Vertical position   | -6.00 to +6.00 (SD)<br>-18.00 to +18.00 (HD) |
| 3    | Size      | Size of mask        | 0.00 to 100.00                               |
| 4    | Soft      | Softness of mask    | 0.00 to 100.00                               |
| 5    | Pattern   | Pattern number      | 21, 24, 304 <sup>a)</sup>                    |

a) This setting value is not supported on the MVE-8000A.

#### 16:9 mode

| Knob | Parameter | Adjustment          | Setting values                               |
|------|-----------|---------------------|--|
| 1    | H         | Horizontal position | -8.00 to +8.00 (SD)<br>-32.00 to +32.00 (HD) |
| 2    | V         | Vertical position   | -4.50 to +4.50 (SD)<br>-18.00 to +18.00 (HD) |
| 3    | Size      | Size of mask        | 0.00 to 100.00                               |
| 4    | Soft      | Softness of mask    | 0.00 to 100.00                               |
| 5    | Pattern   | Pattern number      | 21, 24, 304 <sup>a)</sup>                    |

a) This setting value is not supported on the MVE-8000A.

**5** To invert the mask source, press [Invert], turning it on.

**6** As required, set the modifiers for the mask pattern.

#### When turning [Aspect] on and adjusting the pattern aspect ratio

| Knob | Parameter | Adjustment   | Setting values                   |
|------|-----------|--------------|----------------------------------|
| 1    | Aspect    | Aspect ratio | -100.00 to +100.00 <sup>a)</sup> |

a) When a minus value is specified, the picture is extended in the vertical direction. When a plus value is specified, the picture is extended in the horizontal direction.

#### When turning [Angle] on in the <Rotation> group and slanting the pattern

| Knob | Parameter | Adjustment                | Setting values               |
|------|-----------|---------------------------|------------------------------|
| 1    | Angle     | Rotation angle of pattern | -8.00 to +8.00 <sup>a)</sup> |

a) -1.00 is one rotation in counterclockwise direction. +1.00 is one rotation in clockwise direction. 0.00 is no rotation.

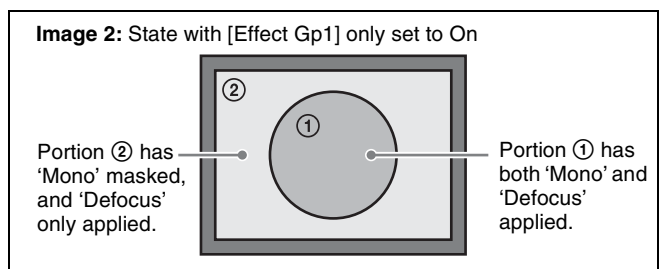
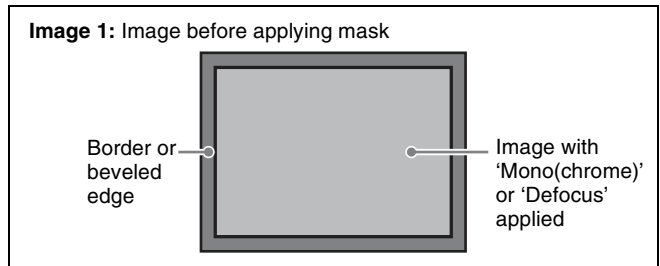
#### When turning [Speed] on in the <Rotation> group and rotating the pattern at a specified speed

| Knob | Parameter | Adjustment                | Setting values                   |
|------|-----------|---------------------------|----------------------------------|
| 1    | Speed     | Rotation speed of pattern | -100.00 to +100.00 <sup>a)</sup> |

a) -100.00 is four rotations per second in counterclockwise direction. +100.00 is four rotations per second in clockwise direction. 0.00 is no rotation.

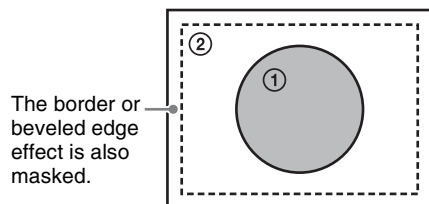
#### Notes on applying a mask effect with a DME (only when using the MKS-7470X/7471X or MVE-9000)

In the <Mask> group of the DME >Video Modify >Mask menu, if [Effect Gp1] and [Effect Gp2] are simultaneously set to On, then the border or beveled edge is also masked. The following explains this with the example of using a circular mask pattern.



In the state corresponding to image 2, if you switch [Effect Gp2] to On, then the mask should be applied to portion ② only, but in fact the border or beveled edge is also masked.



**Image 3:** State with [Effect Gp1] and [Effect Gp2] set to On

## Freeze Settings

Freezes the input video. The following types are available:

**Hard Freeze:** Freezes the input video at an arbitrary timing.

**Time Strobe:** Freezes the input video at specified intervals for a specified length.

**Film:** Slows the apparent frame rate, for an effect like film. You can specify the ratio of advancement.

For Hard Freeze and Time Strobe, you can select the first field or the frame as the freeze timing.

### Notes

When 720P or 1080P signal format is used, the Film mode cannot be selected.

To apply a Freeze effect, start by displaying the Freeze menu. In the DME menu, select VF3 'Freeze' and HF1 'Freeze.'

## Applying the Hard Freeze effect

- 1 In the <Freeze Timing> group, select the signal freeze timing.

**Frame:** Freeze one frame of signal.

**Field 1:** Freeze the first field of signal.

- 2 In the <Freeze> group, press [Hard Freeze], turning it on.

## Applying the Time Strobe effect

- 1 In the <Freeze Timing> group, select the signal freeze timing.

**Frame:** Freeze one frame of signal.

**Field 1:** Freeze the first field of signal.

### Notes

The freeze timing setting is not required when the following signal formats are being used.

1080P/50, 1080P/59.94, 1080PsF/23.976,  
1080PsF/24, 1080PsF/25, 1080PsF/29.97, 720P/  
50, 720P/59.94

- 2 In the <Freeze> group, press [Time Strobe], turning it on.

- 3 Set the parameters.

| Knob | Parameter | Adjustment   | Setting values    |
|------|-----------|--|-------------------|
| 1    | Duration  | Freeze interval                                    | 1 to 255 (frames) |
| 2    | Live      | Ratio of live video inserted between freeze images | 0.00 to 100.00    |

## Applying the Film effect

### Notes

When 720P or 1080P signal format is used, the Film mode cannot be selected.

- 1 In the <Freeze> group, press [Film], turning it on.

- 2 Set the parameter.

| Knob | Parameter | Adjustment             | Setting values |
|------|-----------|------------------------|----------------|
| 1    | Film      | Ratio of frame advance | 0.00 to 100.00 |

# Applying Special Effects (Nonlinear Effect Settings)

You can add a variety of effects, including effects that change the shape of the image as a whole.

- 1 In the DME menu, select VF4 'Non Linear/Corner Pin' and HF1 'Non Linear.'
- 2 A menu for selecting the various effects appears.
- 3 Display the menu for the effect that you want to apply by pressing its button.
- 3 Make the settings for the selected effect.

## Notes

- It is not possible to apply two or more nonlinear effects at the same time. Turning any nonlinear effect on automatically turns all other nonlinear effects off.
- The Flex Shadow function cannot be enabled when any of the nonlinear effects Page Turn, Roll, Cylinder, and Sphere is enabled.
- However, the Flex Shadow function is not supported on the MVE-8000A.

## To turn an effect off

In the setting menu, press the button for the effect name, turning it off, or in the Type menu press [OFF] in the lower right part of the window.

## Wave Settings

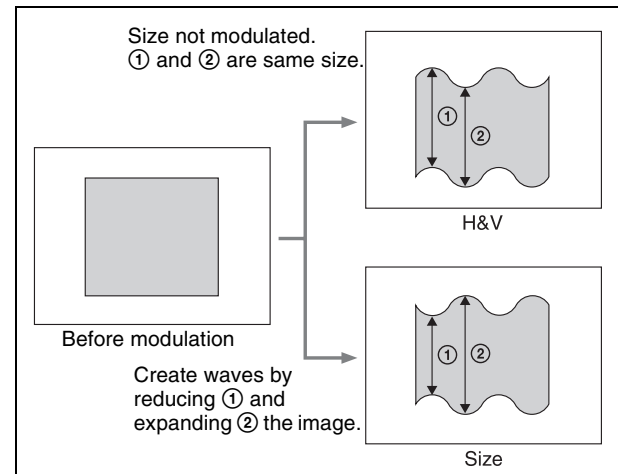
There are two modes: H&V and Size. You can set the size and frequency of the waves, the wave form, the amount of wave movement, and the range. In H&V mode, you can also set the wave angle.

## To apply the Wave effect

With the Wave menu displayed, use the following procedure.

- 1 In the <Mode> group, select the wave modulation mode.
- H&V:** Modulate vertically and horizontally without changing the size of the image. This mode allows waves to be created in both the vertical and horizontal directions at the same time.

**Size:** Create waves by reducing and expanding the image. This mode allows waves to be created in one direction only.



- 2 Set the following parameters, according to the selected mode.

## When H&V is selected

Parameter group [1/2]

| Knob | Parameter              | Adjustment  | Setting values   |
|------|------------------------|---|--|
| 1    | Amp H                  | Amplitude of waves in horizontal direction                                | 0.00 to 100.00   |
| 2    | Freq H                 | Frequency of waves in horizontal direction                                | 0.00 to 100.00   |
| 3    | Offset H <sup>a)</sup> | Horizontal direction in which to offset wave phase and amount of movement | -16.00 to +16.00 <sup>c)</sup><br>-64.00 to +64.00 <sup>d)</sup> |
| 4    | Speed H <sup>b)</sup>  | Horizontal direction and speed of waves                                   | -100.00 to +100.00   |
| 5    | Slant                  | Slant of waves  | -8.000 to +8.000   |

Parameter group [2/2]

| Knob | Parameter | Adjustment                               | Setting values |
|------|-----------|--|----------------|
| 1    | Amp V     | Amplitude of waves in vertical direction | 0.00 to 100.00 |
| 2    | Freq V    | Frequency of waves in vertical direction | 0.00 to 100.00 |

## Parameter group [2/2]

| Knob | Parameter              | Adjustment  | Setting values   |
|------|------------------------|---|--|
| 3    | Offset V <sup>a)</sup> | Vertical direction in which to offset wave phase and amount of movement | -16.00 to +16.00 <sup>c)</sup><br>-64.00 to +64.00 <sup>d)</sup> |
| 4    | Speed V <sup>b)</sup>  | Vertical direction and speed of waves                                   | -100.00 to +100.00   |
| 5    | Slant                  | Slant of waves  | -8.000 to +8.000   |

a) Set when Lock is on.

b) Set when Lock is off.

c) Setting for SD 4:3, SD 16:9

d) Setting for HD 4:3, HD 16:9

## When Size is selected

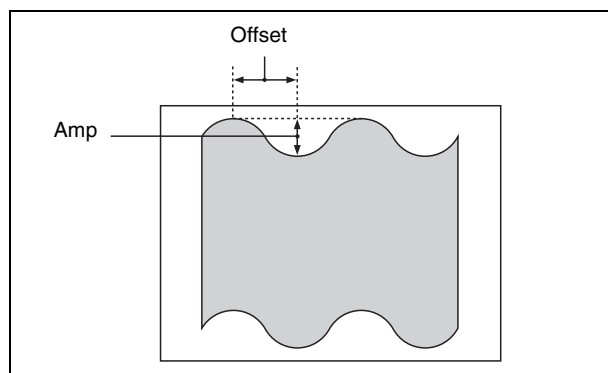
| Knob | Parameter              | Adjustment   | Setting values   |
|------|------------------------|--|--|
| 1    | Amp H                  | Amplitude of waves   | 0.00 to 100.00   |
| 2    | Freq H                 | Frequency of waves   | 0.00 to 100.00   |
| 3    | Offset H <sup>a)</sup> | Direction in which to offset wave phase and amount of movement | -16.00 to +16.00 <sup>c)</sup><br>-64.00 to +64.00 <sup>d)</sup> |
| 4    | Speed H <sup>b)</sup>  | Direction and speed of waves                                   | -100.00 to +100.00   |
| 5    | Slant                  | Slant of waves   | -8.000 to +8.000   |

a) Set when Lock is on.

b) Set when Lock is off.

c) Setting for SD 4:3, SD 16:9

d) Setting for HD 4:3, HD 16:9



## To stop the waves

Press [Lock], turning it on.

With each press, the waves alternately stop and start moving again.

## To select the waveform

Press [Form] and set the following parameters.

## When H&amp;V mode is selected

| Knob | Parameter | Adjustment                       | Setting values       |
|------|-----------|----------------------------------|----------------------|
| 1    | Form H    | Waveform in horizontal direction | 1 to 6 <sup>a)</sup> |
| 2    | Form V    | Waveform in vertical direction   | 1 to 6 <sup>a)</sup> |

## When Size mode is selected

| Knob | Parameter | Adjustment | Setting values       |
|------|-----------|------------|----------------------|
| 1    | Form H    | Waveform   | 1 to 6 <sup>a)</sup> |

a) 1 (SINE): Sine wave

2 (PARABOLA): Parabola wave

3 (TRIANGLE): Triangular wave

4 (RECTANGLE): Rectangular wave

5 (CIRCLE): Circular wave

6 (CUBIC): Cubic wave

## To randomize the modulated waveform

1 Press [Random], turning it on.

2 Set the following parameters.

## When H&amp;V mode is selected

| Knob | Parameter  | Adjustment  | Setting values       |
|------|------------|---|----------------------|
| 1    | Random H   | Degree of randomness in horizontal waveform modulation          | 0.00 to 100.00       |
| 2    | Random V   | Degree of randomness in vertical waveform modulation            | 0.00 to 100.00       |
| 3    | Random All | Degree of randomness in both vertical and horizontal directions | Random H value shown |

## When Size mode is selected

| Knob | Parameter | Adjustment                                  | Setting values |
|------|-----------|---|----------------|
| 1    | Random H  | Degree of randomness in waveform modulation | 0.00 to 100.00 |

## To limit the wave range

1 Press [Range], turning it on.

2 Set the following parameters.

**When H&V mode is selected**

| Knob | Parameter | Adjustment                                  | Setting values   |
|------|-----------|---|--|
| 1    | Size H    | Amount of horizontal wave modulation        | 0.00 to 100.00   |
| 2    | Offset H  | Center point of horizontal modulation range | -8.000 to +8.000 <sup>a)</sup><br>-32.000 to +32.000 <sup>b)</sup> |
| 3    | Size V    | Amount of vertical wave modulation          | 0.00 to 100.00   |
| 4    | Offset V  | Center point of vertical modulation range   | -8.000 to +8.000 <sup>a)</sup><br>-32.000 to +32.000 <sup>b)</sup> |

a) Setting for SD 4:3, SD 16:9

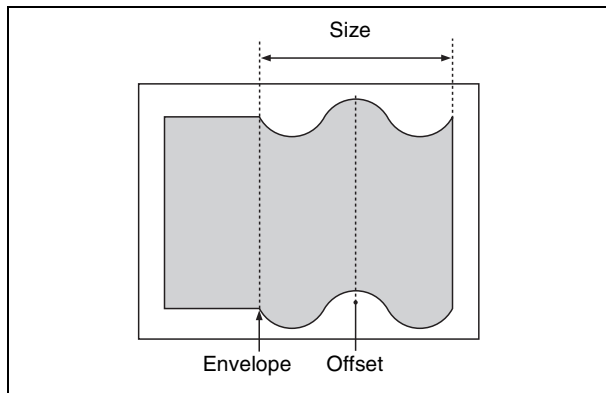
b) Setting for HD 4:3, HD 16:9

**When Size mode is selected**

| Knob | Parameter | Adjustment                       | Setting values   |
|------|-----------|----------------------------------|--|
| 1    | Size H    | Amount of wave modulation        | 0.00 to 100.00   |
| 2    | Offset H  | Center point of modulation range | -8.000 to +8.000 <sup>a)</sup><br>-32.000 to +32.000 <sup>b)</sup> |

a) Setting for SD 4:3, SD 16:9

b) Setting for HD 4:3, HD 16:9

**To smooth the range envelope when the wave range is limited**

- 1 Press [Range Envelope], turning it on.
- 2 Set the following parameters.

**When H&V mode is selected**

| Knob | Parameter  | Adjustment                                     | Setting values |
|------|------------|--|----------------|
| 1    | Envelope H | Smoothness of envelope in horizontal direction | 0.00 to 100.00 |

| Knob | Parameter  | Adjustment                                   | Setting values |
|------|------------|--|----------------|
| 2    | Envelope V | Smoothness of envelope in vertical direction | 0.00 to 100.00 |

**When Size mode is selected**

| Knob | Parameter  | Adjustment             | Setting values |
|------|------------|------------------------|----------------|
| 1    | Envelope H | Smoothness of envelope | 0.00 to 100.00 |

**To reverse the wave range****To reverse the horizontal wave range set with [Range]:**

Press [Range Rev H], turning it on.

**To reverse the vertical wave range set with [Range]:**

Press [Range Rev V], turning it on.

**Mosaic Glass Settings**

There are two modes: H&V and Size. You can set the size and frequency of waves in the image, the wave form, the amount of wave movement, and the range. In H&V mode, you can also set the wave angle.

**To apply the Mosaic Glass effect**

Display the Mosaic Glass menu.

The items displayed in the Mosaic Glass menu and the functions of the knobs are the same as for the Wave menu (*see page 268*).

**Flag Settings**

There are two modes: H&V and Size. You can set the size and frequency of waves in the image, the wave form, the amount of wave movement, and the range. In H&V mode, you can also set the wave angle.

**To apply the Flag effect**

Display the Flag menu.

The items displayed in the Flag menu and the functions of the knobs are the same as for the Wave menu (*see page 268*).

**Twist Settings**

You can twist the image in the horizontal or vertical direction.

You can set the size and frequency of waves in the image, the wave form, the amount of wave movement, and other parameters.

## To apply the Twist effect

With the Twist menu displayed, set the following parameters.

Parameter group [1/2]

| Knob | Parameter              | Adjustment  | Setting values   |
|------|------------------------|---|--|
| 1    | Amp V                  | Amplitude of twist in vertical direction                    | 0.00 to 100.00   |
| 2    | Freq V                 | Frequency of twist in vertical direction                    | 0.00 to 100.00   |
| 3    | Offset V <sup>a)</sup> | Amount of movement in twist phase in the vertical direction | -16.00 to +16.00 <sup>c)</sup><br>-64.00 to +64.00 <sup>d)</sup> |
| 4    | Speed V <sup>b)</sup>  | Speed and direction of twist movement in vertical direction | -100.00 to +100.00   |
| 5    | Slant                  | Slant of twist  | -8.000 to +8.000   |

Parameter group [2/2]

| Knob | Parameter              | Adjustment  | Setting values     |
|------|------------------------|---|--------------------|
| 1    | Amp H                  | Amplitude of twist in horizontal direction                    | 0.00 to 100.00     |
| 3    | Offset H <sup>a)</sup> | Amount of movement in twist phase in the horizontal direction | -100.00 to +100.00 |
| 5    | Slant                  | Slant of twist  | -8.000 to +8.000   |

a) Set when Lock is on.

b) Set when Lock is off.

c) Setting for SD 4:3, SD 16:9

d) Setting for HD 4:3, HD 16:9

## To stop the waves

Press [Lock], turning it on.

With each press, the waves alternately stop and start moving again.

## To select the waveform

Press [Form] and set the following parameters.

| Knob | Parameter | Adjustment                       | Setting values       |
|------|-----------|----------------------------------|----------------------|
| 1    | Form H    | Waveform in horizontal direction | 1 to 6 <sup>a)</sup> |
| 2    | Form V    | Waveform in vertical direction   | 1 to 6 <sup>a)</sup> |

a) 1 (SINE): Sine wave

2 (PARABOLA): Parabola wave

3 (TRIANGLE): Triangular wave

4 (RECTANGLE): Rectangular wave

5 (CIRCLE): Circular wave

6 (CUBIC): Cubic wave

## Ripple Settings

There are four modes: Radial, Angular, Both, and Shape. The direction of modulation differs depending on the mode. You can set the size and frequency of the ripples, their direction and speed, their center point, and other parameters. In Shape mode, you can select ripple shapes other than circles (stars, etc.).

## To apply the Ripple effect

With the Ripple menu displayed, use the following procedure.

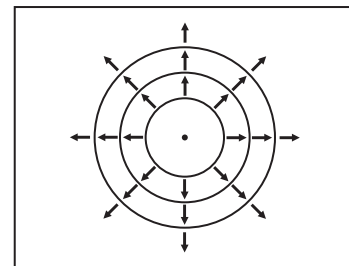
- 1 In the <Mode> group, select the ripple modulation mode.

**Radial:** Points on radii of the same length from the center of the ripples behave in the same way.

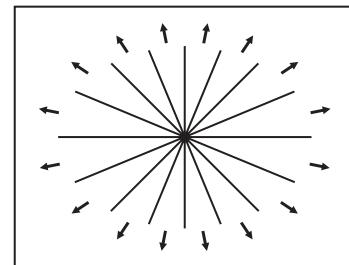
**Angular:** Points at the same angle from the center of the ripples behave in the same way.

**Both:** Both Radial and Angular ripples are applied.

**Shape:** The ripples can have shapes such as stars or hearts in addition to circles.



Modulation along radii (Radial mode)



Modulation along periphery (Angular mode)

Modulation modes and directions

- 2 Set the following parameters, depending on the selected modulation mode.

**When Radial mode is selected**

| Knob | Parameter              | Adjustment  | Setting values   |
|------|------------------------|---|--|
| 1    | Amp R                  | Ripple amplitude along radius   | 0.00 to 100.00   |
| 2    | Freq R                 | Ripple frequency along radius   | 0.00 to 100.00   |
| 3    | Offset R <sup>a)</sup> | Direction along radius in which to offset ripple phase and amount of movement | –8.000 to +8.000 <sup>c)</sup><br>–32.000 to +32.000 <sup>d)</sup> |
| 4    | Speed R <sup>b)</sup>  | Ripple direction along radius and speed                                       | –100.00 to +100.00   |
| 5    | Amp A                  | Ripple amplitude along periphery  | 0.00 to 100.00   |

a) Set when Lock is on.

b) Set when Lock is off.

c) Setting for SD 4:3, SD 16:9

d) Setting for HD 4:3, HD 16:9

**When Angular mode is selected**

| Knob | Parameter              | Adjustment   | Setting values     |
|------|------------------------|--|--------------------|
| 1    | Amp A                  | Ripple amplitude along periphery   | 0.00 to 100.00     |
| 2    | Freq A                 | Ripple frequency along periphery   | 0.00 to 100.00     |
| 3    | Offset A <sup>a)</sup> | Direction along periphery in which to offset ripple phase and amount of movement | –8.000 to +8.000   |
| 4    | Speed A <sup>b)</sup>  | Ripple direction along periphery and speed                                       | –100.00 to +100.00 |
| 5    | Amp R                  | Ripple amplitude along radius  | 0.00 to 100.00     |

a) Set when Lock is on.

b) Set when Lock is off.

**When Both mode is selected**

Parameter group [1/2]

| Knob | Parameter              | Adjustment  | Setting values   |
|------|------------------------|---|--|
| 1    | Amp R                  | Ripple amplitude along radius   | 0.00 to 100.00   |
| 2    | Freq R                 | Ripple frequency along radius   | 0.00 to 100.00   |
| 3    | Offset R <sup>a)</sup> | Direction along radius in which to offset ripple phase and amount of movement | –8.000 to +8.000 <sup>c)</sup><br>–32.000 to +32.000 <sup>d)</sup> |
| 4    | Speed R <sup>b)</sup>  | Ripple direction along radius and speed                                       | –100.00 to +100.00   |

Parameter group [2/2]

| Knob | Parameter              | Adjustment   | Setting values     |
|------|------------------------|--|--------------------|
| 1    | Amp A                  | Ripple amplitude along periphery   | 0.00 to 100.00     |
| 2    | Freq A                 | Ripple frequency along periphery   | 0.00 to 100.00     |
| 3    | Offset A <sup>a)</sup> | Direction along periphery in which to offset ripple phase and amount of movement | –8.000 to +8.000   |
| 4    | Speed A <sup>b)</sup>  | Ripple direction along periphery and speed                                       | –100.00 to +100.00 |

a) Set when Lock is on.

b) Set when Lock is off.

c) Setting for SD 4:3, SD 16:9

d) Setting for HD 4:3, HD 16:9

**When Shape mode is selected**

Parameter group [1/2]

| Knob | Parameter | Adjustment       | Setting values |
|------|-----------|------------------|----------------|
| 1    | Amp R     | Ripple amplitude | 0.00 to 100.00 |
| 2    | Freq R    | Ripple frequency | 0.00 to 100.00 |

Parameter group [1/2]

| Knob | Parameter              | Adjustment   | Setting values   |
|------|------------------------|--|--|
| 3    | Offset R <sup>a)</sup> | Direction in which to offset ripple phase and amount of movement | −8.000 to +8.000 <sup>c)</sup><br>−32.000 to +32.000 <sup>d)</sup> |
| 4    | Speed R <sup>b)</sup>  | Ripple direction and speed                                       | −100.00 to +100.00   |
| 5    | Shape                  | Ripple shape   | 1 to 4 <sup>e)</sup>   |

Parameter group [2/2]

| Knob | Parameter | Adjustment          | Setting values     |
|------|-----------|---------------------|--------------------|
| 1    | Aspect    | Ripple aspect ratio | −100.00 to +100.00 |
| 2    | Angle     | Ripple angle        | −8.000 to +8.000   |

- a) Set when Lock is on.  
b) Set when Lock is off.  
c) Setting for SD 4:3, SD 16:9  
d) Setting for HD 4:3, HD 16:9  
e) 1 (Circle): Circle  
2 (Rectangle): Rectangle  
3 (Star): Star  
4 (Heart): Heart

### To limit the direction in which modulation is applied

By pressing [Plus Only], turning it on, you can limit the direction in which modulation is applied (the direction in which the image expands) to the plus direction only.

### To set the ripple center point

- 1 Press [Position], turning it on.
- 2 Set the following parameters, depending on the selected modulation mode.

#### When Shape is selected

| Knob | Parameter | Adjustment                                  | Setting values   |
|------|-----------|---|--|
| 1    | H         | Ripple center point in horizontal direction | −5.000 to +5.000 <sup>a)</sup><br>−20.000 to +20.000 <sup>b)</sup> |
| 2    | V         | Ripple center point in vertical direction   | −3.000 to +3.000 <sup>a)</sup><br>−12.000 to +12.000 <sup>b)</sup> |

- a) Setting for SD 4:3, SD 16:9  
b) Setting for HD 4:3, HD 16:9

### When other than Shape is selected

| Knob | Parameter | Adjustment                                  | Setting values   |
|------|-----------|---|--|
| 1    | H         | Ripple center point in horizontal direction | −8.000 to +8.000 <sup>a)</sup><br>−32.000 to +32.000 <sup>b)</sup> |
| 2    | V         | Ripple center point in vertical direction   | −6.000 to +6.000 <sup>a)</sup><br>−18.000 to +18.000 <sup>b)</sup> |

- a) Setting for SD 4:3, SD 16:9  
b) Setting for HD 4:3, HD 16:9

### To limit the ripple range

- 1 Press [Range], turning it on.
- 2 Set the following parameters.

#### When Radial or Shape mode is selected

| Knob | Parameter | Adjustment                               | Setting values   |
|------|-----------|--|--|
| 1    | Size R    | Amount of ripple modulation along radius | 0.00 to 100.00   |
| 2    | Offset R  | Center of modulation range along radius  | −8.000 to +8.000 <sup>a)</sup><br>−32.000 to +32.000 <sup>b)</sup> |

- a) Setting for SD 4:3, SD 16:9  
b) Setting for HD 4:3, HD 16:9

#### When Angular mode is selected

| Knob | Parameter | Adjustment                                  | Setting values   |
|------|-----------|---|------------------|
| 1    | Size A    | Amount of ripple modulation along periphery | 0.00 to 100.00   |
| 2    | Offset A  | Center of modulation range along periphery  | −8.000 to +8.000 |

#### When Both mode is selected

| Knob | Parameter | Adjustment                               | Setting values   |
|------|-----------|--|--|
| 1    | Size R    | Amount of ripple modulation along radius | 0.00 to 100.00   |
| 2    | Offset R  | Center of modulation range along radius  | −8.000 to +8.000 <sup>a)</sup><br>−32.000 to +32.000 <sup>b)</sup> |

| Knob | Parameter | Adjustment                                  | Setting values   |
|------|-----------|---|------------------|
| 3    | Size A    | Amount of ripple modulation along periphery | 0.00 to 100.00   |
| 4    | Offset A  | Center of modulation range along periphery  | −8.000 to +8.000 |

a) Setting for SD 4:3, SD 16:9

b) Setting for HD 4:3, HD 16:9

### To reverse the ripple range

**When modulation mode is Radial, Both, or Shape:**

Press [Range Rev R], turning it on.

**When modulation mode is Both or Angular:** Press [Range Rev A], turning it on.

### Other settings

You can turn [Lock], [Form], [Random], and [Range Envelope] on to do the following.

- Stop the waves
- Select the wave shape
- Randomize the waveform
- Smooth the range envelope when the wave range is limited

For Lock, Form, Random, and Range Envelope functions, see “Wave Settings” (page 268).

## Rings Settings

You can set the degree of transition, the degree of randomness in the distance moved by each block, the amount of movement, the width of the partitions, the degree of randomness in partition width, the center point, the starting angle, and other parameters.

### To apply the Rings effect

With the Rings menu displayed, use the following procedure.

- 1 To make transition settings, press [Transition] and set the following parameters.

| Knob | Parameter  | Adjustment   | Setting values   |
|------|------------|--|------------------|
| 1    | Transition | Degree of transition                                 | 0.000 to 100.000 |
| 2    | Random     | Degree of randomness in distance moved by each block | 0.000 to 100.000 |

| Knob | Parameter | Adjustment  | Setting values   |
|------|-----------|---|------------------|
| 3    | Spiral    | Amount of movement toward periphery accompanying transition | −1.000 to +1.000 |

- 2 To set the partition method, press [Partition] and set the following parameters.

| Knob | Parameter | Adjustment                              | Setting values   |
|------|-----------|---|------------------|
| 1    | Width     | Width of partition                      | 0.000 to 100.000 |
| 2    | Random    | Degree of randomness in partition width | 0.000 to 100.000 |
| 3    | Angle     | Starting angle of effect                | −8.000 to +8.000 |

- 3 To set the ring center position, press [Position] and set the following parameters.

| Knob | Parameter | Adjustment                 | Setting values   |
|------|-----------|----------------------------|--|
| 1    | H         | Horizontal center position | −5.000 to +5.000 <sup>a)</sup><br>−20.000 to +20.000 <sup>b)</sup> |
| 2    | V         | Vertical center position   | −4.000 to +4.000 <sup>a)</sup><br>−16.000 to +16.000 <sup>b)</sup> |

a) Setting for SD 4:3, SD 16:9

b) Setting for HD 4:3, HD 16:9

- 4 To partition into pixels, press [Pixel], turning it on, and set the following parameters.

| Knob | Parameter | Adjustment  | Setting values |
|------|-----------|---|----------------|
| 1    | Density   | Degree to which image disappears around periphery | 0.00 to 100.00 |
| 2    | Random    | Degree of jaggedness at block edges               | 0.00 to 100.00 |

## Broken Glass Settings

You can set the degree of transition, the degree of randomness in the distance moved by each block, the amount of movement, the width of the partitions, the degree of randomness in partition width, the center point, the starting angle, and other parameters.

You can also fix the direction in which shards scatter.



## To apply the Broken Glass effect

Display the Broken Glass menu.

The functions of the knobs in the Broken Glass menu are the same as those of the Rings menu (*see page 274*), with the exception of [Direction].

## To fix the direction in which shards scatter

Press [Direction], turning it on.

## Flying Bar Settings

You can set the degree of transition, the degree of randomness in the distance moved by each block, the direction of movement, the width of the partitions, the degree of randomness in partition width, the partition angle, and other parameters.

## To apply the Flying Bar effect

With the Flying Bars menu displayed, use the following procedure.

- 1 To make transition settings, press [Transition] and set the following parameters.

| Knob | Parameter  | Adjustment   | Setting values       |
|------|------------|--|----------------------|
| 1    | Transition | Degree of transition                                 | 0.000 to 100.000     |
| 2    | Random     | Degree of randomness in distance moved by each block | -100.000 to +100.000 |
| 3    | Angle      | Direction of movement                                | -8.000 to +8.000     |

- 2 To set the partition method, press [Partition] and set the following parameters.

| Knob | Parameter | Adjustment                              | Setting values   |
|------|-----------|---|------------------|
| 1    | Width     | Width of partition                      | 0.000 to 100.000 |
| 2    | Random    | Degree of randomness in partition width | 0.000 to 100.000 |
| 3    | Angle     | Partition angle                         | -8.000 to +8.000 |

## Blind Settings

There are two modes: Bar and Wedge. You can set the number of rotations by blocks, the perspective, the width and position of blocks, the direction, the center position, and other parameters.

## To apply the Blind effect

With the Blind menu displayed, use the following procedure.

- 1 In the <Mode> group, select [Bar] or [Wedge].
- 2 To make transition settings, press [Transition] and set the following parameters.

| Knob | Parameter   | Adjustment   | Setting values   |
|------|-------------|--|------------------|
| 1    | Rotation    | Number of rotations of the blocks                    | -8.000 to +8.000 |
| 2    | Perspective | Degree of randomness in distance moved by each block | 0.000 to 100.000 |

- 3 To set the partition method, press [Partition] and set the following parameters.

### When Bar was selected in step 1

| Knob | Parameter | Adjustment                              | Setting values  |
|------|-----------|---|---|
| 1    | Width     | Width of partition                      | 0.000 to 100.000  |
| 2    | Offset    | Degree of randomness in partition width | -5.000 to +5.000 <sup>a)</sup><br>-20.000 to 20.000 <sup>b)</sup> |
| 3    | Angle     | Starting angle of effect                | -8.000 to +8.000  |

a) Setting for SD 4:3, SD 16:9

b) Setting for HD 4:3, HD 16:9

### When Wedge was selected in step 1

| Knob | Parameter | Adjustment         | Setting values   |
|------|-----------|--------------------|------------------|
| 4    | No        | Width of blocks    | 0.000 to 100.000 |
| 5    | Phase     | Partition position | -8.000 to +8.000 |

## To set the wedge center position

When Wedge is selected in the <Mode> group, you can set the wedge center position.

- 1 Press [Position].
- 2 Set the following parameters.

| Knob | Parameter | Adjustment                 | Setting values   |
|------|-----------|----------------------------|--|
| 1    | H         | Horizontal center position | -8.000 to +8.000 <sup>a)</sup><br>-32.000 to +32.000 <sup>b)</sup> |
| 2    | V         | Vertical center position   | -6.000 to +6.000 <sup>a)</sup><br>-18.000 to +18.000 <sup>b)</sup> |

- a) Setting for SD 4:3, SD 16:9  
b) Setting for HD 4:3, HD 16:9

## Split Settings

You can set the degree to which the image is split, the split positions, and other parameters.

### To apply the Split effect

With the Split menu displayed, use the following procedure.

- 1 In the <Mode> group, select the split method.

**Single:** Leave gaps between splits.

**Double:** Fill gaps between splits with the same image.

- 2 Set the following parameters.

Parameter group [1/2]

| Knob | Parameter    | Adjustment                          | Setting values      |
|------|--------------|-------------------------------------|---------------------|
| 1    | Transition H | Degree of left and right separation | -100.00 to +100.000 |
| 2    | Transition V | Degree of top and bottom separation | -100.00 to +100.000 |

Parameter group [2/2]

| Knob | Parameter | Adjustment                   | Setting values      |
|------|-----------|------------------------------|---------------------|
| 1    | Top       | Amount of movement of top    | -100.00 to +100.000 |
| 2    | Left      | Amount of movement of left   | -100.00 to +100.000 |
| 3    | Right     | Amount of movement of right  | -100.00 to +100.000 |
| 4    | Bottom    | Amount of movement of bottom | -100.00 to +100.000 |

### To set the split position

- 1 Press [Position].
- 2 Set the following parameters.

| Knob | Parameter | Adjustment                          | Setting values   |
|------|-----------|-------------------------------------|--|
| 1    | H         | Degree of left and right separation | -4.000 to +4.000 <sup>a)</sup><br>-16.000 to +16.000 <sup>b)</sup> |

| Knob | Parameter | Adjustment                          | Setting values   |
|------|-----------|-------------------------------------|--|
| 2    | V         | Degree of top and bottom separation | -3.000 to +3.000 <sup>a)</sup><br>-12.000 to +12.000 <sup>b)</sup> |

- a) Setting for SD 4:3, SD 16:9  
b) Setting for HD 4:3, HD 16:9

## Split Slide Settings

You can set the degree of transition, the degree of randomness in the distance moved by each block, the degree of sliding, block width, block angle, and other parameters.

### To apply the Split Slide effect

With the Split Slide menu displayed, set the following parameters.

Parameter group [1/2]

| Knob | Parameter    | Adjustment   | Setting values      |
|------|--------------|--|---------------------|
| 1    | Transition H | Degree of transition in horizontal direction                             | -100.00 to +100.000 |
| 2    | Random H     | Degree of randomness in distance moved by blocks in horizontal direction | 0.00 to 100.00      |
| 3    | Skew H       | Degree of skew in horizontal direction                                   | 0.00 to 100.00      |
| 4    | Width H      | Horizontal width of partition  | 0.00 to 100.00      |
| 5    | Angle        | Angle of partition line  | -8.000 to +8.000    |

Parameter group [2/2]

| Knob | Parameter    | Adjustment   | Setting values      |
|------|--------------|--|---------------------|
| 1    | Transition V | Degree of transition in vertical direction                             | -100.00 to +100.000 |
| 2    | Random V     | Degree of randomness in distance moved by blocks in vertical direction | 0.00 to 100.00      |
| 3    | Skew V       | Degree of skew in vertical direction                                   | 0.00 to 100.00      |

| Knob | Parameter | Adjustment                  | Setting values   |
|------|-----------|-----------------------------|------------------|
| 4    | Width V   | Vertical width of partition | 0.00 to 100.00   |
| 5    | Angle     | Angle of partition line     | -8.000 to +8.000 |

### To set the partition position

- 1 Press [Position], turning it on.
- 2 Set the following parameters.

| Knob | Parameter | Adjustment                    | Setting values   |
|------|-----------|-------------------------------|--|
| 1    | H         | Horizontal partition position | -5.000 to +5.000 <sup>a)</sup><br>-20.000 to +20.000 <sup>b)</sup> |
| 2    | V         | Vertical partition position   | -5.000 to +5.000 <sup>a)</sup><br>-20.000 to +20.000 <sup>b)</sup> |

a) Setting for SD 4:3, SD 16:9

b) Setting for HD 4:3, HD 16:9

## Mirror Settings

You can choose to reflect in the directions left to right, right to left, bottom to top, top to bottom, or any combination of directions. You can also set the position of the border between original and reflections.

### To apply the Mirror effect

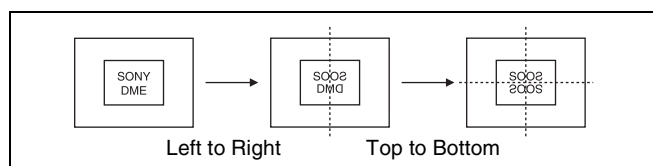
With the Mirror menu displayed, press [Left to Right], [Right to Left], [Top to Bottom], or [Bottom to Top] to set the reflection method (multiple selections possible).

**Left to Right:** Reflect left side on right.

**Right to Left:** Reflect right side on left.

**Top to Bottom:** Reflect top side on bottom.

**Bottom to Top:** Reflect bottom side on top.



### To set the position of the border between original and reflection

- 1 Press [Position].
- 2 Set the following parameters.

| Knob | Parameter | Adjustment                 | Setting values   |
|------|-----------|----------------------------|--|
| 1    | H         | Horizontal border position | -8.000 to +8.000 <sup>a)</sup><br>-32.000 to +32.000 <sup>b)</sup> |
| 2    | V         | Vertical border position   | -6.000 to +6.000 <sup>a)</sup><br>-24.000 to +24.000 <sup>b)</sup> |

a) Setting for SD 4:3, SD 16:9

b) Setting for HD 4:3, HD 16:9

## Multi Mirror Settings

You can set the width of the original, the center position of the original, the offset of the image with fixed mirrors, the direction of the mirrors, and other parameters.

### To apply the Multi Mirror effect

With the Multi Mirror menu displayed, set the following parameters.

| Knob | Parameter  | Adjustment  | Setting values   |
|------|------------|---|--|
| 1    | Interval H | Horizontal distance between mirrors (original width)    | 0.000 to 10.000 <sup>a)</sup><br>0.000 to 40.000 <sup>b)</sup>     |
| 2    | Offset H   | Amount of horizontal offset of image with mirrors fixed | -4.000 to +4.000 <sup>a)</sup><br>-16.000 to +16.000 <sup>b)</sup> |
| 3    | Interval V | Vertical distance between mirrors (original width)      | 0.000 to 10.000 <sup>a)</sup><br>0.000 to 40.000 <sup>b)</sup>     |
| 4    | Offset V   | Amount of vertical offset of image with mirrors fixed   | -4.000 to +4.000 <sup>a)</sup><br>-16.000 to +16.000 <sup>b)</sup> |
| 5    | Angle      | Mirror angle  | -8.000 to +8.000   |

a) Setting for SD 4:3, SD 16:9

b) Setting for HD 4:3, HD 16:9

### To set the center position of original image

- 1 Press [Position], turning it on.
- 2 Set the following parameters.

| Knob | Parameter | Adjustment                                | Setting values   |
|------|-----------|---|--|
| 1    | H         | Horizontal original image center position | -4.000 to +4.000 <sup>a)</sup><br>-16.000 to +16.000 <sup>b)</sup> |

| Knob | Parameter | Adjustment                              | Setting values   |
|------|-----------|---|--|
| 2    | V         | Vertical original image center position | −4.000 to +4.000 <sup>a)</sup><br>−16.000 to +16.000 <sup>b)</sup> |

a) Setting for SD 4:3, SD 16:9

b) Setting for HD 4:3, HD 16:9

## Kaleidoscope Settings

You can set the number of blocks, the partition reference point and angle, horizontal and vertical offsets, a reflection position, and other parameters.

### To apply the Kaleidoscope effect

With the Kaleidoscope menu displayed, set the following parameters.

| Knob | Parameter | Adjustment                         | Setting values   |
|------|-----------|------------------------------------|--|
| 1    | Number    | Number of blocks                   | 0.00 to 100.00   |
| 2    | Phase     | Angle of partition reference point | −8.000 to +8.000   |
| 3    | Offset H  | Amount of horizontal offset        | −4.000 to +4.000 <sup>a)</sup><br>−16.000 to +16.000 <sup>b)</sup> |
| 4    | Offset V  | Amount of vertical offset          | −3.000 to +3.000 <sup>a)</sup><br>−12.000 to +12.000 <sup>b)</sup> |

a) Setting for SD 4:3, SD 16:9

b) Setting for HD 4:3, HD 16:9

### To reflect the kaleidoscope image as if in a mirror

- 1 To reflect in the horizontal direction, press [Mirror H], turning it on.
- 2 To reflect in the vertical direction, press [Mirror V], turning it on.

### To set the reflection position

- 1 Press [Position], turning it on.
- 2 Set the following parameters.

| Knob | Parameter | Adjustment                     | Setting values  |
|------|-----------|--------------------------------|---|
| 1    | H         | Horizontal reflection position | 0.000 to 4.000 <sup>a)</sup><br>0.000 to 16.000 <sup>b)</sup> |
| 2    | V         | Vertical reflection position   | 0.000 to 3.000 <sup>a)</sup><br>0.000 to 12.000 <sup>b)</sup> |

a) Setting for SD 4:3, SD 16:9

b) Setting for HD 4:3, HD 16:9

### To cyclically repeat part of the original and its reflection

Press [Cyclic], turning it on.

## Lens Settings

You can set the shape and aspect ratio of the lens, the angle, the magnification ratio, the curve ratio, the size, the center position, and other parameters.

You can also choose to display only the portion of the image that is seen through the lens.

### To apply the Lens effect

With the Lens menu displayed, use the following procedure.

- 1 In the <Mode> group, select the lens shape.

- Circle
- Rectangle
- Star
- Heart
- Bar
- Cross

- 2 Depending on the selected lens shape, set the following parameters.

#### When Circle, Rectangle, Star, or Heart is selected

| Knob | Parameter | Adjustment          | Setting values     |
|------|-----------|---------------------|--------------------|
| 1    | Magnify H | Magnification ratio | −100.00 to +100.00 |
| 2    | Curve H   | Curve ratio         | −100.00 to +100.00 |
| 3    | Size H    | Size                | 0.00 to 100.00     |
| 4    | Angle     | Slant angle         | −8.000 to +8.000   |
| 5    | Aspect    | Aspect ratio        | −100.00 to +100.00 |

#### When Bar is selected

| Knob | Parameter | Adjustment          | Setting values     |
|------|-----------|---------------------|--------------------|
| 1    | Magnify H | Magnification ratio | −100.00 to +100.00 |
| 2    | Curve H   | Curve ratio         | −100.00 to +100.00 |
| 3    | Size H    | Size                | 0.00 to 100.00     |
| 4    | Angle     | Slant angle         | −8.000 to +8.000   |

#### When Cross is selected

Parameter group [1/2]

| Knob | Parameter | Adjustment                     | Setting values     |
|------|-----------|--------------------------------|--------------------|
| 1    | Magnify H | Horizontal magnification ratio | −100.00 to +100.00 |
| 2    | Curve H   | Horizontal curve ratio         | −100.00 to +100.00 |

Parameter group [1/2]

| Knob | Parameter | Adjustment      | Setting values |
|------|-----------|-----------------|----------------|
| 3    | Size H    | Horizontal size | 0.00 to 100.00 |

Parameter group [2/2]

| Knob | Parameter | Adjustment                   | Setting values     |
|------|-----------|------------------------------|--------------------|
| 1    | Magnify V | Vertical magnification ratio | -100.00 to +100.00 |
| 2    | Curve V   | Vertical curve ratio         | -100.00 to +100.00 |
| 3    | Size V    | Vertical size                | 0.00 to 100.00     |

**To make only the lens part visible**

Press [Lens Only], turning it on.

The parts of the image outside the lens are removed.

**To set the lens center position**

**1** Press [Position], turning it on.

**2** Set the following parameters.

| Knob | Parameter | Adjustment                      | Setting values   |
|------|-----------|---------------------------------|--|
| 1    | H         | Horizontal lens center position | -5.000 to +5.000 <sup>a)</sup><br>-20.000 to +20.000 <sup>b)</sup> |
| 2    | V         | Vertical lens center position   | -4.000 to +4.000 <sup>a)</sup><br>-16.000 to +16.000 <sup>b)</sup> |

a) Setting for SD 4:3, SD 16:9

b) Setting for HD 4:3, HD 16:9

**Circle Settings**

You can set the size of the circle, and make the axis of modulation vertical.

**To apply the Circle effect**

With the Circle menu displayed, set the following parameters.

| Knob | Parameter | Adjustment     | Setting values |
|------|-----------|----------------|----------------|
| 1    | Radius    | Size of circle | 0.00 to 100.00 |

**To make the axis of modulation vertical**

Press [Mod V], turning it on.

The axis of modulation when converting to the circle becomes vertical.

**Panorama Settings**

You can set the horizontal and vertical curve ratio, and the curve center position.

**To apply the Panorama effect**

With the Panorama menu displayed, set the following parameters.

| Knob | Parameter  | Adjustment                       | Setting values   |
|------|------------|----------------------------------|--|
| 1    | Curve H    | Horizontal curve ratio           | -100.00 to +100.00   |
| 2    | Curve V    | Vertical curve ratio             | -100.00 to +100.00   |
| 3    | Position H | Horizontal curve center position | -4.000 to +4.000 <sup>a)</sup><br>-16.000 to +16.000 <sup>b)</sup> |
| 4    | Position V | Vertical curve center position   | -3.000 to +3.000 <sup>a)</sup><br>-12.000 to +12.000 <sup>b)</sup> |

a) Setting for SD 4:3, SD 16:9

b) Setting for HD 4:3, HD 16:9

**Page Turn Settings**

There are four modes: H&V, H, V, and Off. You can select the turn position, the radius of the turned portion, the amount and angle of turning, and the input video for the front and back pages.

**To apply the Page Turn effect**

With the Page Turn menu displayed, use the following procedure.

**1** In the <Split Mode> group, select the split mode.

**H&V:** The image turns as it is split from the center into 4 parts: left, right, upper, lower.

**H:** The image turns as it is split from the center into 2 parts: left, right.

**V:** The image turns as it is split from the center into 2 parts: upper, lower.

**When nothing is selected (Off):** There are no splits and the image turns from the edge.

**2** Press [Page Turn], then set the following parameters.

| Knob | Parameter | Adjustment          | Setting values     |
|------|-----------|---------------------|--------------------|
| 1    | Radius    | Radius of turn part | 0.00 to 100.00     |
| 2    | Offset    | Amount of turn      | -100.00 to +100.00 |

| Knob | Parameter | Adjustment    | Setting values   |
|------|-----------|---------------|--|
| 3    | Angle     | Angle of turn | –0.250 to +0.000 <sup>a)</sup><br>–0.250 to +0.250 <sup>b)</sup><br>–0.500 to +0.000 <sup>c)</sup><br>–8.000 to +8.000 <sup>d)</sup> |

- a) When split mode is H&V  
b) When split mode is H  
c) When split mode is V  
d) When split mode is off

## To set the input signal of the back page

- 1 In the <Back Video> group, select the signal input into the back page.

**Self:** Use the same signal as the front page.

**Flat:** Use a flat color.

**Hue Rotation:** Gradually vary the hue.

**2nd Ch:** Use the 2nd channel video signal.

To select “2nd Ch,” it is first necessary to select the second DME on the keyer using DME.

- 2 Adjust the following parameters, according to the selected input signal.

### When Flat is selected

| Knob | Parameter  | Adjustment | Setting values |
|------|------------|------------|----------------|
| 1    | Luminance  | Luminance  | 0.00 to 100.00 |
| 2    | Saturation | Saturation | 0.00 to 100.00 |
| 3    | Hue        | Hue        | 359.99 to 0.00 |

### When Hue Rotation is selected

| Knob | Parameter  | Adjustment                 | Setting values   |
|------|------------|----------------------------|------------------|
| 1    | Luminance  | Luminance                  | 0.00 to 100.00   |
| 2    | Saturation | Saturation                 | 0.00 to 100.00   |
| 3    | Speed      | Speed at which hue changes | –12.00 to +12.00 |

### Notes

When using a page turn effect with one channel, the following restrictions apply.

- In an MVE-8000A HD system, when the input is for example a title, parts of the back page other than the title appear as black.
- For the MKS-7470X/7471X, the same restrictions as above apply to all signal formats.

## Roll Settings

There are four modes: H&V, H, V, and Off. You can select the turn position, the radius of the turned portion, the amount and angle of turning, and the input video for the front and back pages.

## To apply the Roll effect

Display the Roll menu.

The knobs in the Roll menu have the same functions as those in the Page Turn menu (*see page 279*).

### Notes

When using a roll effect with one channel, the following restrictions apply.

- In an MVE-8000A HD system, when the input is for example a title, parts of the back page other than the title appear as black.
- For the MKS-7470X/7471X, the same restrictions as above apply to all signal formats.

## Cylinder Settings

You can set the degree of winding onto the cylinder, the radius, the horizontal position of the wound image, and front and back side output for the image.

## To apply the Cylinder effect

With the Cylinder menu displayed, set the following parameters.

| Knob | Parameter | Adjustment   | Setting values     |
|------|-----------|--|--------------------|
| 1    | Radius    | Degree to which image is wound onto the cylinder     | 0.00 to 100.00     |
| 2    | Min R     | Radius of the cylinder                               | 0.00 to 100.00     |
| 3    | Offset    | Horizontal position of the image wound onto cylinder | –100.00 to +100.00 |

The procedure for selecting the input signal in the <Back Video> group is the same as for the Page Turn menu (*see page 279*).

### Notes

When using a cylinder effect with one channel, the following restrictions apply.

- In an MVE-8000A HD system, when the input is for example a title, parts of the inner surface other than the title appear as black.
- For the MKS-7470X/7471X, the same restrictions as above apply to all signal formats.

## Sphere Settings

You can set the degree of winding onto the sphere, the radius, the horizontal position of the wound image, and front and back side output for the image.

### Notes

You cannot monitor the part of a rotating sphere that corresponds to its axis on the monitor screen.

### To apply the Sphere effect

Display the Sphere menu.

The knobs in the Sphere menu have the same functions as those in the Cylinder menu “*Cylinder Settings*” (page 280).

### Notes

When using a sphere effect with one channel, the following restrictions apply.

- In an MVE-8000A HD system, when the input is for example a title, parts of the inner surface other than the title appear as black.
- For the MKS-7470X/7471X, the same restrictions as above apply to all signal formats.

## Explosion Settings

You can set the pattern shape and aspect ratio, the center position, the amount of movement by fragments, the curvature of the transition path, and other parameters.

### To apply the Explosion effect

With the Explosion menu displayed, use the following procedure.

- 1 In the <Mode> group, select the explosion pattern.

- Circle
- Rectangle
- Star
- Heart
- Ellipse

- 2 Set the following parameters.

**When Circle was selected in step 1**

| Knob | Parameter  | Adjustment                              | Setting values |
|------|------------|---|----------------|
| 1    | Transition | Degree of transition                    | 0.00 to 100.00 |
| 2    | Curve      | Degree to which image periphery expands | 0.00 to 100.00 |

| Knob | Parameter | Adjustment                             | Setting values     |
|------|-----------|--|--------------------|
| 3    | Spiral    | Degree of curvature of transition path | –100.00 to +100.00 |

**When Rectangle, Star, Heart, or Ellipse was selected in step 1**

| Knob | Parameter  | Adjustment                              | Setting values     |
|------|------------|---|--------------------|
| 1    | Transition | Degree of transition                    | 0.00 to 100.00     |
| 2    | Curve      | Degree to which image periphery expands | 0.00 to 100.00     |
| 3    | Aspect     | Aspect ratio of waveform                | –100.00 to +100.00 |
| 4    | Angle      | Slant of waveform                       | –8.000 to +8.000   |

### To make the fragments stardust

- 1 Press [Pixel], turning it on.
- 2 Set the following parameters.

| Knob | Parameter | Adjustment  | Setting values |
|------|-----------|---|----------------|
| 1    | Density   | Degree to which image disappears                      | 0.00 to 100.00 |
| 2    | Random    | Degree of randomness in flying out fragment positions | 0.00 to 100.00 |

### To set the explosion center point

- 1 Press [Position], turning it on.
- 2 Set the following parameters.

| Knob | Parameter | Adjustment                           | Setting values   |
|------|-----------|--------------------------------------|--|
| 1    | H         | Center point in horizontal direction | –5.000 to +5.000 <sup>a)</sup><br>–20.000 to +20.000 <sup>b)</sup> |
| 2    | V         | Center point in vertical direction   | –4.000 to +4.000 <sup>a)</sup><br>–16.000 to +16.000 <sup>b)</sup> |

a) Setting for SD 4:3, SD 16:9

b) Setting for HD 4:3, HD 16:9

## Swirl Settings

You can set the amount of swirl, the swirl region, the amount of rotation, and the swirl center position.

## To apply the Swirl effect

With the Swirl menu displayed, set the following parameters.

| Knob | Parameter  | Adjustment                            | Setting values   |
|------|------------|---------------------------------------|------------------|
| 1    | Transition | Swirl amount                          | 0.00 to 100.00   |
| 2    | Center     | Amount of rotation in center of swirl | -8.000 to +8.000 |
| 3    | Outer      | Amount of rotation outside of Area    | -8.000 to +8.000 |
| 4    | Area       | Region of swirl                       | 0.00 to 100.00   |

### To make the tip of the swirl stardust

- 1 Press [Pixel], turning it on.
- 2 Set the following parameters.

| Knob | Parameter | Adjustment                        | Setting values |
|------|-----------|-----------------------------------|----------------|
| 1    | Density   | Degree to which image disappears  | 0.00 to 100.00 |
| 2    | Random    | Trail type and amount of stardust | 0.00 to 100.00 |

### To set the center position of the swirl

- 1 Press [Position], turning it on.
- 2 Set the following parameters.

| Knob | Parameter | Adjustment                          | Setting values   |
|------|-----------|-------------------------------------|--|
| 1    | H         | Horizontal center position of swirl | -8.000 to +8.000 <sup>a)</sup><br>-32.000 to +32.000 <sup>b)</sup> |
| 2    | V         | Vertical center position of swirl   | -6.000 to +6.000 <sup>a)</sup><br>-18.000 to +18.000 <sup>b)</sup> |

a) Setting for SD 4:3, SD 16:9

b) Setting for HD 4:3, HD 16:9

## Melt Settings

You can set the degree of transition, the degree of extension in the image, the jaggedness of the melting sections, and the amplitude, frequency, amount of movement, and speed of the melting sections. You can also set the slant of the borders, the shape of the sections that begin to melt, and other parameters.

## To apply the Melt effect

With the Melt menu displayed, use the following procedure.

- 1 In the <Direction> group, select the direction in which the image melts away.

**Up:** Melting occurs upward.

**Down:** Melting occurs downward.

- 2 To make transition settings, press [Transition] and set the following parameters.

| Knob | Parameter  | Adjustment                          | Setting values |
|------|------------|-------------------------------------|----------------|
| 1    | Transition | Degree of transition                | 0.00 to 100.00 |
| 2    | Curve      | Degree to which image stretches     | 0.00 to 100.00 |
| 3    | Random     | Degree of jaggedness at melted part | 0.00 to 100.00 |

- 3 To make wave settings for the melting part, press [Border] and set the following parameters.

| Knob | Parameter            | Adjustment                   | Setting values   |
|------|----------------------|------------------------------|--|
| 1    | Amp                  | Amplitude of waves           | 0.00 to 100.00   |
| 2    | Freq                 | Frequency of waves           | 0.00 to 100.00   |
| 3    | Offset <sup>a)</sup> | Amount of wave phase offset  | -16.000 to +16.000 <sup>c)</sup><br>-64.000 to +64.000 <sup>d)</sup> |
| 4    | Speed <sup>b)</sup>  | Direction and speed of waves | -100.00 to +100.00   |
| 5    | Slant                | Slant of border              | -100.00 to +100.00   |

a) Set when Lock is on.

b) Set when Lock is off.

c) Setting for SD 4:3, SD 16:9

d) Setting for HD 4:3, HD 16:9

### To stop the waves in the melting part

Press [Lock], turning it on.

With each press, the waves alternately stop and start moving again.

### To select the shape of the part beginning to melt

Press [Form] and set the following parameter.

| Knob | Parameter | Adjustment | Setting values       |
|------|-----------|------------|----------------------|
| 1    | Form      | Waveform   | 1 to 8 <sup>a)</sup> |

a) 1 (SINE): Sine wave

2 (PARABOLA): Parabola wave

3 (TRIANGLE): Triangular wave



- 4 (RECTANGLE): Rectangular wave
- 5 (CIRCLE): Circular wave
- 6 (CUBIC): Cubic wave
- 7 (MELT1): Melting wave 1
- 8 (MELT2): Melting wave 2

### To make the melting part stardust

- 1 Press [Pixel], turning it on.
- 2 Set the following parameters.

| Knob | Parameter | Adjustment   | Setting values |
|------|-----------|--|----------------|
| 1    | Density   | Degree to which image disappears   | 0.00 to 100.00 |
| 2    | Random    | Degree to which pixel positions become more randomized further from the center | 0.00 to 100.00 |

## Character Trail Settings

You can set the effect starting position, the degree of expansion, the slant angle of the effect region, and trail direction, the degree to which the image disappears, the trail type and amount of stardust, and other parameters.

### To apply the Character Trail effect

With the Character Trail menu displayed, set the following parameters.

| Knob | Parameter   | Adjustment                         | Setting values   |
|------|-------------|------------------------------------|--|
| 1    | Transition  | Position where effect starts       | −8.000 to +8.000 <sup>a)</sup><br>−32.000 to +32.000 <sup>b)</sup> |
| 2    | Expand      | Degree of expansion                | 0.00 to 100.00   |
| 3    | Trans Angle | Angle of slanting in effect region | −8.000 to +8.000   |
| 4    | Trail Angle | Direction of trail                 | −100.00 to +100.00   |

a) Setting for SD 4:3, SD 16:9  
b) Setting for HD 4:3, HD 16:9

### To make the tip of the swirl stardust

- 1 Press [Pixel], turning it on.
- 2 Set the following parameters.

| Knob | Parameter | Adjustment                        | Setting values |
|------|-----------|-----------------------------------|----------------|
| 1    | Density   | Degree to which image disappears  | 0.00 to 100.00 |
| 2    | Random    | Trail type and amount of stardust | 0.00 to 100.00 |

# Applying Special Effects (Lighting and Recursive Effects)

## Lighting Settings

You can specify the intensity and color of the light and the lighting pattern. The following lighting patterns are available:

**Plane:** Illumination of the entire screen.

**Bar:** Bar illumination. You can specify the width and angle of the bar, and its softness.

**Preset:** Lighting pattern suitable for nonlinear effects.

When Bar is selected, the following modes can be selected.

**Normal:** Emphasizes the bar highlight area.

**Specular:** An effect like light striking a surface with metallic reflections.

**Mat:** An effect like light striking paper, cloth, or another diffusively reflective surface.

### Notes

The function for setting the bar mode of the lighting area is not supported on the MVE-8000A.

## Applying the Lighting effect

**1** In the DME menu, select VF5 'Light/Trail' and HF1 'Lighting.'

The Lighting menu appears.

**2** Press [Lighting], turning it on.

**3** In the <Light Pattern> group, select the lighting pattern Plane, Bar or Preset.

**4** Set the parameters.

The parameters differ as follows, depending on the selected lighting pattern.

### When Plane is selected

| Knob | Parameter     | Adjustment                           | Setting values               |
|------|---------------|--------------------------------------|------------------------------|
| 1    | Light         | Intensity of light in highlight area | 0.00 to 100.00               |
| 5    | Total Ambient | Brightness of whole image            | 0.00 to 100.00 <sup>a)</sup> |

a) You can make the Lighting effect more effective by adjusting [Total Ambient] to lower the brightness of the entire image. This setting is used both by this effect and by the Spotlighting effect.

### Notes

The Total Ambient parameter is not supported on the MVE-8000A.

### When Bar is selected

| Knob | Parameter     | Adjustment                           | Setting values               |
|------|---------------|--------------------------------------|------------------------------|
| 1    | Light         | Intensity of light in highlight area | 0.00 to 100.00               |
| 2    | Ambient       | Intensity of light in ambient area   | 0.00 to 100.00               |
| 5    | Total Ambient | Brightness of whole image            | 0.00 to 100.00 <sup>a)</sup> |

a) You can make the Lighting effect more effective by adjusting [Total Ambient] to lower the brightness of the entire image. This setting is used both by this effect and by the Spotlighting effect.

### Notes

The Total Ambient parameter is not supported on the MVE-8000A.

### When Preset is selected

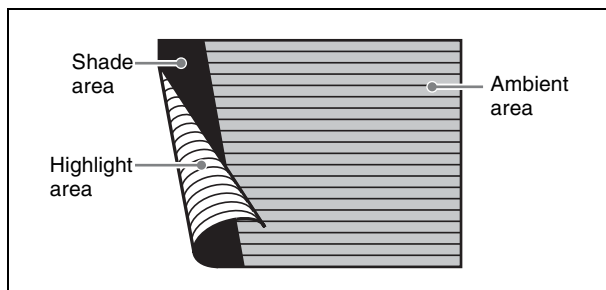
| Knob | Parameter     | Adjustment                           | Setting values               |
|------|---------------|--------------------------------------|------------------------------|
| 1    | Light         | Intensity of light in highlight area | 0.00 to 100.00               |
| 2    | Ambient       | Intensity of light in ambient area   | 0.00 to 100.00               |
| 3    | Shade         | Intensity of light in shade area     | 0.00 to 100.00 <sup>a)</sup> |
| 5    | Total Ambient | Brightness of whole image            | 0.00 to 100.00 <sup>b)</sup> |

a) Setting is available when nonlinear effect page turn, roll, cylinder, or sphere is selected.

b) You can make the Lighting effect more effective by adjusting [Total Ambient] to lower the brightness of the entire image. This setting is used both by this effect and by the Spotlighting effect.

### Notes

The Total Ambient parameter is not supported on the MVE-8000A.



The three regions for which the light intensity can be set

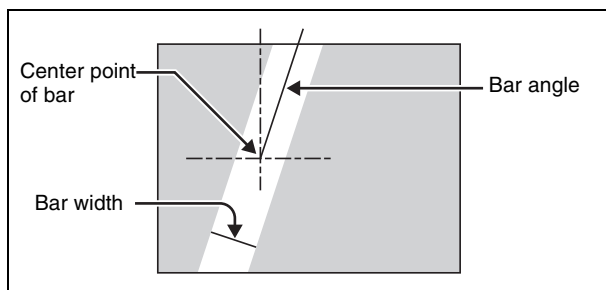
## Setting the bar shape of the highlight area

When you select [Bar] or [Preset] in step **3** of “Applying the Lighting effect” (page 284), use the following procedure to set the shape of the bar.

- 1 Turn [Light Modify] on.
- 2 Adjust the following parameters.

| Knob | Parameter           | Adjustment                  | Setting values  |
|------|---------------------|-----------------------------|---|
| 1    | X                   | X-value of bar center point | –8.00 to +8.00 <sup>a) b)</sup><br>–24.00 to +24.00 <sup>c)</sup><br>–32.00 to +32.00 <sup>d)</sup> |
| 2    | Y                   | Y-value of bar center point | –6.00 to +6.00 <sup>a)</sup><br>–4.50 to +4.50 <sup>b)</sup><br>–18.00 to +18.00 <sup>c) d)</sup>   |
| 3    | Angle <sup>e)</sup> | Angle of bar                | –8.00 to +8.00  |
| 4    | Width               | Width of bar                | 0.00 to 100.00  |
| 5    | Soft                | Softness of edges           | 0.00 to 100.00  |

- a) For SD 4:3  
b) For SD 16:9  
c) For HD 4:3  
d) For HD 16:9  
e) There are some nonlinear effects for which Angle cannot be used.



Bar shape parameters

## Setting the color of the light in the highlight area

- 1 Turn [Light Color] on.
- 2 Adjust the following parameters.

| Knob | Parameter  | Adjustment | Setting values |
|------|------------|------------|----------------|
| 1    | Luminance  | Luminance  | 0.00 to 100.00 |
| 2    | Saturation | Saturation | 0.00 to 100.00 |
| 3    | Hue        | Hue        | 359.99 to 0.00 |

## Setting the bar shape of the shade area

You select [Preset] in step **3** of “Applying the Lighting effect” (page 284), and then use the following procedure to set the bar shape of the shade area.

- 1 Turn [Shade Modify] on.
- 2 Adjust the following parameters.

| Knob | Parameter | Adjustment                  | Setting values   |
|------|-----------|-----------------------------|--|
| 1    | X         | X-value of bar center point | –8.00 to +8.00 <sup>a)</sup><br>–24.00 to +24.00 <sup>b)</sup><br>–32.00 to +32.00 <sup>c)</sup> |
| 4    | Width     | Width of bar                | 0.00 to 100.00   |
| 5    | Soft      | Softness of edges           | 0.00 to 100.00   |

- a) For SD 4:3 and SD 16:9  
b) For HD 4:3  
c) For HD 16:9

## Setting the color of the shade in the shade area

- 1 Turn [Shade Color] on.
- 2 Adjust the following parameters.

| Knob | Parameter  | Adjustment | Setting values |
|------|------------|------------|----------------|
| 1    | Luminance  | Luminance  | 0.00 to 100.00 |
| 2    | Saturation | Saturation | 0.00 to 100.00 |
| 3    | Hue        | Hue        | 359.99 to 0.00 |

## Setting the bar mode of the highlight area

You select [Bar] in step **3** of “Applying the Lighting effect” (page 284), and then use the following procedure to set the bar mode of the highlight area.

### Notes

The bar mode of the highlight area is not supported on the MVE-8000A.

- 1 Select the mode in the <Bar Light Mode> group.

**Normal:** Emphasizes the bar highlight area.

**Specular:** An effect like light striking a surface with metallic reflections.

**Mat:** An effect like light striking paper, cloth, or another diffusively reflective surface.

## 2 Set the following parameters.

| Knob | Parameter | Adjustment                             | Setting values   |
|------|-----------|--|--|
| 1    | Intensity | Intensity of diffuse light area        | 0.00 to 100.00   |
| 2    | Offset    | Offset of center of diffuse light area | -4.00 to +4.00 <sup>a)</sup><br>-12.00 to +12.00 <sup>b)</sup><br>-16.00 to +16.00 <sup>c)</sup> |
| 3    | Width     | Width of diffuse light area            | 0.00 to 100.00   |
| 4    | Soft      | Softness of diffuse light area         | 0.00 to 100.00   |

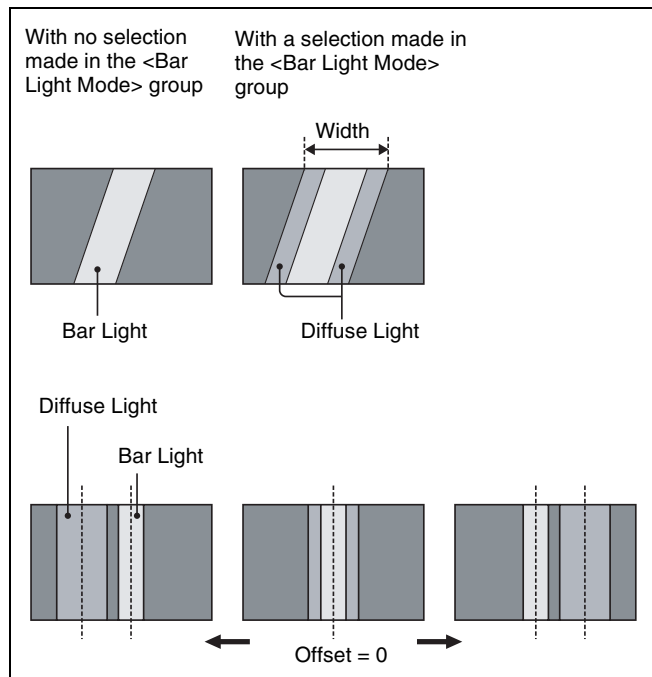
a) For SD 4:3 and SD 16:9

b) For HD 4:3

c) For HD 16:9

## 3 When you select Normal or Mat in step 1, press [Bar Diffuse Color], turning it on, and adjust the following parameters to set the color of the diffuse light area.

| Knob | Parameter  | Adjustment | Setting values |
|------|------------|------------|----------------|
| 1    | Luminance  | Luminance  | 0.00 to 100.00 |
| 2    | Saturation | Saturation | 0.00 to 100.00 |
| 3    | Hue        | Hue        | 359.99 to 0.00 |



## Trail Settings

### Notes

Turning Trail on when Motion Decay, Keyframe Strobe, or Wind is on turns it off automatically.

## Applying the Trail effect

### 1 In the DME menu, select VF5 'Light/Trail' and HF2 'Trail.'

The Trail menu appears.

### 2 Press [Trail], turning it on.

### 3 Set the parameters.

| Knob | Parameter | Adjustment   | Setting values               |
|------|-----------|--|------------------------------|
| 1    | Decay     | Degree to which the trail is left  | 0.00 to 100.00 <sup>a)</sup> |
| 2    | Interval  | Freeze interval  | 1 to 255 (frames)            |
| 3    | Live      | Proportion of the interval between two successive freeze images for which the video is run | 0.00 to 100.00               |

a) 0.00 is no trail. At 100.00, the trail does not disappear.

### 4 To erase the trail, press [Trail Eraser], turning it on.

## Switching the priority between the current image and trail superimposed

In the <Priority> group, select the method of superimposition.

**Over:** Current image is on top.

**Under:** Trail is on top.

## Selecting the source to create a trail

In the <Trail Source> group, select the source to create a trail.

### Notes

- "Rainbow," "Mix Color," and "Ext Video" are not supported on the MVE-8000A.
- "Mix Color" or "Ext Video" can only be applied to one of the background (see page 299), flex shadow (see page 251), trail, and wind (see page 290) effects. If you select "Mix Color" or "Ext Video" in one of these

settings, a selection of “Mix Color” or “Ext Video” in any of the other effects is disabled, and “Flat Color” is selected in its place.

- When executing combining four channels of DME images, “Mix Color” and “Ext Video” in the flex shadow and background effects cannot be selected.

**Freeze Video:** Use freeze images of the input video as source of the trail.

**Flat Color:** Use a flat color matte as source of the trail. You can set the following parameters with the knobs.

| Knob | Parameter  | Adjustment | Setting values |
|------|------------|------------|----------------|
| 1    | Luminance  | Luminance  | 0.00 to 100.00 |
| 2    | Saturation | Saturation | 0.00 to 100.00 |
| 3    | Hue        | Hue        | 359.99 to 0.00 |

**Hue Rotate:** Use a color matte whose hue varies slightly with each frame for the trail of the afterimages. You can set the following parameters with the knobs.

| Knob | Parameter  | Adjustment                     | Setting values   |
|------|------------|--------------------------------|------------------|
| 1    | Luminance  | Luminance                      | 0.00 to 100.00   |
| 2    | Saturation | Saturation                     | 0.00 to 100.00   |
| 3    | Hue Speed  | Speed at which the hue changes | −12.00 to +12.00 |

**Mix Color:** Insert a mix color signal set in the Color Mix menu (see page 257) in the afterimage portion.

**Ext Video:** Insert the external video signal input to the Ext IN connector in the afterimage portion.

**Rainbow:** Use a freeze image with the hue changing every frame in the afterimage portion. The difference from “Hue Rotate” is that many colors appear simultaneously.

*For details of the Rainbow parameters, see the “Hue Rotate” item above.*

## Erasing the afterimages that remain in memory whenever a keyframe is passed

Press [Trail Eraser], turning it on.

When the effect passes a keyframe, the afterimage is erased before writing a new afterimage.

## Selecting the freeze timing

In the <Trail Freeze Timing> group, select the timing for freezing a trail.

**Frame:** freeze in frame units.

**Field:** freeze in field units.

### Notes

The freeze timing setting is not required when the following signal formats are being used.

Signal formats: 1080P/50, 1080P/59.94, 1080PsF/23.976, 1080PsF/24, 1080PsF/25, 1080PsF/29.97, 720P/50, 720P/59.94

## Defocusing the afterimage portion (Defocus)

### Notes

The function to defocus the trail afterimage portion is not supported on the MVE-8000A.

1 Press [Defocus], turning it on.

2 Set the following parameters.

| Knob | Parameter | Adjustment                     | Setting values |
|------|-----------|--------------------------------|----------------|
| 1    | Defocus V | Defocusing of the video signal | 0.00 to 100.00 |
| 2    | Defocus K | Defocusing of the key signal   | 0.00 to 100.00 |

## Applying stardust to the afterimage portion

The afterimage portion becomes stardust, and gradually disappears.

1 Press [Dust], turning it on.

2 Set the following parameters.

| Knob | Parameter   | Adjustment  | Setting values     |
|------|-------------|---|--------------------|
| 1    | Trail Dust  | Amount of the afterimage disappearing as stardust <sup>a)</sup> | 0.00 to 100.00     |
| 2    | Dust Soft   | Timing with which stardust disappears                           | 0.00 to 100.00     |
| 3    | Dust Size   | Size of stardust  | 0.00 to 100.00     |
| 4    | Dust Aspect | Aspect ratio of stardust  | −100.00 to +100.00 |

a) The way in which the afterimage disappears is affected by both Decay and Trail Dust parameter adjustments.

## Setting a combine process

Select whether to add the Trail effect before or after the combine.

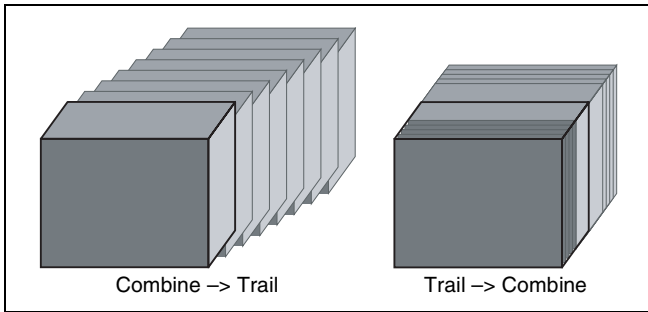
### Notes

- The combine process function is not supported on the MVE-8000A.
- When you change the selection in the <Combine Process> group, the afterimages which had been added up to then disappear.
- When you do not combine images, the Trail effect only is applied, regardless of the selection in the <Combine Process> group.

Select one of the following in the <Combine Process> group.

**Combine → Trail:** Add the Trail effect after the combine. As the trail parameters, the data for the channel with the lowest number among the channels being combined is enabled.

**Trail → Combine:** Add the Trail effect before the combine. Trails parameters can be set independently for each channel.



## Motion Decay Settings

### Notes

When you turn on motion decay, if the Trail, Keyframe Strobe or Wind effect is on, it automatically goes off.

### Blurring image motion

- 1 In the DME menu, select VF5 'Light/Trail' and HF3 'Motion Decay.'

The Motion Decay menu appears.

- 2 Press [Motion Decay], turning it on.

- 3 Set the following parameter.

| Knob | Parameter   | Adjustment                             | Setting values               |
|------|-------------|--|------------------------------|
| 1    | Video Decay | Degree of blurring of the video signal | 0.00 to 100.00 <sup>a)</sup> |

a) At the setting 0.00, there is no afterimage. At a setting of 100.00, the afterimage does not decay.

- 4 In the <Decay Mix Mode> group, select the way in which the video signal is blurred.

**Soft:** mix the live image and the afterimage.

**Hard:** show the lighter of the live image and afterimage.

- 5 To erase the afterimage, press [Decay Eraser], turning it on.

### Erasing the afterimages that remain in memory whenever a keyframe is passed

Press [Decay Eraser], turning it on.

When the effect passes a keyframe, the afterimage is erased before writing a new afterimage.

### Selecting the freeze timing

In the <Decay Freeze Timing> group, select the timing for motion decay freezing.

**Frame:** freeze in frame units.

**Field:** freeze in field units.

### Notes

The freeze timing setting is not required when the following signal formats are being used.

1080P/50, 1080P/59.94, 1080PsF/23.976,  
1080PsF/24, 1080PsF/25, 1080PsF/29.97, 720P/  
50, 720P/59.94

### Applying stardust to the afterimage portion

The afterimage portion becomes stardust, and gradually disappears.

- 1 Press [Dust], turning it on.
- 2 Set the following parameters.

| Knob | Parameter   | Adjustment  | Setting values     |
|------|-------------|---|--------------------|
| 1    | Decay Dust  | Amount of the afterimage disappearing as stardust <sup>a)</sup> | 0.00 to 100.00     |
| 2    | Dust Soft   | Timing with which stardust disappears                           | 0.00 to 100.00     |
| 3    | Dust Size   | Size of stardust  | 0.00 to 100.00     |
| 4    | Dust Aspect | Aspect ratio of stardust  | -100.00 to +100.00 |

a) The way in which the afterimage disappears is affected by both the Video Decay and Decay Dust parameter adjustments for the motion decay.

## Keyframe Strobe Settings

### Notes

When you turn on keyframe strobe, if the Trail, Motion Decay or Wind effect is on, it automatically goes off.

### Leaving a trail of afterimages of the image

- 1 In the DME menu, select VF5 'Light/Trail' and HF4 'KF Strobe.'

The KF Strobe menu appears.

- 2 Press [KF Strobe], turning it on.

- 3 Set the following parameter.

| Knob | Parameter | Adjustment                             | Setting values               |
|------|-----------|--|------------------------------|
| 1    | Decay     | Degree of blurring of the video signal | 0.00 to 100.00 <sup>a)</sup> |

a) At the setting 0.00, there is no afterimage. At a setting of 100.00, the afterimage does not decay.

- 4 To erase the afterimage, press [KF Strobe Eraser], turning it on.

### Selecting the overlay priority for movie and still images (video freeze image)

In the <Priority> group, select the way in which the images are overlaid.

**Over:** the movie is on top, and the still image is underneath.

**Under:** the movie is underneath, and the still image is on top.

**Mix:** the movie and still images are mixed; adjust the following parameter with the knob.

| Knob | Parameter | Adjustment  | Setting values               |
|------|-----------|---|------------------------------|
| 1    | Mix       | Mix amount of the still image with respect to the movie | 0.00 to 100.00 <sup>a)</sup> |

a) The 0.00 setting is the same as Over, and the 100.00 is the same as Under.

### Selecting the freeze timing

In the <KF Freeze Timing> group, select the timing for freezing the keyframe strobe.

**Frame:** freeze in frame units.

**Field:** freeze in field units.

### Notes

The freeze timing setting is not required when the following signal formats are being used.

1080P/50, 1080P/59.94, 1080PsF/23.976,  
1080PsF/24, 1080PsF/25, 1080PsF/29.97, 720P/50, 720P/59.94

### Erasing the afterimages that remain in memory whenever a keyframe is passed

Press [KF Strobe Eraser], turning it on.

When the effect passes a keyframe, the afterimage is erased before writing a new afterimage.

### Applying stardust to the afterimage portion

The afterimage portion becomes stardust, and gradually disappears.

- 1 Press [Dust], turning it on.

- 2 Set the following parameters.

| Knob | Parameter      | Adjustment  | Setting values     |
|------|----------------|---|--------------------|
| 1    | KF Strobe Dust | Amount of the afterimage disappearing as stardust <sup>a)</sup> | 0.00 to 100.00     |
| 2    | Dust Soft      | Timing with which stardust disappears                           | 0.00 to 100.00     |
| 3    | Dust Size      | Size of stardust  | 0.00 to 100.00     |
| 4    | Dust Aspect    | Aspect ratio of stardust  | -100.00 to +100.00 |

a) The way in which the afterimage disappears is affected by both the Decay and KF Strobe Dust parameter adjustments for the keyframe strobe.

### Disabling the keyframe strobe afterimage

Press [KF Strobe Disable], turning it on.

If you turn this function on when creating a keyframe, even as the effect passes a keyframe, no afterimage remains.

### Setting a combine process

Select whether to add the Keyframe Strobe effect before or after the combine.

### Notes

- The combine process function is not supported on the MVE-8000A.
- When you change the selection in the <Combine Process> group, the afterimages which had been added up to then disappear.

- When you do not combine images, the Keyframe Strobe effect only is applied, regardless of the selection in the <Combine Process> group.

Select one of the following in the <Combine Process> group.

**Combine → KF STRB:** Add the Keyframe Strobe effect after the combine.

As parameters, the data for the channel with the lowest number among the channels being combined is enabled.

**KF STRB → Combine:** Add the Keyframe Strobe effect before the combine.

Parameters can be set independently for each channel.

## Wind Settings

### Notes

- The wind function is not supported on the MVE-8000A.
- When wind is turned on, any of the following effects that are on are turned off.
  - Trail
  - Motion decay
  - Keyframe strobe

## Applying the wind effect

- 1 In the DME menu, select VF5 'Light/Trail' and HF5 'Wind.'

The Wind menu appears.

- 2 Press [Wind], turning it on.
- 3 Set the following parameters.

| Knob | Parameter | Adjustment                            | Setting values               |
|------|-----------|---------------------------------------|------------------------------|
| 1    | Decay     | Amount of afterimage displayed        | 0.00 to 100.00 <sup>a)</sup> |
| 2    | Shift H   | Extension in the horizontal direction | -100.00 to +100.00           |
| 3    | Shift V   | Extension in the vertical direction   | -100.00 to +100.00           |

a) 0.00 represents no afterimage, and 100.00 represents no decay in the afterimage.

- 4 To erase the afterimages, press [Wind Eraser], turning it on.

## Selecting the signal for the afterimage portion

In the <Wind Source> group, select the image to fill the afterimage portion.

### Notes

- "Mix Color" or "Ext Video" can only be applied to one of the background (*see page 299*), flex shadow (*see page 251*), trail (*see page 286*), and wind effects. If you select "Mix Color" or "Ext Video" in the wind settings, a selection of "Mix Color" or "Ext Video" in any of the other effects is disabled, and "Flat Color" is selected in its place.
- When executing combining four channels of DME images, "Mix Color" and "Ext Video" cannot be selected.

**Freeze Video:** Freeze the input image to use as the afterimage.

**Flat Color:** Use a single color matte for the afterimage; you can set the following parameters with the knobs.

| Knob | Parameter  | Adjustment | Setting values |
|------|------------|------------|----------------|
| 1    | Luminance  | Luminance  | 0.00 to 100.00 |
| 2    | Saturation | Saturation | 0.00 to 100.00 |
| 3    | Hue        | Hue        | 359.99 to 0.00 |

**Hue Rotate:** Use a single color matte with the hue changing for each frame as the afterimage; you can set the following parameters with the knobs.

| Knob | Parameter  | Adjustment                | Setting values   |
|------|------------|---------------------------|------------------|
| 1    | Luminance  | Luminance                 | 0.00 to 100.00   |
| 2    | Saturation | Saturation                | 0.00 to 100.00   |
| 3    | Hue Speed  | Rate at which hue changes | -12.00 to +12.00 |

**Mix Color:** Insert a mix color signal (*see page 257*) in the afterimage portion.

**Ext Video:** Insert the external video signal input to the Ext IN connector in the afterimage portion.

**Rainbow:** Use a freeze image with the hue changing every frame in the afterimage portion. The difference from "Hue Rotate" is that many colors appear simultaneously.

*For details of the Rainbow parameters, see the "Hue Rotate" item above.*

## Applying modulation to the afterimage portion (Modulation)

- 1 In the Wind menu, press [Modulation], turning it on.
- 2 Set the following parameters.



| Knob | Parameter | Adjustment                       | Setting values     |
|------|-----------|----------------------------------|--------------------|
| 1    | Amp H     | Horizontal amplitude of the wave | 0.00 to 100.00     |
| 2    | Freq H    | Horizontal frequency of the wave | -100.00 to +100.00 |
| 3    | Amp V     | Vertical amplitude of the wave   | 0.00 to 100.00     |
| 4    | Freq V    | Vertical frequency of the wave   | -100.00 to +100.00 |

For details of Priority, Wind Freeze Timing, Wind Eraser, Defocus, Dust, and Combine Process in the Wind menu, see “Trail Settings” (page 286).

## Spotlighting Settings

You can set up to three light sources (lights 1 to 3).

### Notes

- The Spotlighting effect is not supported on the MVE-8000A.
- The BZDM-9050 Texture Lighting Software (for MVE-9000) is required to set lights 2 and 3.
- When the global effect Combiner is enabled, the settings of the smallest-numbered channel selected for the Combiner are used.

## Adjustments to the image surface

The following adjustments can be made to the image surface struck by the light.

- Adjusting the brightness of the whole image
- Selecting the image surface effect
- Test sphere function
- Adjusting the bumpiness of the image surface
- Coordinate axis on surface of image
- Texture deformations

### Selecting the image surface effect

**Flat:** The image surface is unchanged, causing the selected light source to appear as the effect.

**Texture:** A texture appears on the surface of the image. Textures can be selected from among 30 patterns (see page 361).

**Non Linear:** Spotlighting effect is applied to an area to which a DME nonlinear effect is applied.

### Notes

The BZDM-9050 is required to enable Texture and Non Linear settings on the MVE-9000.

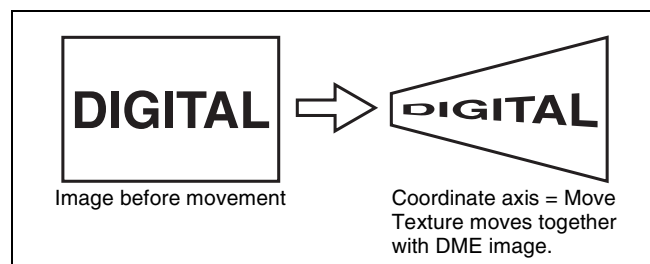
## Test sphere function

A test sphere is a translucent sphere virtually embedded in the center of the input picture to provide an intuitive way for you to check the position and direction of the spotlight. When you change the position or direction of a light source, the side of the sphere closest to the light source grows brighter. You can easily check the position and direction of the light source by viewing the test sphere (see page 293).

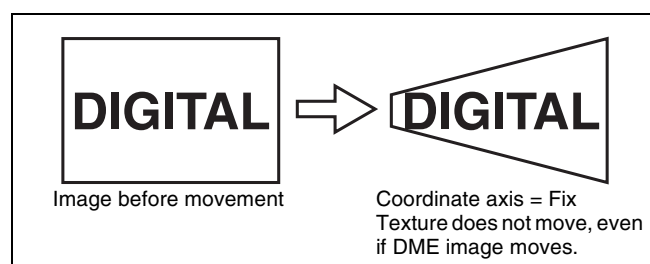
## Coordinate axis on surface of image

Specify where to apply the texture or test sphere on the image surface.

**Move:** The texture moves together with the DME image.



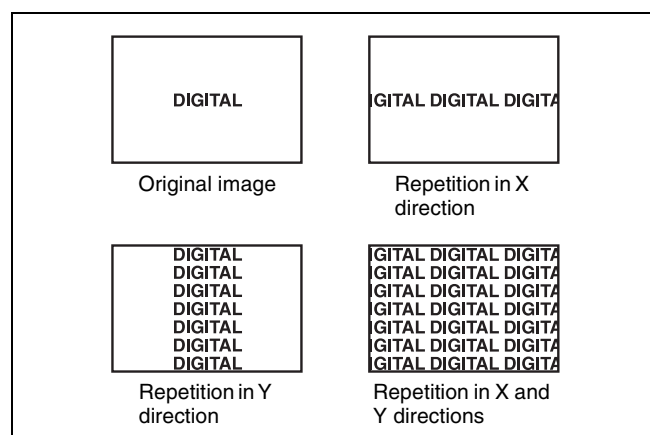
**Fix:** The texture does not move, even if the DME image moves.



## Texture deformations

You can change the texture pattern, position, and size, and use the repetition function.

The following figure shows examples of a texture pattern repeated in the X and Y directions.



## Setting lights

### Light source types

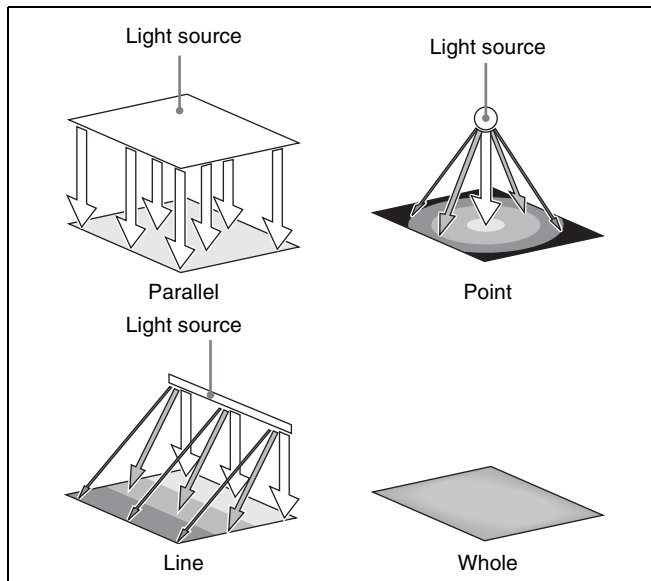
The following type of light sources are available (*see figure*).

**Parallel:** Parallel light source

**Point:** Point light source. As the light source is placed further away, the illuminated range becomes wider and the light becomes weaker.

**Line:** Line light source

**Whole:** Non-directional light source which illuminates the whole image.

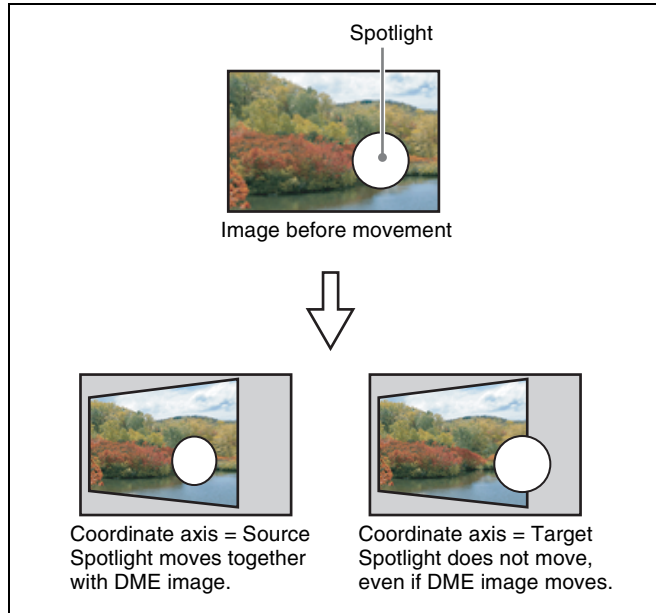


### Linking and unlinking image and spotlight

The spotlight can move together with a DME image, or be fixed in place.

**Source:** Place the light source in source coordinate space. The spotlight is linked and moves when the image moves.

**Target:** Place the light source in target coordinate space. The spotlight does not move, even when the image moves.



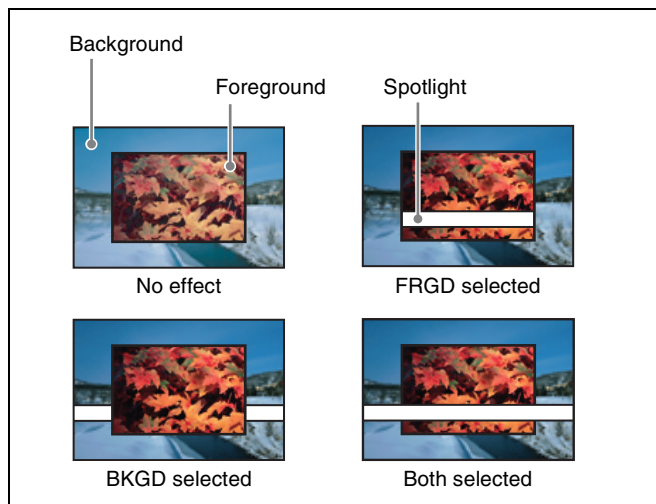
### Selecting the lighted area

You can select the area lit by the spotlight.

**FRGD:** The light strikes the image foreground.

**BKGD:** The light strikes the image background.

**Both:** The light strikes both foreground and background.



### Surface Flat

For the currently selected light source only, you can forcibly make the image surface effect flat.

This is effective when you have selected texture as image surface effect and want a flat effect for one light source only.

### Light shape

Creates the light shape.

- Select the shape pattern  
*For shape patterns, see "Shape Patterns" (page 361).*
- Set the size, degree of deformation, softness, and rotation.

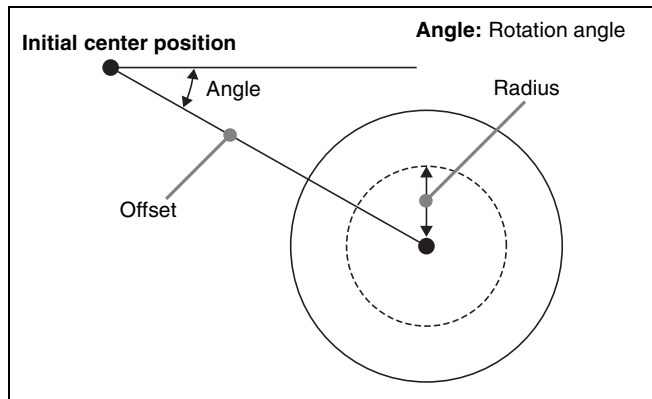
## Ring settings

Shines the light with a hole in the middle, like a doughnut. Adjust the following parameters.

**Offset:** Distance to move the center of the ring from the initial position (the position set when selecting the light source in the <Spot Mode> group).

**Radius:** Inner side radius of the ring.

**Angle:** When an Offset is set, the rotation angle of the ring around the initial center position.



## Fill blending modes

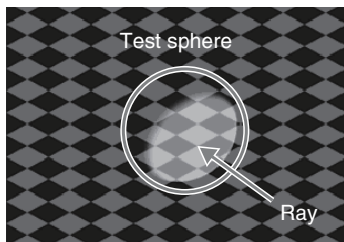
Specifies the way in which the light is blended with the image.

**Mix:** Light as if reflected from a mirror. The light can be given a color.

**Multiply:** Light as if reflected from a dull surface (diffuse reflection).

## Relation between test spheres and parallel rays

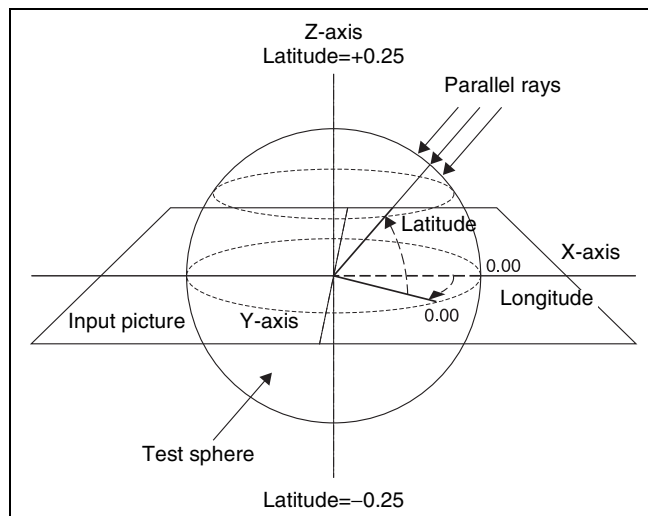
The following figure shows an example of the effect of parallel rays on a test sphere.



The direction of a ray is defined by longitude and latitude.

- **Longitude:** A direction (angle), expressed as a plus value for clockwise rotation in the plus direction with respect to the X axis of the input picture.
- **Latitude:** Latitude

The following figure shows the relationships between the longitude and latitude of parallel rays, input picture, and test sphere.



The unit of these direction parameters is the number of rotations, with  $360^\circ$  (1 rotation) expressed as 1.00, in the same way as 3D rotation parameters.

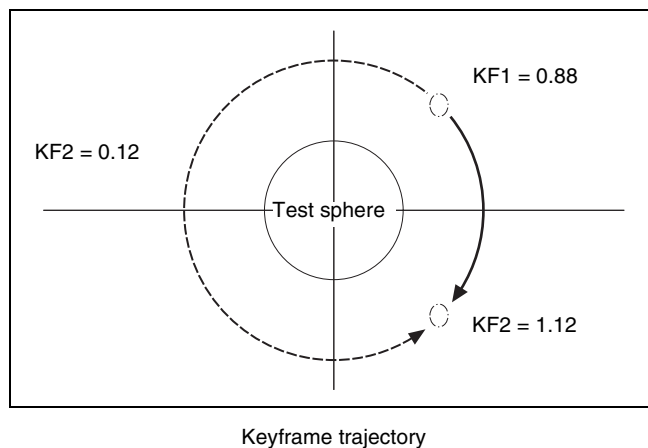
The following relationships apply in the example shown in the figure.

| Parameter | Setting | Angle      |
|-----------|---------|------------|
| Longitude | 0.12    | $45^\circ$ |
| Latitude  | 0.12    | $45^\circ$ |

The fractional part of the setting after the decimal point corresponds to an angle 0 to  $360^\circ$ . If the fractional parts of two setting values are the same, the effect is the same even if the integral parts are different.

The integral part of a setting value is used when moving a light source with keyframes.

For example, when the longitude of a light source rotates in the clockwise direction from 0.88 ( $315^\circ$ ) to 0.12 ( $45^\circ$ ), it rotates in the counterclockwise direction (the angle grows smaller) if the above values are used. In this case, the value of the second keyframe can be set to 1.12 ( $360^\circ + 45^\circ$ ).



Keyframe trajectory

## Setting the surface where light strikes the image

- 1 In the DME menu, select VF5 'Light/Trail' and HF6 'Spot Lighting.'

The Spot Lighting menu appears.

- 2 Press [Spot Lighting], turning it on.

- 3 Set the following parameter.

| Knob | Parameter     | Adjustment                | Setting values |
|------|---------------|---------------------------|----------------|
| 1    | Total Ambient | Brightness of whole image | 0.00 to 100.00 |

- Lowering the brightness of the image makes Spotlighting more effective.
- The Total Ambient setting is shared with the Lighting function.

- 4 In the <Surface Select> group, select the state of the surface struck by the light.

**Flat:** The image surface is unchanged, causing the selected light source to appear as the effect.

**Texture:** A texture appears on the surface of the image.

**Non Linear:** The Spotlighting effect is applied to an area to which a DME nonlinear effect is applied.

### Notes

- The BZDM-9050 Texture Lighting Software (for MVE-9000) is required to enable Texture or Non Linear.  
An install key must be entered to use the software.  
*For details, see "Installation and Device Setup (Install/Unit Config Menu)" in Chapter 18 (Volume 2).*
- The Spotlighting Non Linear setting is effective for the following nonlinear effects. For any other nonlinear effect, the result of selecting the Non Linear setting is the same as selecting Flat.  
Wave, Mosaic Glass, Flag, Ripple, Lens, Panorama, Page Turn, Roll.

- 5 If you selected Texture or Non Linear in step 4, set the following parameters.

### Parameters when you selected Texture

- SD format

| Knob | Parameter | Adjustment                   | Setting values               |
|------|-----------|------------------------------|------------------------------|
| 1    | X         | Movement in X-axis direction | -8.00 to +8.00 <sup>a)</sup> |
| 2    | Y         | Movement in Y-axis direction | -6.00 to +6.00 <sup>b)</sup> |

| Knob | Parameter | Adjustment                      | Setting values                   |
|------|-----------|---------------------------------|----------------------------------|
| 3    | Size X    | Image size in X-axis direction  | 0.50 to 16.00                    |
| 4    | Size Y    | Image size in Y-axis direction  | 0.50 to 16.00                    |
| 5    | Amp       | Emphasize bumps and depressions | -100.00 to +100.00 <sup>c)</sup> |

a) Minus moves left, plus moves right.

b) Minus moves down, plus moves up.

c) Plus emphasizes bumps in texture, minus emphasizes depressions.  
0.00 is a flat surface.

### • HD format

| Knob | Parameter | Adjustment                      | Setting values                   |
|------|-----------|---------------------------------|----------------------------------|
| 1    | X         | Movement in X-axis direction    | -32.00 to +32.00 <sup>a)</sup>   |
| 2    | Y         | Movement in Y-axis direction    | -24.00 to +24.00 <sup>b)</sup>   |
| 3    | Size X    | Image size in X-axis direction  | 0.50 to 16.00                    |
| 4    | Size Y    | Image size in Y-axis direction  | 0.50 to 16.00                    |
| 5    | Amp       | Emphasize bumps and depressions | -100.00 to +100.00 <sup>c)</sup> |

a) Minus moves left, plus moves right.

b) Minus moves down, plus moves up.

c) Plus emphasizes bumps in texture, minus emphasizes depressions.  
0.00 is a flat surface.

### Parameters when you selected Non Linear

| Knob | Parameter | Adjustment        | Setting values                   |
|------|-----------|-------------------|----------------------------------|
| 5    | Amp       | Distance of light | -100.00 to +100.00 <sup>a)</sup> |

a) Light appears from Z direction. At -100.00 the light goes deepest, at +100.00 the whole image is lit like a flat effect.

- 6 If you selected Texture in step 4, select the pattern as explained in the next section "To select a texture pattern."

- 7 If you selected Texture in step 4, select the way it is applied in the <Surface Axis> group.

**Move:** The texture moves together with the DME image.

**Fix:** The texture does not move, even if the DME image moves.

*For the difference between these application methods, see "Coordinate axis on surface of image" (page 291).*

### Notes

If Non Linear is selected in the <Surface Select> group, Fix is disabled. Behavior is the same as Move.

## To select a texture pattern

- 1 In the Spot Lighting menu, press [Texture Ptn Select].

The Texture Ptn Select menu appears.

Two lists appear in the status area. The list on the left displays the number and name of the currently selected texture. The list on the right is for selecting a texture.

- 2 In the <Texture Pattern> group, press [User] or [Factory] to select the texture pattern list.

**User:** List of texture patterns created by the user.

See “Adding User Texture Patterns” in Chapter 18 (Volume 2).

**Factory:** List of texture patterns stored in the system when shipped from the factory.

- 3 Do one of the following to select a texture.

- Press directly on the list on the right of the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter  | Adjustment | Setting values  |
|------|------------|------------|---|
| 1    | Texture No | Texture    | 1 to 30 <sup>a)</sup><br>101 to maximum value <sup>b)</sup> |

a) When Factory is selected

b) When User is selected. The setting value range depends on the number of texture patterns installed.

- 4 Press [Set].

The texture selected in step 2 appears in the list on the left of the status area.

## To set a test sphere

- 1 In the Spot Lighting menu, press [Test Sphere], turning it on.

A test sphere effect appears on the image surface.

- 2 Adjust the following parameter.

| Knob | Parameter | Adjustment        | Setting values                   |
|------|-----------|-------------------|----------------------------------|
| 5    | Amp       | Distance of light | −100.00 to +100.00 <sup>a)</sup> |

a) Light appears from Z direction. At −100.00 the light goes deepest, at +100.00 the whole image is lit like a flat effect.

For details of the relationship of test spheres and light sources, see “Relation between test spheres and parallel rays” (page 293).

## Setting light sources

Up to three light sources (Light 1 to Light 3) for Spot lighting can be set by menus.

### Light source menu

The following three light source menus are available.

| Light source | Menu                                     |
|--------------|--|
| Light 1      | DME >Light/Trail >Spot Lighting >Light 1 |
| Light 2      | DME >Light/Trail >Spot Lighting >Light 2 |
| Light 3      | DME >Light/Trail >Spot Lighting >Light 3 |

### Notes

The BZDM-9050 Texture Lighting Software (for MVE-9000) is required to enable Light 2 and Light 3. An install key must be entered to use the software.

For details, see “Installation and Device Setup (Install/Unit Config Menu)” in Chapter 18 (Volume 2).

## To set light source data

The following example shows how to set light source data with the Light 1 menu.

If you use multiple light sources, use the same procedure for all light sources.

- 1 In the <Spot Lighting Adjust> group of the Spot Lighting menu, press [Light 1].

The Light 1 menu appears.

- 2 Press [Light 1], turning it on.

- 3 Set the following parameters.

| Knob | Parameter     | Adjustment                                 | Setting values |
|------|---------------|--|----------------|
| 1    | Total Ambient | Brightness of whole image                  | 0.00 to 100.00 |
| 2    | Intensity     | Intensity (brightness) of the light source | 0.00 to 100.00 |
| 3    | Soft          | Softness of the lighted area               | 0.00 to 100.00 |

- Lowering the brightness of the image makes Spot lighting more effective.
- The Total Ambient setting is shared with the Lighting function.

- 4 In the <Spot Mode> group, select the type of light source (see page 292).

**Parallel:** Parallel light source. The direction can be set.

**Point:** Point light source. The position can be set.

**Line:** Line light source. The position and angle can be set.

**Whole:** Non-directional light source which illuminates the whole image (no settings).

- 5** According to the selected light source type, set the following parameters.

#### When you selected Parallel

| Knob | Parameter | Adjustment | Setting values               |
|------|-----------|------------|------------------------------|
| 1    | Longitude | Longitude  | –8.00 to +8.00 <sup>a)</sup> |
| 2    | Latitude  | Latitude   | –8.00 to +8.00               |

a) Minus moves counterclockwise, plus moves clockwise.

#### When you selected Point

##### • SD format

| Knob | Parameter | Adjustment                   | Setting values               |
|------|-----------|------------------------------|------------------------------|
| 1    | X         | Movement in X-axis direction | –6.00 to +6.00 <sup>a)</sup> |
| 2    | Y         | Movement in Y-axis direction | –6.00 to +6.00 <sup>b)</sup> |
| 3    | Z         | Movement in Z-axis direction | –6.00 to +6.00 <sup>c)</sup> |

a) Minus moves left, plus moves right.

b) Minus moves down, plus moves up.

c) Minus moves forward, plus moves deeper.

##### • HD format

| Knob | Parameter | Adjustment                   | Setting values                 |
|------|-----------|------------------------------|--------------------------------|
| 1    | X         | Movement in X-axis direction | –24.00 to +24.00 <sup>a)</sup> |
| 2    | Y         | Movement in Y-axis direction | –24.00 to +24.00 <sup>b)</sup> |
| 3    | Z         | Movement in Z-axis direction | –24.00 to +24.00 <sup>c)</sup> |

a) Minus moves left, plus moves right.

b) Minus moves down, plus moves up.

c) Minus moves forward, plus moves deeper.

#### When you selected Line

##### • SD format

| Knob | Parameter | Adjustment                   | Setting values               |
|------|-----------|------------------------------|------------------------------|
| 1    | X         | Movement in X-axis direction | –6.00 to +6.00 <sup>a)</sup> |
| 2    | Y         | Movement in Y-axis direction | –6.00 to +6.00 <sup>b)</sup> |
| 3    | Z         | Movement in Z-axis direction | –6.00 to +6.00 <sup>c)</sup> |
| 4    | Longitude | Longitude                    | –8.00 to +8.00 <sup>d)</sup> |

a) Minus moves left, plus moves right.

b) Minus moves down, plus moves up.

c) Minus moves forward, plus moves deeper.

d) Minus moves counterclockwise, plus moves clockwise.

##### • HD format

| Knob | Parameter | Adjustment                   | Setting values                 |
|------|-----------|------------------------------|--------------------------------|
| 1    | X         | Movement in X-axis direction | –24.00 to +24.00 <sup>a)</sup> |
| 2    | Y         | Movement in Y-axis direction | –24.00 to +24.00 <sup>b)</sup> |
| 3    | Z         | Movement in Z-axis direction | –24.00 to +24.00 <sup>c)</sup> |
| 4    | Longitude | Longitude                    | –8.00 to +8.00 <sup>d)</sup>   |

a) Minus moves left, plus moves right.

b) Minus moves down, plus moves up.

c) Minus moves forward, plus moves deeper.

d) Minus moves counterclockwise, plus moves clockwise.

- 6** In the <Axis Select> group, select the coordinate space in which to place the light source.

**Source:** Place the light source in the source coordinate space. The spotlight moves when the image moves.

**Target:** Place the light source in the target coordinate space. The spotlight does not move, even when the image moves.

*For details of the coordinate space in which to place the light source, see “Linking and unlinking image and spotlight” (page 292).*

#### To set a test sphere

- 1** In the Light 1 menu, press [Test Sphere], turning it on.

A test sphere effect appears on the surface of the image.

- 2** Adjust the following parameter.

| Knob | Parameter | Adjustment        | Setting values                   |
|------|-----------|-------------------|----------------------------------|
| 5    | Amp       | Distance of light | –100.00 to +100.00 <sup>a)</sup> |

a) Light appears from Z direction. At –100.00 the light goes deepest, at +100.00 the whole image is lit like a flat effect.

#### To select the lighted area

In the <Area Select> group, select one of the following.

**FRGD:** The light strikes the image foreground.

**BKGD:** The light strikes the image background.

**Both:** The light strikes both foreground and background.

*For more information about the lighted area, see “Selecting the lighted area” (page 292).*

#### Notes

- If you select [Multiply] in the <Fill Blending Mode> group of the Light Color Adjust menu (see page 298),

the light effect is not applied to the background, even if you select BKGD or Both.

- If the setting of [Brilliancy] in the <Fill Source> group of the Light Color Adjust menu (*see page 298*) is 100.00, the light effect is not applied to the background, even if you select BKGD or Both.
- When the global effect Combiner is set to Mix or Depth, the light effect is not applied to the background, even if you select BKGD or Both.

### To select Surface Flat

Press [Surface Flat], turning it on.

If you have selected anything other than Flat in the <Surface Select> group of the Spot Lighting menu, the part corresponding only to the surface being struck by the currently set light from the light source is shown in the same way as if Flat had been selected.

### To set the shape of the light

**1** Press [Shape], turning it on.

**2** Set the following parameters.

#### SD format

| Knob | Parameter | Adjustment                      | Setting values               |
|------|-----------|---------------------------------|------------------------------|
| 1    | Shape Ptn | Shape pattern                   | 1 to 2 <sup>a)</sup>         |
| 2    | Size      | Shape size                      | 0.00 to 6.00                 |
| 3    | Deform    | Amount of shape deformation     | 0.00 to 100.00 <sup>b)</sup> |
| 4    | Soft      | Softness of shape pattern       | 0.00 to 100.00               |
| 5    | Angle     | Angle of shape pattern rotation | –8.00 to +8.00 <sup>c)</sup> |

a) For more information about the shape patterns, see “Shape Patterns” (*page 361*) in the Appendix.

b) 0 is a round shape, and 100 is the shape of the pattern. Smaller values make the pattern more rounded.

c) –1.00 is one rotation in the counterclockwise direction. +1.00 is one rotation in the clockwise direction.

#### HD format

| Knob | Parameter | Adjustment                      | Setting values               |
|------|-----------|---------------------------------|------------------------------|
| 1    | Shape Ptn | Shape pattern                   | 1 to 2 <sup>a)</sup>         |
| 2    | Size      | Shape size                      | 0.00 to 24.00                |
| 3    | Deform    | Amount of shape deformation     | 0.00 to 100.00 <sup>b)</sup> |
| 4    | Soft      | Softness of shape pattern       | 0.00 to 100.00               |
| 5    | Angle     | Angle of shape pattern rotation | –8.00 to +8.00 <sup>c)</sup> |

a) For more information about the shape patterns, see “Shape Patterns” (*page 361*) in the Appendix.

b) 0 is a round shape, and 100 is the shape of the pattern. Smaller values make the pattern more rounded.

c) –1.00 is one rotation in the counterclockwise direction. +1.00 is one rotation in the clockwise direction.

### To rotate the shape pattern

**1** Press [Shape Speed], turning it on.

The display on knob 5 that was visible when [Shape] was selected changes.

**2** Set the following parameter.

| Knob | Parameter | Adjustment                   | Setting values                   |
|------|-----------|------------------------------|----------------------------------|
| 5    | Speed     | Rotation direction and speed | –100.00 to +100.00 <sup>a)</sup> |

a) –100.00 is four rotations per second in the counterclockwise direction, and +100.00 is four rotations per second in the clockwise direction. 0.00 stops the rotation.

### To change the light to a ring shape

#### Notes

If you select Parallel or Whole (*see page 295*) in the <Spot Mode> group and shaping is disabled, the Ring parameter cannot be set.

**1** Press [Ring], turning it on.

**2** Set the following parameter.

#### SD format

| Knob | Parameter | Adjustment                           | Setting values               |
|------|-----------|--------------------------------------|------------------------------|
| 1    | Offset    | Offset from center position (radius) | –6.00 to +6.00               |
| 2    | Radius    | Radius of ring                       | 0.00 to 6.00                 |
| 3    | Angle     | Rotation angle of ring               | –8.00 to +8.00 <sup>a)</sup> |

a) –1.00 is one rotation in the counterclockwise direction and +1.00 is one rotation in the clockwise direction.

#### Notes

There is no Radius setting when Line is selected in the <Spot Mode> group.

#### HD format

| Knob | Parameter | Adjustment                           | Setting values               |
|------|-----------|--------------------------------------|------------------------------|
| 1    | Offset    | Offset from center position (radius) | –24.00 to +24.00             |
| 2    | Radius    | Radius of ring                       | 0.00 to 6.00                 |
| 3    | Angle     | Rotation angle of ring               | –8.00 to +8.00 <sup>a)</sup> |

a) -1.00 is one rotation in the counterclockwise direction and +1.00 is one rotation in the clockwise direction.

### Notes

There is no Radius setting when Line is selected in the <Spot Mode> group.

## To rotate the ring

- 1 Press [Ring Speed], turning it on.

The display on knob 3 that was visible when [Ring] was selected changes.

- 2 Set the following parameter.

| Knob | Parameter | Adjustment                   | Setting values                   |
|------|-----------|------------------------------|----------------------------------|
| 3    | Speed     | Rotation speed and direction | -100.00 to +100.00 <sup>a)</sup> |

a) -100.00 is four rotations per second in the counterclockwise direction, and +100.00 is four rotations per second in the clockwise direction. 0.00 stops the rotation.

## To invert the lighted area

Press [Light Invert], turning it on.

## To add color to the light source

- 1 In the Light 1 menu, press [Light Color Adjust].

The Light Color Adjust menu appears.

- 2 In the <Fill Blending Mode> group, select how the light and image should be blended.

**Mix:** Light as if reflected from a mirror.

**Multiply:** Light as if reflected from a dull surface (diffuse reflection).

- 3 If you selected Mix, select the fill color in the <Fill Source> group.

**Flat Color:** A monochrome matte.

**Hue Rotation:** Color matte with a color that gradually varies.

- 4 According to the selection, set the following parameters.

### When you selected Flat Color

| Knob | Parameter  | Adjustment                            | Setting values               |
|------|------------|---------------------------------------|------------------------------|
| 1    | Luminance  | Luminance                             | 0.00 to 100.00               |
| 2    | Saturation | Saturation                            | 0.00 to 100.00               |
| 3    | Hue        | Hue                                   | 359.99 to 0.00               |
| 4    | Brilliance | Brilliance of surface struck by light | 0.00 to 100.00 <sup>a)</sup> |

a) 100.00: The image beneath the light shines through.

## When you selected Hue Rotation

| Knob | Parameter  | Adjustment                            | Setting values                 |
|------|------------|---------------------------------------|--------------------------------|
| 1    | Luminance  | Luminance                             | 0.00 to 100.00                 |
| 2    | Saturation | Saturation                            | 0.00 to 100.00                 |
| 3    | Speed      | Speed at which hue changes            | -12.00 to +12.00 <sup>a)</sup> |
| 4    | Brilliance | Brilliance of surface struck by light | 0.00 to 100.00 <sup>b)</sup>   |

a) -12.00 is a 360-degree rotation every second in the counterclockwise direction. +12.00 is a 360-degree rotation every second in the clockwise direction.

b) 100.00: The image beneath the light shines through.

## Copying or swapping light source settings

You can copy or swap the setting from one light source (Light 1 to Light 3) to another light source.

- 1 In the Spot Lighting menu, press [Copy/Swap].

The Copy/Swap menu appears.

Two lists appear in the status area. The list on the left shows the copy or swap sources, and the list on the right shows the copy or swap destinations.

- 2 Do one of the following to select the target data.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knobs.

| Knob | Parameter | Adjustment                    | Setting values |
|------|-----------|-------------------------------|----------------|
| 1    | Left No   | Copy or swap source data      | 1 to 3         |
| 2    | Right No  | Copy or swap destination data | 1 to 3         |

- 3 Press [Copy] to copy, or [Swap] to swap.

## To undo a copy or swap

Press [Undo]. Settings are returned to their values before the copy or swap.



# Applying Special Effects (Other Effects)

## Background Settings

Adds a color or inputs an external signal to the background of the image.

### Notes

Signal selection for this purpose is not supported on the MVE-8000A.

## Applying the Background effect

- 1 In the DME menu, select VF6 'Input/Output' and HF1 'Bkgd.'

The Bkgd menu appears.

- 2 Press [Bkgd], turning it on.

The Background effect is enabled. Only if Flat Color is selected in the <Bkgd Fill> group, you can adjust the parameters with the knobs.

- 3 Set the following parameters.

| Knob | Parameter  | Adjustment | Setting values |
|------|------------|------------|----------------|
| 1    | Luminance  | Luminance  | 0.00 to 100.00 |
| 2    | Saturation | Saturation | 0.00 to 100.00 |
| 3    | Hue        | Hue        | 359.99 to 0.00 |

## Selecting the signal to insert in the background

When using the MVE-9000, you can select the signal to insert in the background.

With [Bkgd] set on, use the following procedure.

- 1 In the <Bkgd Fill> group, select one of the following.

**Flat Color:** single color

**Mix Color:** mix color signal set in the Color Mix menu (*see page 257*)

**Ext Video:** an external video signal input to the Ext IN connector

### Notes

- "Mix Color" or "Ext Video" can only be applied to one of the background, flex shadow (*see page 251*), trail (*see page 286*), and wind (*see page 290*) effects. If you select "Mix Color" or "Ext Video" in one of

these settings, a selection of "Mix Color" or "Ext Video" in any of the other effects is disabled, and "Flat Color" is selected in its place.

- When executing combining four channels of DME images, "Mix Color" and "Ext Video" cannot be selected.

- 2 Only if Flat Color is selected in step 1, adjust the following parameters.

| Knob | Parameter  | Adjustment | Setting values |
|------|------------|------------|----------------|
| 1    | Luminance  | Luminance  | 0.00 to 100.00 |
| 2    | Saturation | Saturation | 0.00 to 100.00 |
| 3    | Hue        | Hue        | 359.99 to 0.00 |

## Separate Sides Settings

Applies separate video signals and key signals to the front and back of the image.

## Applying the Separate Sides effect

- 1 In the DME menu, select VF6 'Input/Output' and HF2 'Video/Key.'

The Video/Key menu appears.

- 2 Press [Separate Side], turning it on.

The Separate Sides effect is enabled. If the video and key signals currently being output to the monitor are the front side, you can select the front signals. If they are the back side, you can select the back signals.

Video and key signals are selected with the cross-point control blocks of each M/E bank or the PGM/PST bank.

## Shaped Video Settings

For each of the front and back sides of the image, specifies whether to handle input video from the switcher as shaped video (key processed signals).

You can also make these settings for the output video.

### Notes

- When using an SDI interface, with the [PROC KEY] not selected in the output destination buttons, then the shaped video function is enabled.
- When using the dedicated interface or SDI interface, with [PROC KEY] selected in the output destination buttons, since the input video signal to the first channel is always set to the key processed signal on the switcher, the shaped video setting is always on. For the second and

third channel signals, this will be turned off. For the output video, this is always on.

## Switching shaped video on or off

- 1 In the DME menu, select VF6 'Input/Output' and HF2 'Video/Key.'

The Video/Key menu appears.

- 2 In the <Shaped Video> group, press each of the following buttons to switch it on or off.

**Front Input:** When this is on, the front image of the input video signal is treated as shaped video.

**Back Input:** When this is on, the back image of the input video signal is treated as shaped video.

**Output:** When this is on, the output video signal is treated as shaped video.

### About on and off for shaped video input (Front Input/Back Input)

Switch shaped video on and off according to the input video signals.

For example, switch the shaped video input on when the input signal is a key processed image such as computer graphics.

Switch the shaped video input off when the input signal is not key processed, for example when a video signal taken with a camera is cut out with a title or other key signal.

### About on and off for shaped video output

Switch the shaped video output on and off to match the on and off state of the switcher clean video mode.

Also, when the shaped video output is on, it is recommended that the switcher key type be set to linear key.

### About the relationship between shaped video output and effects

When the shaped video output is off, the video signal before key processing is output. According to the selected effect, the following states may result.

- (a) The output video signal is affected by the key signal.
- (b) When key processing is done, a different image may appear in the parts which are removed.
- (c) There is no change in the output video signal for effects which are applied to key signals only.

When multiple effects are applied, the order of priority is (a) > (b) > (c).

The following explains the relationship between effects and states (a), (b), and (c).

#### (a) The output video signal is affected by the key signal

The output video signal is affected by the key signal when the following effects are selected. To prevent the signal

from being affected, set the DME key source to Int Key, or choose an appropriate input key signal.

Page Turn, Roll, Cylinder, Sphere, Spotighting, global effects (Combiner, Brick, Shadow)

#### (b) When key processing is done, a different image may appear in the parts which are removed

The following states result, depending on the selected effect.

Removal with the key can be checked by turning the background on.

**Border, Beveled Edge:** Added also to the outer side of the cropped video signal.

**Trail, Keyframe Strobe:** The key signal level of the afterimage portion varies with adjustments of the knob (Decay), but the afterimage portion of the video signal does not disappear until Trail Eraser (KF Strobe Eraser) is turned on or the effect is turned off.

**Lighting:** The Lighting effect is applied to the whole picture.

**Spotighting:** If BKGD or Both is selected in the <Area Select> group, light strikes the entire background.

#### (c) No change in the output video signal for effects which are applied to key signals only

The following states result, depending on the selected effect.

Removal with the key can be checked by turning the background on.

**Crop:** The Copy effect is applied to the key signal only. The video signal does not change.

**Edge Soft:** The Edge Soft effect is applied to the key signal only. The video signal does not change.

**Shadow, Flex Shadow, Combine Shadow:** The key signal density changes. The video signal does not change.

**Fade:** The key signal density changes according to depth data. The video signal does not change.

**Key Density:** The key signal density changes. The video signal does not change.

## Invert Settings

Inverts the input video signal and/or key signal horizontally or vertically. You can make separate settings for the front and back.

### Applying the Invert effect

- 1 In the DME menu, select VF6 'Input/Output' and HF2 'Video/Key.'

The Video/Key menu appears.

- 2 In the <Front> group (to invert front signals) or the <Back> (to invert back signals), press the following buttons, turning them on.

**H Invert:** Invert video and key signals horizontally.

**V Invert:** Invert video and key signals vertically.

## Key Density Settings

You can adjust the key density for the key signal input to the DME.

### Setting the key density

- 1 In the DME menu, select VF6 'Input/Output' and HF2 'Video/Key.'

The Video/Key menu appears.

- 2 Press [Key Density], turning it on.

- 3 Set the following parameter.

| Knob | Parameter   | Adjustment  | Setting values |
|------|-------------|-------------|----------------|
| 1    | Key Density | Key density | 0.00 to 100.00 |

## Key Source Selection

You can select either the key signals received from the switcher or the key signals generated in the DME for application to the front and back of the image.

### Selecting the key source signals

#### Notes

When the shaped video setting (*see page 299*) is on, it is not possible to select the key source. It is fixed as "Ext Key" as listed in the following.

- 1 In the DME menu, select VF6 'Input/Output' and HF2 'Video/Key.'

The Video/Key menu appears.

- 2 In the <Front Key> group or <Back Key> group respectively, press one of the following, turning it on.

**Ext Key:** Use the key signal sent from the switcher as the key source.

**Int Key:** Use the full-size DME internal key signal as the key source.

**Lum Key:** Use the input video luminance signal as the key source.

- 3 When Ext Key or Lum Key is selected in step 2, set the following parameters.

| Knob | Parameter | Adjustment                                | Setting values     |
|------|-----------|---|--------------------|
| 1    | Clip      | Reference level for key signal generation | -7.31 to +109.59   |
| 2    | Gain      | Key sensitivity                           | -100.00 to +100.00 |

#### Notes

- The Ext Key and Lum Key in the <Front Key> group share clip and gain settings. Similarly, Ext Key and Lum Key in the <Back Key> group also share clip and gain settings.
- The Ext Key parameter setting is only enabled when the shaped video setting is off.

## Interpolation Settings

Specifies the methods used for interpolation processing of input video signals and input key signals.

For input video signals, you can select from the following four methods.

- Detect changes in the luminance and chrominance signals separately, and switch automatically between fields and frames. You can select the degree of change detection.
- Detect changes in the luminance signal separately, and switch automatically between fields and frames. You can select the degree of change detection.
- Do interpolation in field units.
- Do interpolation in frame units.

For input key signals, you can select from the following three methods.

- Detect changes in the luminance signal separately, and switch automatically between fields and frames. You can select the degree of change detection.
- Do interpolation in field units.
- Do interpolation in frame units.

You can also select the number of pixels used in interpolation processing, and select the method used to show the picture reduced or expanded.

Further, you can apply an anti-moiré filter to reduce the moiré patterns created by interpolation.

#### Notes

- Interpolation processing is possible for the following signal formats and DME systems.
  - MVE-8000A: 480i/59.94, 576i/50
  - MVE-9000 and MKS-7470X/7471X: 480i/59.94, 576i/50, 1080i/59.94, 1080i/50
- The anti-moiré filter is effective when using the MVE-8000A.

## Selecting an interpolation method for input video signals

- 1 In the DME menu, select VF6 'Input/Output' and HF3 'Process.'

- 2 In the <Video Field/Frame Mode> group, select the interpolation method for the video signal.

**Adaptive Y/C:** Detect changes in the luminance and chrominance components of the video signal separately, and switch automatically between fields and frames.

**Adaptive Y:** Detect changes in the luminance component of the video signal separately, and switch automatically between fields and frames.

**Field:** Do interpolation in field units. This gives natural movement, suitable for moving video.

**Frame:** Do interpolation in frame units. This gives higher image precision, suitable for still pictures.

- 3 When you select Adaptive Y/C or Adaptive Y in step 2, set the following parameter.

| Knob | Parameter | Adjustment                 | Setting values |
|------|-----------|----------------------------|----------------|
| 1    | Mode      | Degree of motion detection | 1 to 4         |

- 4 In the <Key Field/Frame Mode> group, select the interpolation method for the key signal.

**Adaptive:** Detect changes in the luminance component of the key signal separately, and switch automatically between fields and frames.

**Field:** Do interpolation in field units. This gives natural movement, suitable for moving video.

**Frame:** Do interpolation in frame units. This gives higher image precision, suitable for still pictures.

- 5 When you select Adaptive in step 4, set the following parameter.

| Knob | Parameter | Adjustment                 | Setting values |
|------|-----------|----------------------------|----------------|
| 1    | Mode      | Degree of motion detection | 1 to 4         |

- 6 In the <Interpolation Mode> group, set the number of pixels to use in interpolation.

**Multi:** Use multi-point interpolation. This gives higher picture quality.

**Linear:** Use two-point interpolation.

- 7 In the <Filter Mode> group, select the method used to show the picture reduced or expanded.

**Mode1 (standard):** Even when the picture is reduced, add compensation so that it can be seen clearly.

**Mode2 (soft):** Suppress aliasing when expanding or reducing the picture.

**Mode3 (sharp):** Do not suppress aliasing when expanding or reducing the picture.

## Applying the anti-moiré filter

You can reduce the moiré patterns created by interpolation when an image is enlarged, compressed, or rotated.

### Notes

This function is effective when using MVE-8000A.

- 1 In the DME menu, select VF6 'Input/Output' and HF3 'Process.'

The Process menu appears.

- 2 Press [Anti Moire Filter], turning it on.

- 3 Set the following parameter.

| Knob | Parameter         | Adjustment                | Setting values |
|------|-------------------|---------------------------|----------------|
| 1    | Anti Moire Filter | Amount of moiré reduction | 1 to 8         |

## Corner Pinning Settings

### Notes

When the Brick effect is enabled, the Corner Pinning function cannot be used.

## Setting the Foreground Corner Pinning positions

- 1 In the DME menu, select VF4 'Non Linear/Corner Pin', HF2 'Corner Pinning.'

The Corner Pinning menu appears.

- 2 Set [Corner Pinning] to On.

- 3 Set [Corner Marker] to On.

A marker appears for each corner. The marker for the selected corner is distinguished from the other markers.



- 4** In the <Corner Select> group, select the corner to operate on.

**Top Left:** Top left

**Top Right:** Top right

**Bottom Left:** Bottom left

**Bottom Right:** Bottom right

**All:** All four corners

- 5** Turn the knobs to adjust the position of the corner selected in step 4.

The parameter setting ranges depend on the system's selected signal format (SD/HD) and aspect ratio (4:3/16:9) combination, as follows.

#### 4:3 mode

| Knob | Parameter | Adjustment                   | Setting values   |
|------|-----------|------------------------------|--|
| 1    | Pos X     | Movement in X-axis direction | –8.00 to +8.00 (SD) <sup>a)</sup><br>–24.00 to +24.00 (HD) <sup>a)</sup> |
| 2    | Pos Y     | Movement in Y-axis direction | –6.00 to +6.00 (SD) <sup>a)</sup><br>–18.00 to +18.00 (HD) <sup>a)</sup> |

a) When the selection for operation is "All," the Top Left value appears, and the knobs move all four corners correspondingly.

#### 16:9 mode

| Knob | Parameter | Adjustment                   | Setting values   |
|------|-----------|------------------------------|--|
| 1    | Pos X     | Movement in X-axis direction | –8.00 to +8.00 (SD) <sup>a)</sup><br>–32.00 to +32.00 (HD) <sup>a)</sup> |
| 2    | Pos Y     | Movement in Y-axis direction | –4.50 to +4.50 (SD) <sup>a)</sup><br>–18.00 to +18.00 (HD) <sup>a)</sup> |

a) When the selection for operation is "All," the Top Left value appears, and the knobs move all four corners correspondingly.

### Resetting the corner positions

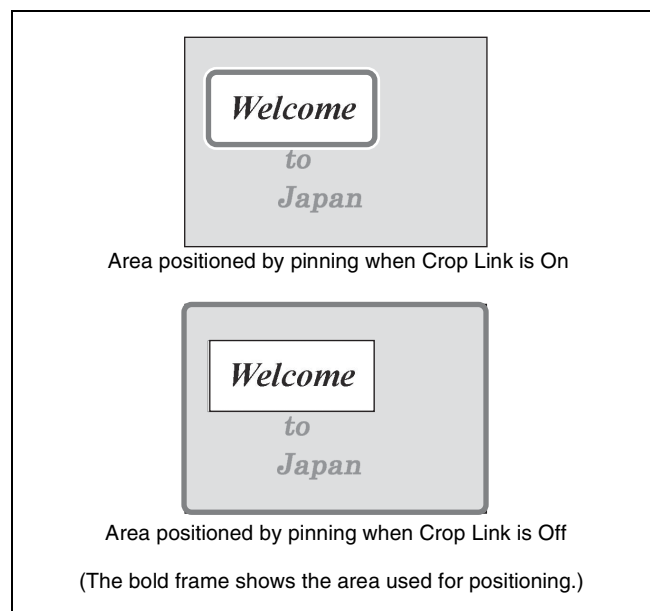
In the Corner Pinning menu, press [Reset Corner].

### Selecting the area used for pinning

When the foreground is cropped, press [Crop Link] to select either of the following.

**On:** Use the area of the cropped image for positioning

**Off:** Use the area of the entire image, including the part hidden by cropping (shaded in the diagram below) for positioning



### Adjusting the density of the foreground

You can adjust the density of the foreground image to be translucent so that the background shows through, making it easier to position the corners.

#### Notes

This setting is not saved in a key frame or snapshot.

- 1 In the Corner Pinning menu, set [Video Through] to On.
- 2 Turn the knob to adjust the following parameter.

| Knob | Parameter | Adjustment    | Setting values |
|------|-----------|---------------|----------------|
| 4    | Density   | Image density | 0.00 to 100.00 |

### Adjusting the zoom

You can enlarge the image around the corner being adjusted, to allow fine positioning of the corner.

#### Notes

- This setting is not saved in a key frame or snapshot.
- This function is only enabled when combine is set.
- When all four corners are being positioned, this function cannot be used.

- 1 In the Corner Pinning menu, press [Zoom Enable], turning it On.
- 2 Turn the knob to adjust the following parameter.

| Knob | Parameter | Adjustment                          | Setting values |
|------|-----------|-------------------------------------|----------------|
| 5    | Zoom      | Degree of zooming in on the corners | 1.00 to 16.00  |



Zoom Off



Zoom On

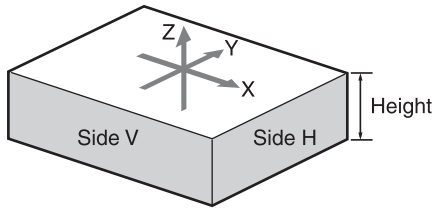
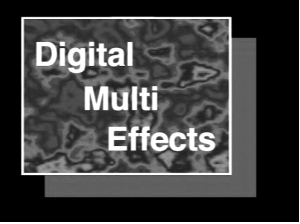
# Global Effect Operations

## Overview

Global effects are special effects created by combining the images of successive channels. The Global Effect menu is used to add these effects. The following types of global effects are available.

### Notes

On the MVE-8000A, when the signal format is 1080P, of the following effects, three or more channel combiner and brick effects cannot be used.

| Name     | Effect/Image  |
|----------|---|
| Combiner | Automatically combines the selected images when multiple channels are selected on one keyer or for one transition.                                      |
| Brick    | Creates a rectangular parallelepiped from 3 successive channels.<br> |
| Shadow   | Gives the image a shadow.<br>                                      |

## Operations Common to All Global Effects

In this section, explanations of the operating procedures for individual global effects begin with selections from VF1 'Ch1 - Ch4' in the Global Effect menu. The following are common operations that you must do prior to selecting from this menu.

- 1 In the device control block, select the target DME channel.
- 2 In the menu control block, press the top menu selection button [GLB EFF], then select VF1 'Ch1 - Ch4.'

The Global Effect >Ch1 - Ch4 menu appears.

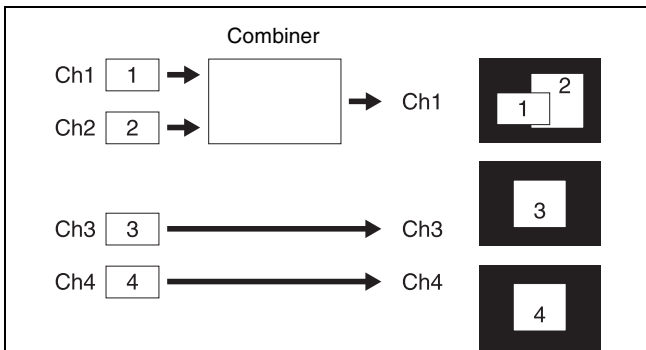
## Combiner Settings

When multiple channels are selected on one keyer or for one transition, the Combiner automatically combines the selected images. Up to four channels can be combined. You can also control the way in which the combination is carried out, as a mix or an overlap with priority set automatically. For a mix, you can control the relative amounts of each channel. Images can also be crossed in three dimensions.

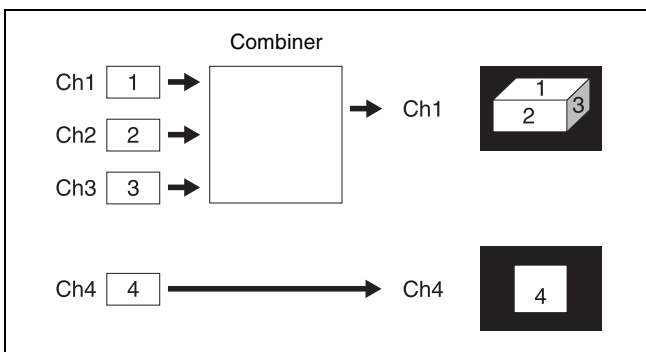
### Notes

Three-dimensional image crossing is not supported on the MVE-8000A.

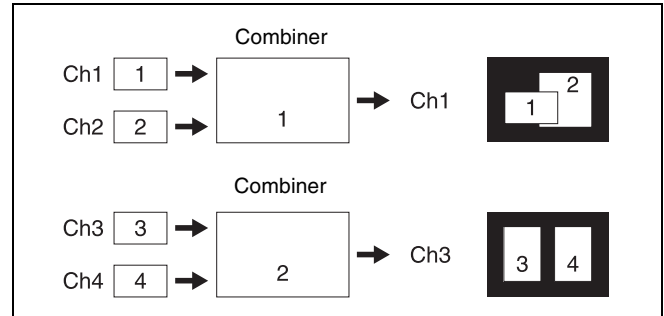
### Combination of channel 1 (Ch1) and channel 2 (Ch2)



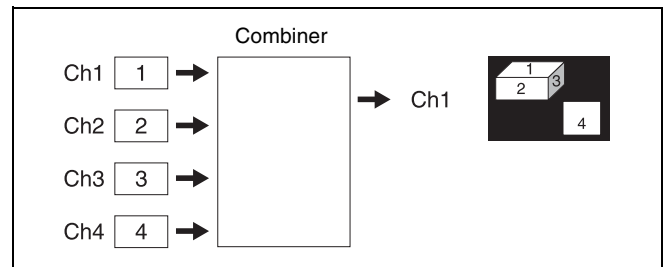
### Combination of Ch1, Ch2, and Ch3



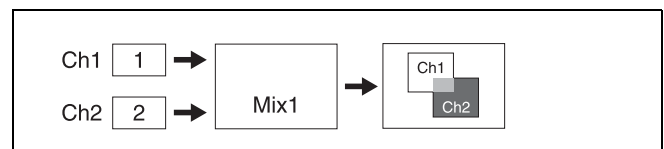
## Combination of Ch1 and Ch2 / combination of Ch3 and Ch4



### Combination of Ch1, Ch2, Ch3, and Ch4



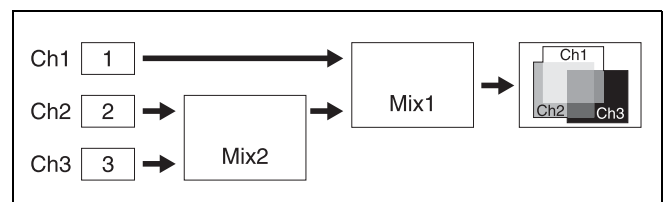
### Mixing Ch1 and Ch2



If the Mix1 setting is 70, the proportion of the channels in the mixed portion in the previous illustration is as shown in the following table.

| Combination | Indication in figure | Ch1 | Ch2 |
|-------------|----------------------|-----|-----|
| Ch1 and Ch2 |                      | 30% | 70% |

### Mixing Ch1, Ch2, and Ch3

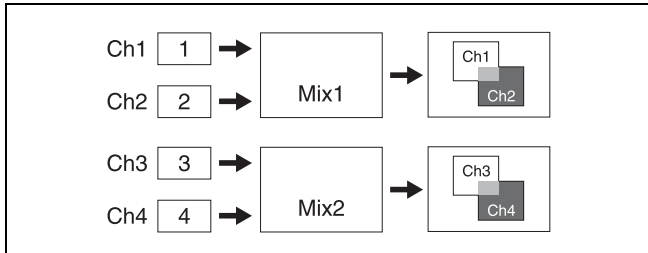


If the Mix1 setting is 70 and the Mix2 setting is 40, the proportions of the channels in the mixed portions in the previous illustration are as shown in the following table.

| Combination | Indication in figure | Ch1 | Ch2 | Ch3 |
|-------------|----------------------|-----|-----|-----|
| Ch1 and Ch2 |                      | 30% | 70% | —   |
| Ch2 and Ch3 |                      | —   | 60% | 40% |
| Ch1 and Ch3 |                      | 30% | —   | 70% |

| Combination       | Indication in figure | Ch1 | Ch2 | Ch3 |
|-------------------|----------------------|-----|-----|-----|
| Ch1, Ch2, and Ch3 |                      | 30% | 42% | 28% |

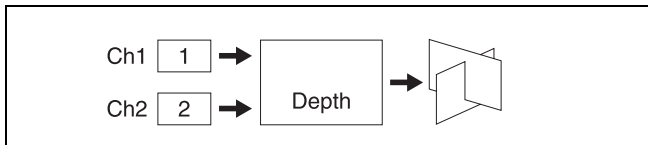
### Pairwise mixing of Ch1 and Ch2, and Ch3 and Ch4



If the Mix1 setting is 70 and the Mix2 setting is 40, the proportions of the channels in the mixed portions in the previous illustration are as shown in the following table.

| Combination | Indication in figure | Ch1 | Ch2 | Ch3 | Ch4 |
|-------------|----------------------|-----|-----|-----|-----|
| Ch1 and Ch2 |                      | 30% | 70% | —   | —   |
| Ch3 and Ch4 |                      | —   | —   | 60% | 40% |

### Ch1 crossed with Ch2



## Setting the combiners

The setting menu differs according to the combiner usage status.

This section shows the cases of “Ch1+Ch2+Ch3” and “Ch1+Ch2, Ch3+Ch4” as examples.

*For details of operating procedures when using an SDI interface, see “Procedure for combine operation when using an SDI interface” (page 306).*

- 1 In the Global Effect >Ch1- Ch4 menu, select HF1 ‘Combiner Priority.’

The Combiner Priority menu appears.

- 2 If [Mix], [Auto] or [Depth] is on, turn it off.

- 3 Set the overlap priority for “Ch1+Ch2+Ch3” or “Ch1+Ch2, Ch3+Ch4” as follows.

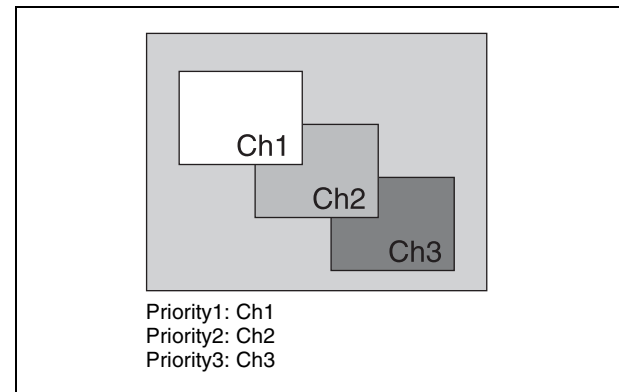
#### For case “Ch1+Ch2+Ch3”

Under <Priority1> to <Priority3>, press [Ch1], [Ch2], and [Ch3], respectively, to set the overlap priority.

**Priority1:** Select the channel with the highest priority.

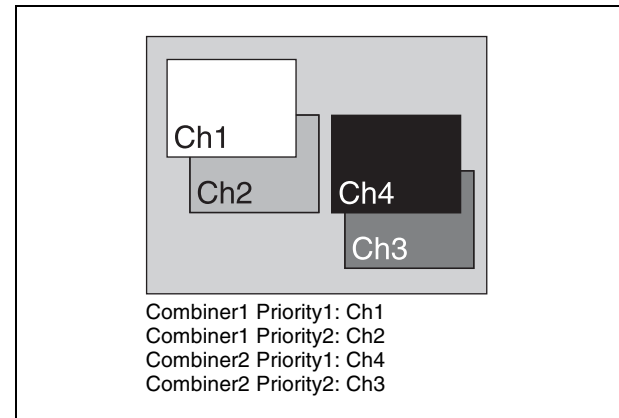
**Priority2:** Select the channel with the second highest priority.

**Priority3:** Select the channel with the lowest priority.



#### For case “Ch1+Ch2, Ch3+Ch4”

Under <Combiner 1 Priority 1> and <Combiner 1 Priority 2>, press [Ch1] and [Ch2], respectively, and under <Combiner 2 Priority 1> and <Combiner 2 Priority 2>, press [Ch4] and [Ch3], respectively, to set the priorities for overlaying the images.



## Procedure for combine operation when using an SDI interface

Use the following procedure only when the DME with an SDI interface.

### Notes

It is not possible to select channels with buttons in the key control block.

In the following, the example given is that channels 2 and 3 are combined, then channels 1+2 and channels 3+4 are combined, but other combinations are also possible.

- 1 In the Global Effect menu, select VF1 ‘Ch1-Ch4’ and HF7 ‘Combine Gp Select.’

The Combine Gp Select menu appears.

- 2 In the <Combine Gp Select> group, select the channel combination.



- To combine channels 2 and 3, press [Ch2+Ch3], turning it on.
- To combine the previously combined combinations of channels 1 and 2, and channels 3 and 4, press [Ch1+Ch2] and [Ch3+Ch4], turning them on.

### Notes

The only two buttons that can be selected simultaneously are the combination of [Ch1+Ch2] and [Ch3+Ch4].

The selected channels are combined.

### To cancel a combine

When for example [Ch2+Ch3] is on, pressing [Ch2+Ch3] once more turns it off. Alternatively, pressing a different combination button to select it cancels the combine selection for the current combination.

## Mixing the images of up to four consecutive channels

- 1 In the Combiner Priority menu, press [Mix], turning it on.
- 2 Adjust the following parameters.

### For case “Ch1+Ch2”

| Knob | Parameter | Adjustment | Setting values               |
|------|-----------|------------|------------------------------|
| 1    | Mix       | Mix degree | 0.00 to 100.00 <sup>a)</sup> |

a) See “Mixing Ch1 and Ch2” (page 305).

### For case “Ch1+Ch2+Ch3”

| Knob | Parameter | Adjustment  | Setting values               |
|------|-----------|---|------------------------------|
| 1    | Mix1      | Mix degree for mix of channel 1 with result of Mix2 | 0.00 to 100.00 <sup>a)</sup> |
| 2    | Mix2      | Mix degree for channels 2 and 3                     | 0.00 to 100.00 <sup>a)</sup> |

a) See “Mixing Ch1, Ch2, and Ch3” (page 305).

### For case “Ch1+Ch2+Ch3+Ch4”

Knobs 1 and 2 set the same parameters as “For case ‘Ch1+Ch2+Ch3’,” respectively. Knob 3 is additionally effective, which sets the parameter Mix3 (in the same setting value range as with knobs 1 and 2).

## Mixing pairwise the images of channels 1 and 2, and channels 3 and 4

- 1 In the Combiner Priority menu, press [Combiner1 Mix], turning it on.

- 2 Adjust the following parameter.

| Knob | Parameter | Adjustment                      | Setting values               |
|------|-----------|---------------------------------|------------------------------|
| 1    | Mix1      | Mix degree for channels 1 and 2 | 0.00 to 100.00 <sup>a)</sup> |

a) See “Pairwise mixing of Ch1 and Ch2, and Ch3 and Ch4” (page 306).

- 3 Press [Combiner2 Mix], turning it on.

- 4 Adjust the following parameter.

| Knob | Parameter | Adjustment                      | Setting values               |
|------|-----------|---------------------------------|------------------------------|
| 1    | Mix2      | Mix degree for channels 3 and 4 | 0.00 to 100.00 <sup>a)</sup> |

a) See “Pairwise mixing of Ch1 and Ch2, and Ch3 and Ch4” (page 306).

## Automatically setting the priority of overlapping images

To set the system so that the priority of overlapping images is automatically determined by their position on the Z-axis, in the Combiner Priority menu, press [Auto], turning it on.

### Notes

It is not possible to cross images. If an image is rotated, the priority is determined by the position on the Z-axis of the center of the image.

## Crossing images from up to four consecutive channels in three dimensions

### Notes

The three-dimensional crossing function is not supported on the MVE-8000A.

- 1 In the Combiner Priority menu, press [Depth], turning it on.
- 2 Set the following parameters.

### For case “Ch1+Ch2”

| Knob | Parameter | Adjustment                           | Setting values |
|------|-----------|--------------------------------------|----------------|
| 1    | Soft      | Softness of edges of crossed section | 0.00 to 100.00 |

**For case “Ch1+Ch2+Ch3”**

| Knob | Parameter | Adjustment   | Setting values |
|------|-----------|--|----------------|
| 1    | Soft1     | Softness of edges of channel 1 and channel 2 crossed section | 0.00 to 100.00 |
| 2    | Soft2     | Softness of edges of channel 2 and channel 3 crossed section | 0.00 to 100.00 |

**For case “Ch1+Ch2+Ch3+Ch4”**

Knobs 1 and 2 set the same parameters as “For case ‘Ch1+Ch2+Ch3’,” respectively. Knob 3 is additionally effective, which sets the parameter Soft3 (in the same setting value range as with knobs 1 and 2).

## Crossing images from channels 1 and 2, and channels 3 and 4 in three dimensions

**Notes**

The three-dimensional crossing function is not supported on the MVE-8000A.

- 1 In the Combiner Priority menu, press [Combiner1 Depth], turning it on.
- 2 Set the following parameter.

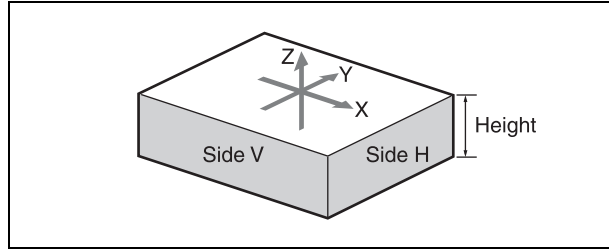
| Knob | Parameter | Adjustment   | Setting values |
|------|-----------|--|----------------|
| 1    | Soft1     | Softness of edges of channel 1 and channel 2 crossed section | 0.00 to 100.00 |

- 3 Press [Combiner2 Depth], turning it on.
- 4 Set the following parameter.

| Knob | Parameter | Adjustment   | Setting values |
|------|-----------|--|----------------|
| 1    | Soft2     | Softness of edges of channel 3 and channel 4 crossed section | 0.00 to 100.00 |

## Brick Settings

Brick allows you to create a rectangular parallelepiped by using images of three consecutive channels. The Brick effect can combine Ch1, Ch2, and Ch3, or combine Ch2, Ch3, and Ch4. The three images are displayed as shown in the following figure.

**Combinations of Ch1, Ch2, and Ch3**

Upper side: Ch1 image  
Side V: Ch2 image  
Side H: Ch3 image

**Combinations of Ch2, Ch3, and Ch4**

Upper side: Ch2 image  
Side V: Ch3 image  
Side H: Ch4 image

You can adjust the height of the brick, the overlap between the three images and the way to insert the side images.

## Applying the Brick effect

- 1 In the Global Effect >Ch1 - Ch4 menu, select HF2 ‘Brick.’

The Brick menu appears.

- 2 Press [Brick], turning it on.

The Brick effect is enabled, and a rectangular parallelepiped (brick) showing the images of three channels appears. You can use the knobs to adjust parameters for the height of the brick and the overlap between the three images.

**Notes**

- When the Brick effect is enabled, the Z-axis position of the front image in the source coordinate frame is shifted by the amount of half the height. Therefore, the image is somewhat magnified.
- The flex shadow function cannot be enabled when Brick is enabled.

However, the flex shadow function is not supported on the MVE-8000A.

- 3 Set the parameters.

| Knob | Parameter      | Adjustment      | Setting values  |
|------|----------------|-----------------|---|
| 1    | Height         | Height of brick | 0.00 to 8.00 <sup>a)</sup><br>0.00 to 32.00 <sup>b)</sup> |
| 2    | Front Overlap  | Front overlap   | -100.00 to +100.00  |
| 3    | Side H Overlap | Side H overlap  | -100.00 to +100.00  |
| 4    | Side V Overlap | Side V overlap  | -100.00 to +100.00  |

- a) Setting for SD 4:3, SD 16:9  
b) Setting for HD 4:3, HD 16:9

- 4** Specify the way to insert the side images when the height is changed by pressing one of the following buttons in the <Side V> group or the <Side H> group.

**Crop:** Crop the parts that do not fit into the side without shrinking the picture. You can set the following parameters.

The valid ranges of the parameter values depend on the combination of signal format (SD/HD) and aspect ratio (4:3/16:9) selected in the system, as follows.

• **4:3 mode**

| Knob | Parameter | Adjustment  | Setting values                               |
|------|-----------|---|--|
| 1    | H         | Position of left crop   | −4.00 to +4.00 (SD)<br>−12.00 to +12.00 (HD) |
| 2    | V         | Position of top crop  | −3.00 to +3.00 (SD)<br>−9.00 to +9.00 (HD)   |
| 3    | Rotation  | Angle of rotation, when rotated around the Z-axis of the source space | 0/90/180/270°                                |

• **16:9 mode**

| Knob | Parameter | Adjustment  | Setting values                               |
|------|-----------|---|--|
| 1    | H         | Position of left crop   | −4.00 to +4.00 (SD)<br>−16.00 to +16.00 (HD) |
| 2    | V         | Position of top crop  | −2.25 to +2.25 (SD)<br>−9.00 to +9.00 (HD)   |
| 3    | Rotation  | Angle of rotation, when rotated around the Z-axis of the source space | 0/90/180/270°                                |

The set position becomes the upper left corner of Side V or Side H. The right and bottom sides of the inserted image are set automatically.

**Compress:** Images are inserted after being compressed. You can set the following parameters.

The valid ranges of the parameter values depend on the combination of signal format (SD/HD) and aspect ratio (4:3/16:9) selected in the system, as follows.

• **4:3 mode**

| Knob | Parameter | Adjustment  | Setting values                               |
|------|-----------|---|--|
| 1    | Top       | Position of top crop  | −2.83 to +3.00 (SD)<br>−8.50 to +9.00 (HD)   |
| 2    | Left      | Position of left crop   | −4.00 to +3.83 (SD)<br>−12.00 to +11.50 (HD) |
| 3    | Right     | Position of right crop  | −3.83 to +4.00 (SD)<br>−11.50 to +12.00 (HD) |
| 4    | Bottom    | Position of bottom crop   | −3.00 to +2.83 (SD)<br>−9.00 to +8.50 (HD)   |
| 5    | Rotation  | Angle of rotation, when rotated around the Z-axis of the source space | 0/90/180/270°                                |

• **16:9 mode**

| Knob | Parameter | Adjustment  | Setting values                               |
|------|-----------|---|--|
| 1    | Top       | Position of top crop  | −2.12 to +2.25 (SD)<br>−8.50 to +9.00 (HD)   |
| 2    | Left      | Position of left crop   | −4.00 to +3.87 (SD)<br>−16.00 to +15.50 (HD) |
| 3    | Right     | Position of right crop  | −3.87 to +4.00 (SD)<br>−15.50 to +16.00 (HD) |
| 4    | Bottom    | Position of bottom crop   | −2.25 to +2.12 (SD)<br>−9.00 to +8.50 (HD)   |
| 5    | Rotation  | Angle of rotation, when rotated around the Z-axis of the source space | 0/90/180/270°                                |

The part of the image defined by Top, Left, Right, and Bottom is magnified or shrunk to fit into Side V or Side H.

**To invert the image in a side face**

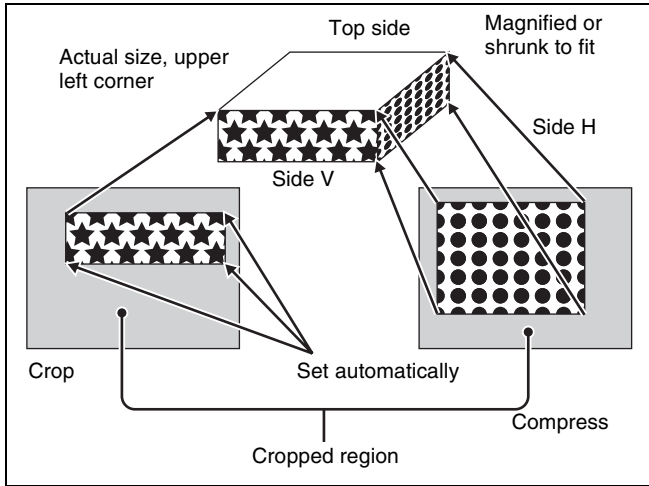
For example, to invert the image on the front of Side H in the <Side H Front> group, press the following buttons, turning them on.

**Invert H:** To invert horizontally.

**Invert V:** To invert vertically.

For the images on the other faces, use a similar operation in the following groups:

- Back image of Side H: <Side H Back> group
- Front image of Side V: <Side V Front> group
- Back image of Side V: <Side V Back> group



## Shadow Settings

The effect uses two successive channels. You can adjust the position and density of the shadow with respect to the image, and the color of the shadow. The channel with the largest number (for example, Ch2 in the case of Ch1 and Ch2) becomes the shadow.

### Notes

When the Combiner function is off, the shadow effect cannot be used.

## Applying the Drop Shadow effect

The Shadow menu allows you to apply the Drop Shadow effect. To access the Shadow menu, in the Global Effect >Ch1 - Ch4 menu select HF3 'Shadow.'

Depending on the selected combiner channels, the valid buttons differ as follows.

| Combiner channel selection | Button     |            |            |                 |                 |
|----------------------------|------------|------------|------------|-----------------|-----------------|
|                            | Ch1 Shadow | Ch2 Shadow | Ch3 Shadow | Ch1+ Ch2 Shadow | Ch2+ Ch3 Shadow |
| Ch1+Ch2                    | Valid      |            |            |                 |                 |
| Ch2+Ch3                    |            | Valid      |            |                 |                 |
| Ch3+Ch4                    |            |            | Valid      |                 |                 |
| Ch1+Ch2 +Ch3               | Valid      | Valid      |            | Valid           |                 |
| Ch2+Ch3 +Ch4               |            | Valid      | Valid      |                 | Valid           |
| Ch1+Ch2 +Ch3+Ch 4          | Valid      | Valid      | Valid      | Valid           |                 |

Taking Ch1 Shadow as an example, the following explains the procedure for applying the Drop Shadow effect.

- 1 Press [Ch1 Shadow], turning it on.

The Drop Shadow effect is enabled, and channel 2 becomes the channel for the shadow to the image. You can adjust the position and density of the shadow with the knobs.

### Notes

The flex shadow function cannot be enabled when Drop Shadow is enabled.

However, the flex shadow function is not supported on the MVE-8000A.

- 2 Set the parameters.

| Knob | Parameter  | Adjustment                 | Setting values   |
|------|------------|----------------------------|--|
| 1    | Position H | Horizontal shadow position | -8.00 to +8.000 <sup>a)</sup><br>-32.00 to +32.000 <sup>b)</sup> |
| 2    | Position V | Vertical shadow position   | -8.00 to +8.000 <sup>a)</sup><br>-32.00 to +32.000 <sup>b)</sup> |
| 3    | Density    | Density of shadow          | 0.00 to 100.00   |

a) Setting for SD 4:3, SD 16:9

b) Setting for HD 4:3, HD 16:9

- 3 In the <Ch1 Shadow Source> group, select the shadow source signal.

**Video:** Select Ch2 video input as the shadow.

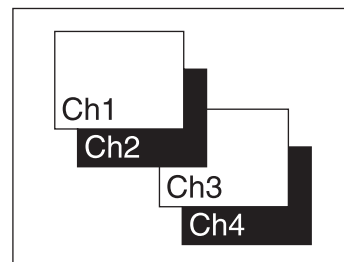
**Flat Color:** Select a matte color as the shadow.

- 4 When you select Flat Color in step 3, adjust the parameters.

| Knob | Parameter  | Adjustment | Setting values |
|------|------------|------------|----------------|
| 1    | Luminance  | Luminance  | 0.00 to 100.00 |
| 2    | Saturation | Saturation | 0.00 to 100.00 |
| 3    | Hue        | Hue        | 359.99 to 0.00 |

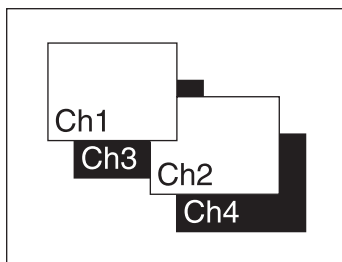
## To combine the video images after applying a shadow

Use the Combiner function to select channel 1 + channel 2 and channel 3 + channel 4, then turn [Ch 1 Shadow] and [Ch 3 Shadow] on.



### To apply a shadow after combining the video images

Use the Combiner function to select channel 1 + channel 2 + channel 3 + channel 4, then turn [Ch 1 + Ch 2 Shadow] on.



























# Appendix (Volume 1)










## Wipe Pattern List





















### Interpreting the illustrations for patterns

The black part of the pattern represents the old video, and the white part the new video, with the wipe taking place in the direction of the arrow.

### Standard Wipes

|    |   |    |   |    |   |    |   |    |   |    |   |
|----|---|----|---|----|---|----|---|----|---|----|---|
| 1  |   | 2  |   | 3  |   | 4  |   | 5  |   | 6  |   |
| 7  |  | 8  |  | 9  |  | 10 |  | 11 |  | 12 |  |
| 13 |  | 14 |  | 15 |  | 16 |  | 17 |  | 18 |  |
| 19 |  | 20 |  | 21 |  | 22 |  | 23 |  | 24 |  |

| Enhanced Wipes |   |     |   |     |   |    |  |     |   |     |   |
|----------------|---|-----|---|-----|---|----|--|-----|---|-----|---|
| 26             |  | 27  |  | 29  |  | 49 |  | 300 |  | 301 |  |
| 302            |  | 303 |  | 304 |  |    |  |     |   |     |   |

| Rotary Wipes |   |     |   |     |   |     |  |     |   |     |   |
|--------------|---|-----|---|-----|---|-----|--|-----|---|-----|---|
| 100          |    | 101 |    | 102 |    | 103 |    | 104 |    | 105 |    |
| 106          |   | 107 |   | 150 |   | 151 |   | 156 |   | 158 |   |
| 160          |  | 162 |  | 516 |  | 518 |  | 604 |  | 606 |  |
| 624          |  | 661 |  |     |   |     |  |     |   |     |   |

# Mosaic Wipes

|     |  |     |  |     |  |     |  |     |  |     |  |
|-----|--|-----|--|-----|--|-----|--|-----|--|-----|--|
| 200 |  | 201 |  | 202 |  | 203 |  | 206 |  | 207 |  |
| 208 |  | 209 |  | 210 |  | 211 |  | 212 |  | 213 |  |
| 220 |  | 221 |  | 222 |  | 223 |  | 224 |  | 225 |  |
| 226 |  | 227 |  | 228 |  | 229 |  | 230 |  | 231 |  |
| 232 |  | 233 |  | 234 |  | 235 |  | 236 |  | 237 |  |
| 238 |  | 239 |  | 240 |  | 241 |  | 242 |  | 243 |  |
| 244 |  | 245 |  | 246 |  | 247 |  | 250 |  | 251 |  |
| 252 |  | 253 |  | 254 |  | 255 |  | 256 |  | 257 |  |
| 260 |  | 261 |  | 262 |  | 263 |  | 264 |  | 265 |  |
| 266 |  | 267 |  | 268 |  | 269 |  |     |  |     |  |



# Random/Diamond Dust Wipes

|     |   |     |   |     |   |     |  |     |   |
|-----|---|-----|---|-----|---|-----|--|-----|---|
| 270 |  | 271 |  | 272 |  | 273 |  | 274 |  |
|-----|---|-----|---|-----|---|-----|--|-----|---|

# DME Wipe Pattern List

**Notes**

When 3M/E mode or 4M/E mode is selected on the MVS-7000X, there are cases in which utility bus 1 (U1) appears

instead of utility bus 2 (U2) and utility bus 2 (U2) does not appear.

## DME Wipe Patterns Available in One-Channel Mode

**Slide**

|      |  |      |  |      |  |      |  |      |  |      |  |
|------|--|------|--|------|--|------|--|------|--|------|--|
| 1001 |  | 1002 |  | 1003 |  | 1004 |  | 1005 |  | 1006 |  |
| 1007 |  | 1008 |  |      |  |      |  |      |  |      |  |









**Split**

|      |  |      |  |      |  |
|------|--|------|--|------|--|
| 1011 |  | 1012 |  | 1013 |  |
|------|--|------|--|------|--|














**Squeeze**

|      |  |      |  |      |  |      |  |      |  |      |  |
|------|--|------|--|------|--|------|--|------|--|------|--|
| 1021 |  | 1022 |  | 1023 |  | 1024 |  | 1025 |  | 1026 |  |
| 1027 |  | 1028 |  | 1029 |  | 1030 |  | 1031 |  |      |  |











Door

|      |   |      |   |      |   |      |  |      |   |      |   |
|------|---|------|---|------|---|------|--|------|---|------|---|
| 1041 |  | 1042 |  | 1043 |  | 1044 |  | 1045 |  | 1046 |  |
| 1047 |  | 1048 |  |      |   |      |  |      |   |      |   |

2D trans

|      |   |      |   |      |   |      |  |      |   |      |   |
|------|---|------|---|------|---|------|--|------|---|------|---|
| 1051 |    | 1052 |  | 1053 |  | 1054 |  | 1055 |  | 1056 |  |
| 1057 |    | 1058 |  | 1061 |  | 1062 |  | 1063 |  | 1064 |  |
| 1068 |  |      |   |      |   |      |  |      |   |      |   |

3D trans

|      |   |      |   |      |   |      |  |      |   |      |   |
|------|---|------|---|------|---|------|--|------|---|------|---|
| 1071 |  | 1072 |  | 1074 |  | 1076 |  | 1077 |  | 1088 |  |
| 1091 |  | 1092 |  | 1093 |  | 1094 |  |      |   |      |   |

### Flip tumble

|      |  |      |  |      |  |      |  |      |  |      |  |
|------|--|------|--|------|--|------|--|------|--|------|--|
| 1101 |  | 1102 |  | 1103 |  | 1104 |  | 1109 |  | 1110 |  |
| 1121 |  | 1122 |  | 1124 |  | 1131 |  | 1132 |  | 1133 |  |
| 1135 |  |      |  |      |  |      |  |      |  |      |  |

### Frame in-out

|      |  |      |  |      |  |      |  |      |  |      |  |
|------|--|------|--|------|--|------|--|------|--|------|--|
| 1201 |  | 1202 |  | 1203 |  | 1204 |  | 1205 |  | 1206 |  |
| 1207 |  | 1208 |  | 1221 |  | 1222 |  | 1223 |  | 1224 |  |

### Picture-in-picture

|      |  |
|------|--|
| 1251 |  |
|------|--|

## Page turn

|      |  |      |  |      |  |      |  |      |  |      |  |
|------|--|------|--|------|--|------|--|------|--|------|--|
| 1301 |  | 1302 |  | 1303 |  | 1304 |  | 1305 |  | 1306 |  |
| 1307 |  | 1308 |  | 1309 |  | 1310 |  | 1311 |  | 1312 |  |
| 1313 |  | 1315 |  | 1316 |  | 1317 |  | 1318 |  | 1341 |  |
| 1342 |  | 1343 |  | 1344 |  | 1345 |  |      |  |      |  |

## Page roll

|      |  |      |  |      |  |      |  |      |  |      |  |
|------|--|------|--|------|--|------|--|------|--|------|--|
| 1321 |  | 1322 |  | 1323 |  | 1324 |  | 1325 |  | 1326 |  |
| 1327 |  | 1328 |  | 1329 |  | 1330 |  | 1331 |  | 1332 |  |
| 1333 |  | 1335 |  | 1336 |  | 1337 |  | 1338 |  | 1346 |  |
| 1347 |  | 1348 |  | 1349 |  | 1350 |  |      |  |      |  |

## Mirror

|      |  |      |  |      |  |      |  |
|------|--|------|--|------|--|------|--|
| 1355 |  | 1356 |  | 1357 |  | 1358 |  |
|------|--|------|--|------|--|------|--|

## Sphere

|      |  |
|------|--|
| 1365 |  |
|------|--|

## Character trail

|      |  |      |  |
|------|--|------|--|
| 1371 |  | 1372 |  |
|------|--|------|--|

## Wave

|      |  |      |  |
|------|--|------|--|
| 1378 |  | 1379 |  |
|------|--|------|--|

## Ripple

|      |  |
|------|--|
| 1381 |  |
|------|--|

## Split slide

|      |  |      |  |      |  |      |  |      |  |      |  |
|------|--|------|--|------|--|------|--|------|--|------|--|
| 1384 |  | 1385 |  | 1386 |  | 1387 |  | 1388 |  | 1389 |  |
|------|--|------|--|------|--|------|--|------|--|------|--|

## Appendix (Volume 1)

Appendix (Volume 1)

## Appendix (Volume 1)

Appendix (Volume 1)

## Appendix (Volume 1)

Appendix (Volume 1)

## Appendix (Volume 1)

Appendix (Volume 1)

Appendix (Volume 1)

## Appendix (Volume 1)

## Appendix (Volume 1)

Appendix (Volume 1)

### Squeeze

|      |  |      |  |      |  |      |  |      |  |      |  |
|------|--|------|--|------|--|------|--|------|--|------|--|
| 2621 |  | 2622 |  | 2623 |  | 2624 |  | 2625 |  | 2626 |  |
| 2627 |  | 2628 |  |      |  |      |  |      |  |      |  |

### 3D trans

|      |  |      |  |      |  |      |  |      |  |      |  |
|------|--|------|--|------|--|------|--|------|--|------|--|
| 2631 |  | 2632 |  | 2633 |  | 2634 |  | 2642 |  | 2644 |  |
|------|--|------|--|------|--|------|--|------|--|------|--|

### Picture-in-picture

|      |  |      |  |
|------|--|------|--|
| 2651 |  | 2652 |  |
|------|--|------|--|

### Page turn

|      |  |      |  |      |  |      |  |      |  |      |  |
|------|--|------|--|------|--|------|--|------|--|------|--|
| 2701 |  | 2702 |  | 2703 |  | 2704 |  | 2705 |  | 2706 |  |
| 2707 |  | 2708 |  | 2709 |  | 2710 |  | 2711 |  | 2712 |  |
| 2713 |  | 2715 |  | 2716 |  | 2717 |  | 2718 |  | 2741 |  |
| 2742 |  | 2743 |  | 2744 |  | 2745 |  |      |  |      |  |



# Page roll

|      |  |      |  |      |  |      |  |      |  |      |  |
|------|--|------|--|------|--|------|--|------|--|------|--|
| 2721 |  | 2722 |  | 2723 |  | 2724 |  | 2725 |  | 2726 |  |
| 2727 |  | 2728 |  | 2729 |  | 2730 |  | 2731 |  | 2732 |  |
| 2733 |  | 2735 |  | 2736 |  | 2737 |  | 2738 |  | 2746 |  |
| 2747 |  | 2748 |  | 2749 |  | 2750 |  |      |  |      |  |

# Brick

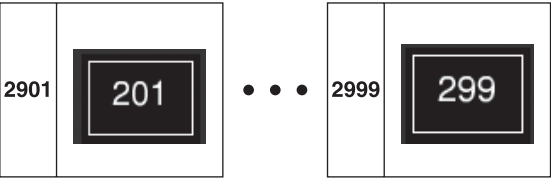
|      |  |      |  |      |  |      |  |      |  |      |  |
|------|--|------|--|------|--|------|--|------|--|------|--|
| 2801 |  | 2802 |  | 2803 |  | 2804 |  | 2811 |  | 2812 |  |
| 2813 |  | 2814 |  |      |  |      |  |      |  |      |  |

# Frame in-out

|      |  |      |  |      |  |      |  |      |  |      |  |
|------|--|------|--|------|--|------|--|------|--|------|--|
| 2851 |  | 2852 |  | 2853 |  | 2854 |  | 2861 |  | 2862 |  |
| 2863 |  | 2864 |  |      |  |      |  |      |  |      |  |

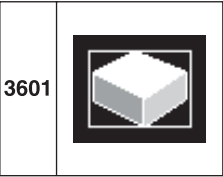
# User programmable DME

The illustrations for patterns 2901 to 2999 show an effect register number or register name.



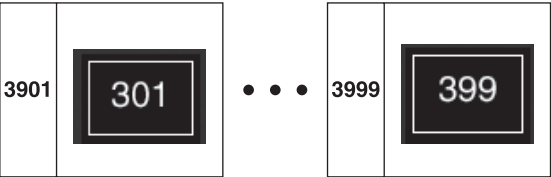
## DME Wipe Patterns Available in Three-Channel Mode

### Brick






















### User programmable DME













The illustrations for patterns 3901 to 3999 show an effect register number or register name.



## Appendix (Volume 1)

|      |   |      |   |      |   |      |  |      |   |      |   |
|------|---|------|---|------|---|------|--|------|---|------|---|
| 7001 |  | 7002 |  | 7003 |  | 7004 |  | 7005 |  | 7006 |  |
| 7007 |  | 7008 |  |      |   |      |  |      |   |      |   |

|      |   |      |   |      |   |      |  |      |   |      |   |
|------|---|------|---|------|---|------|--|------|---|------|---|
| 7021 |  | 7022 |  | 7023 |  | 7024 |  | 7025 |  | 7026 |  |
| 7027 |  | 7028 |  | 7029 |  | 7030 |  | 7031 |  |      |   |

|      |   |      |   |      |   |      |  |      |   |      |   |
|------|---|------|---|------|---|------|--|------|---|------|---|
| 7201 |  | 7202 |  | 7203 |  | 7204 |  | 7205 |  | 7206 |  |
| 7207 |  | 7208 |  | 7221 |  | 7222 |  | 7223 |  | 7224 |  |

# Menu Tree

## Recalling Menus

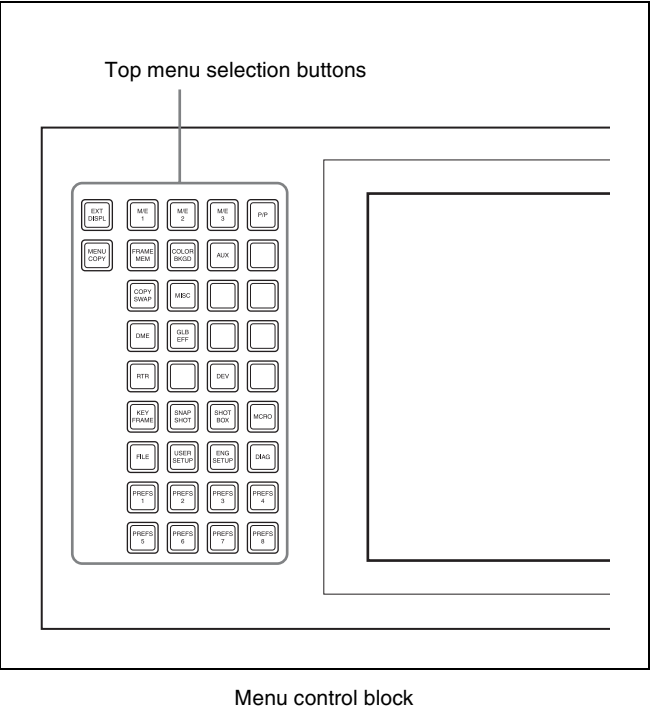
This section details the menu structure, and shows the top menu selection buttons in the menu control block which are used to access the menus.

Some menus can also be accessed by pressing other buttons twice in rapid succession.

*For more details, see “Overview” (page 52).*

### Notes

Some menus may not appear, depending on the model.



## M/E-1 to M/E-5 Menus

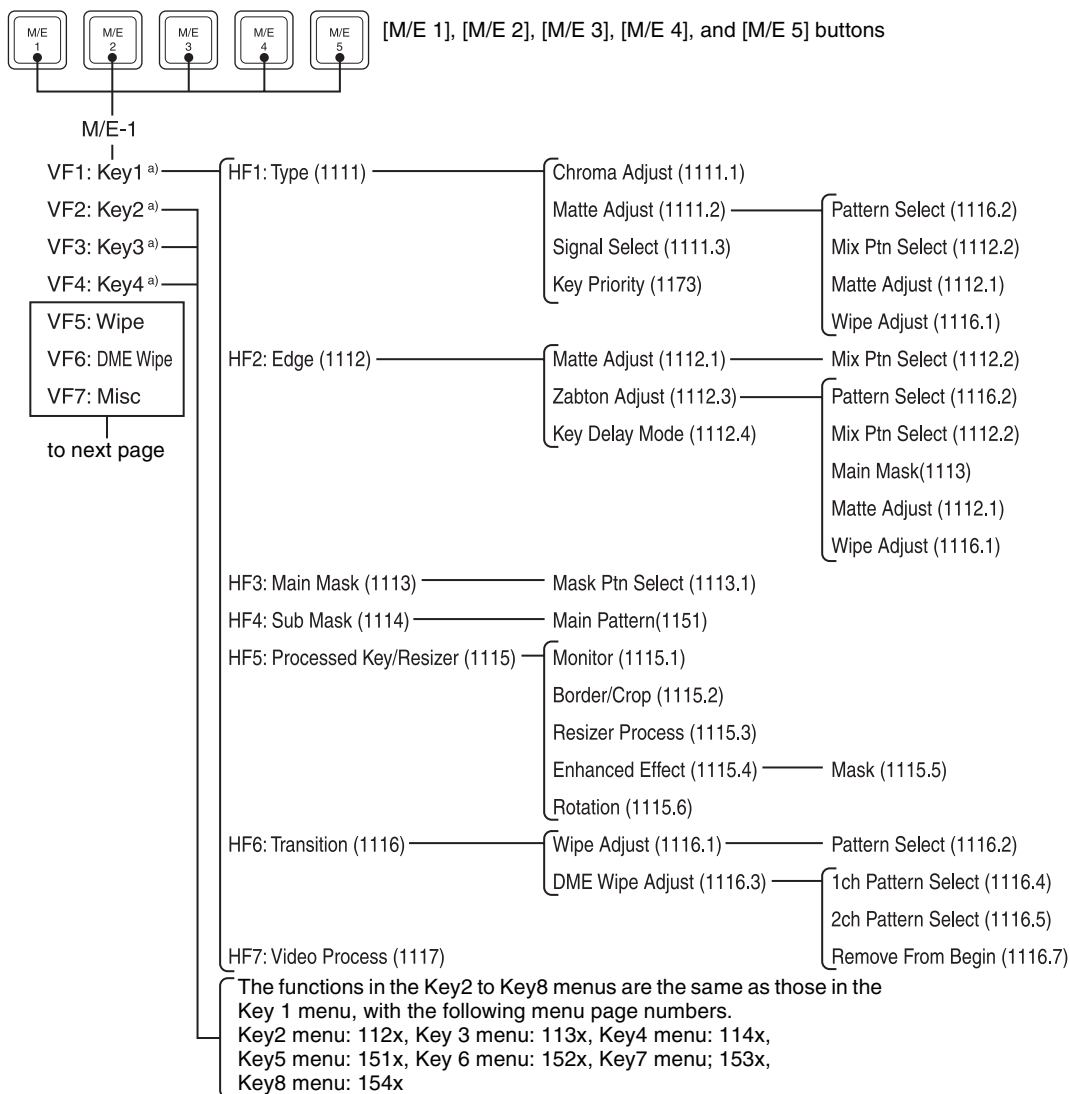
The functions in the M/E-1, M/E-2, M/E-3, M/E-4, and M/E-5 menus are the same, but the menu page numbers are distinguished as follows.

- M/E-1 menus: 11xx, M/E-2 menus: 12xx,
- M/E-3 menus: 13xx, M/E-4 menus: 81xx,
- M/E-5 menus: 82xx

In this section, the numbers for the M/E-1 menus are given as examples.

### Notes

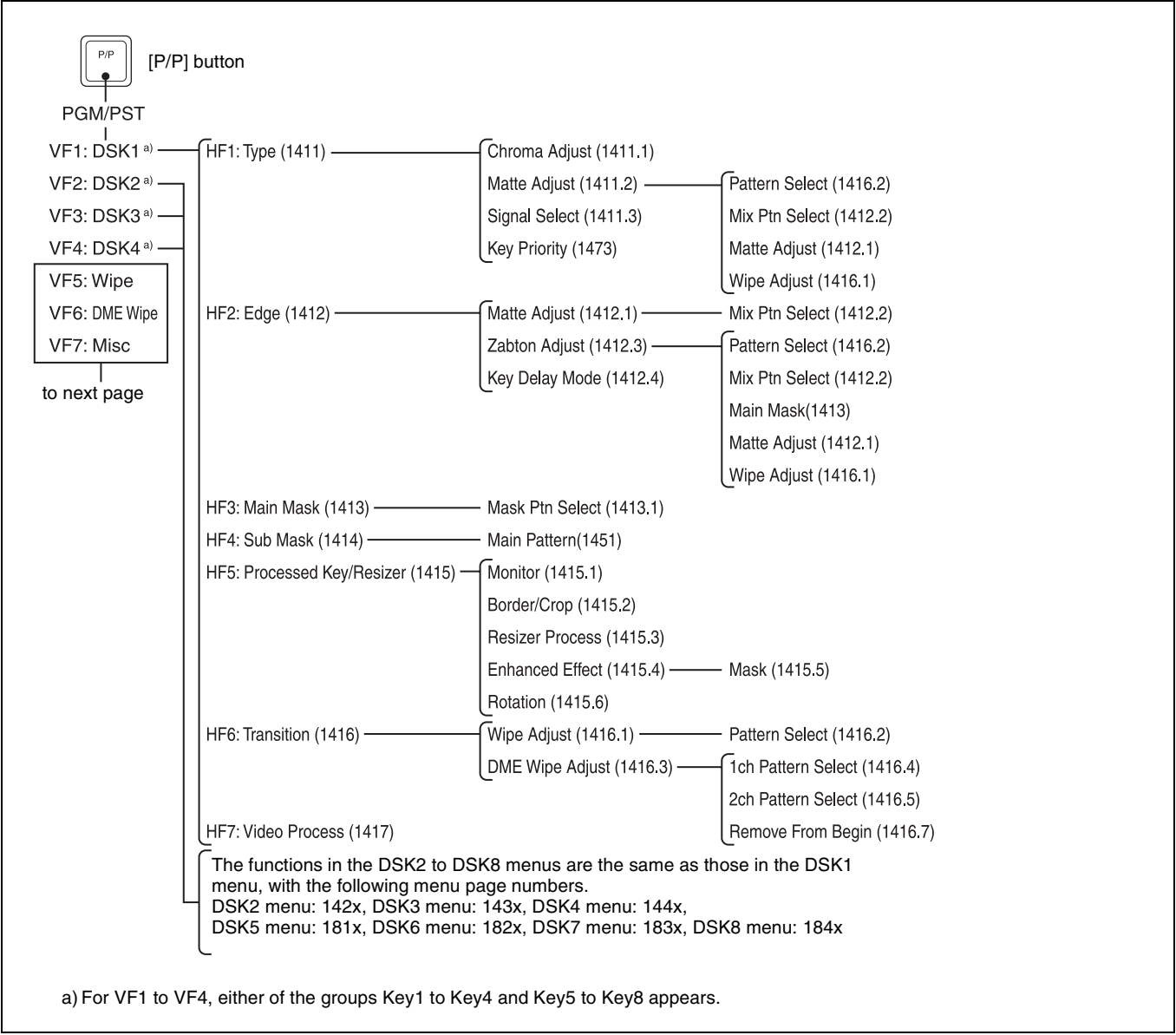
M/E-5 menus are displayed only in 6M/E configurations on the MVS-7000X.

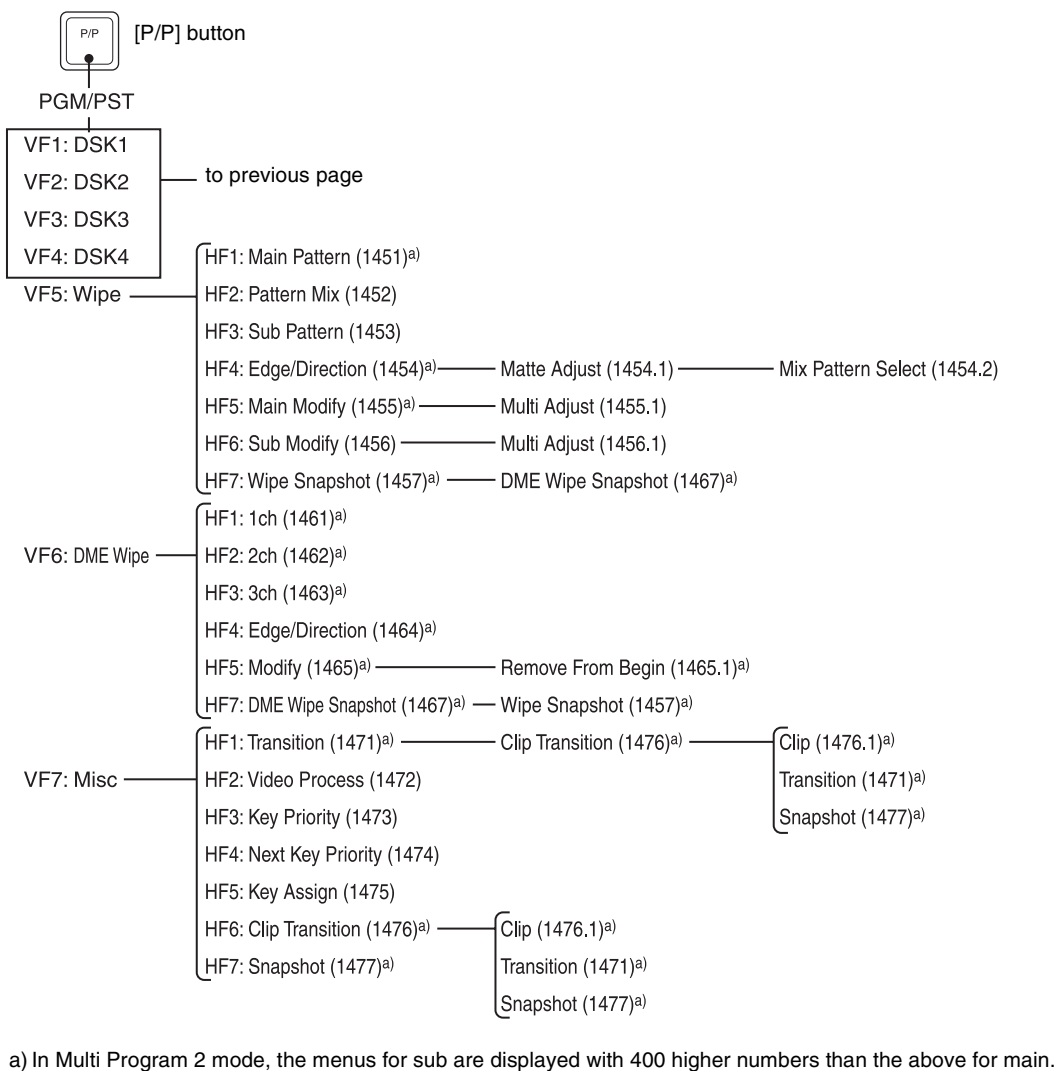


a) For VF1 to VF4, either of the groups Key1 to Key4 and Key5 to Key8 appears.



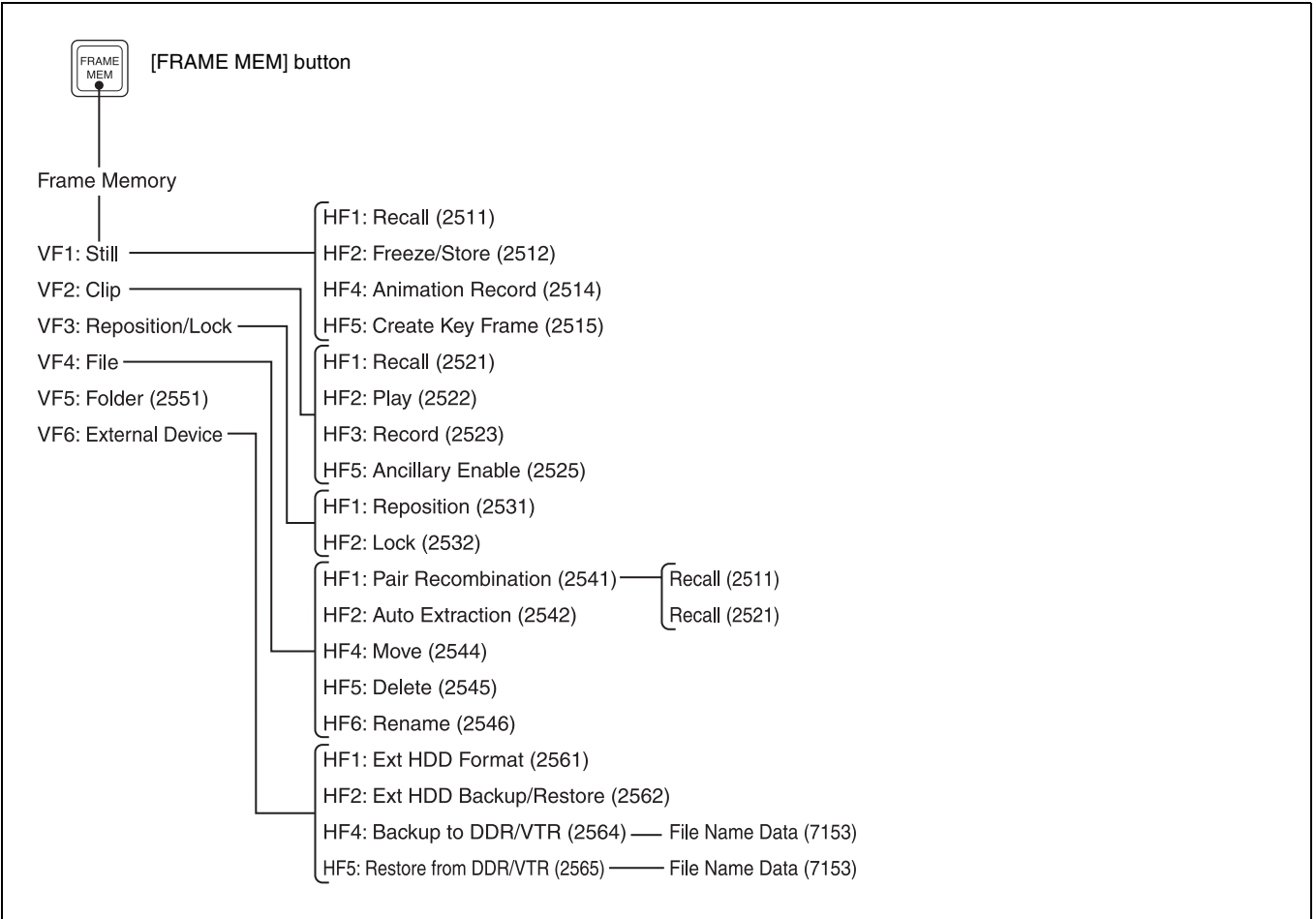
# PGM/PST Menu



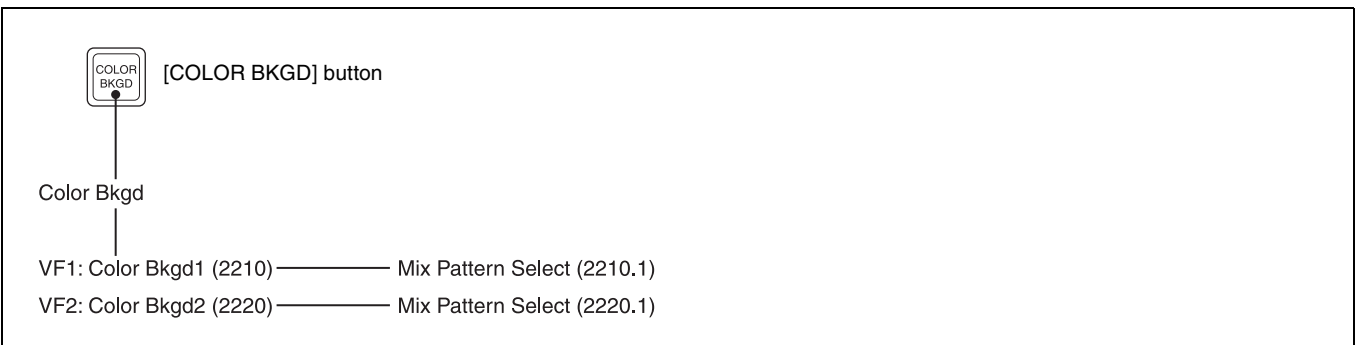




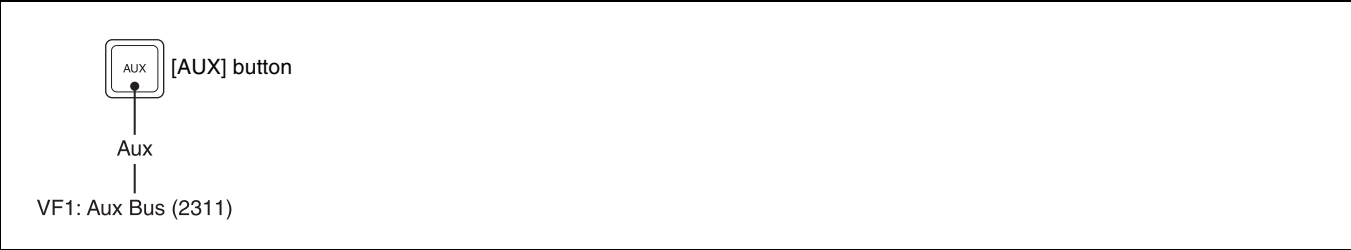
## Frame Memory Menu



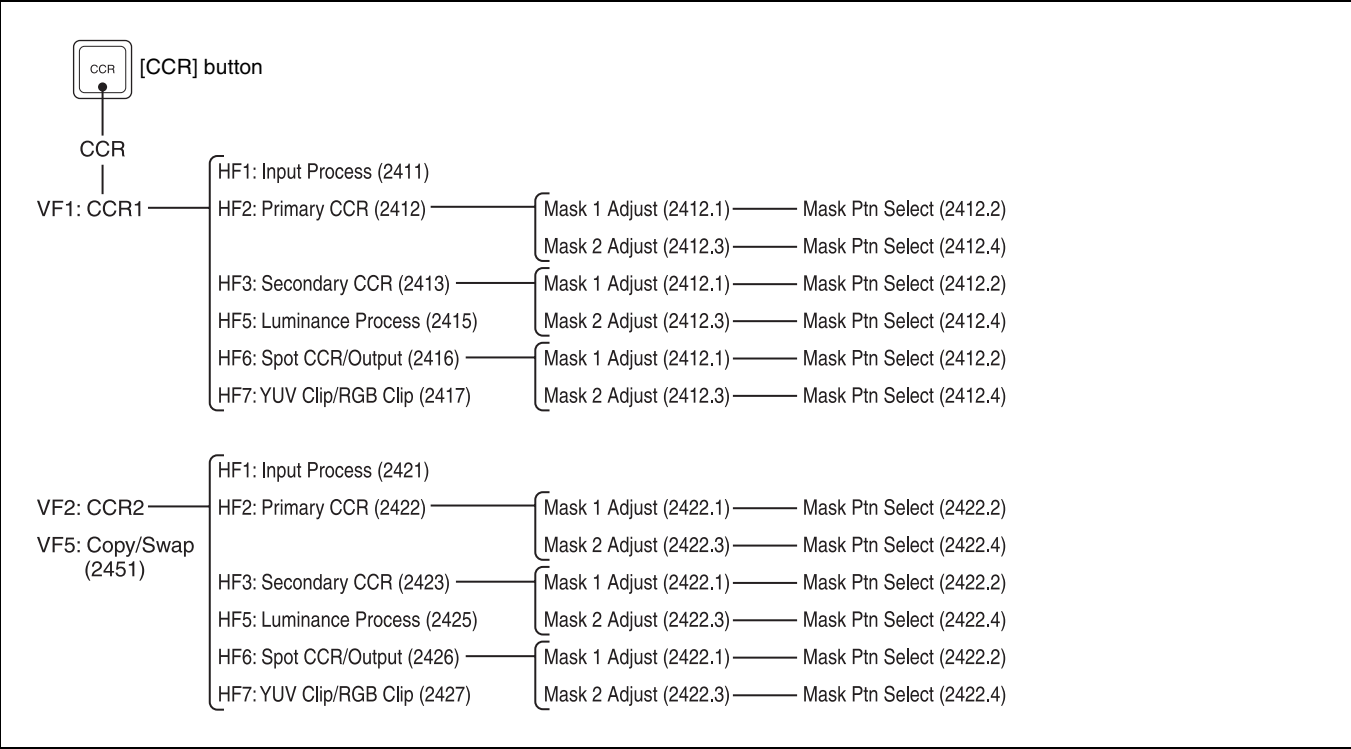
## Color Bkgd Menu



# AUX Menu



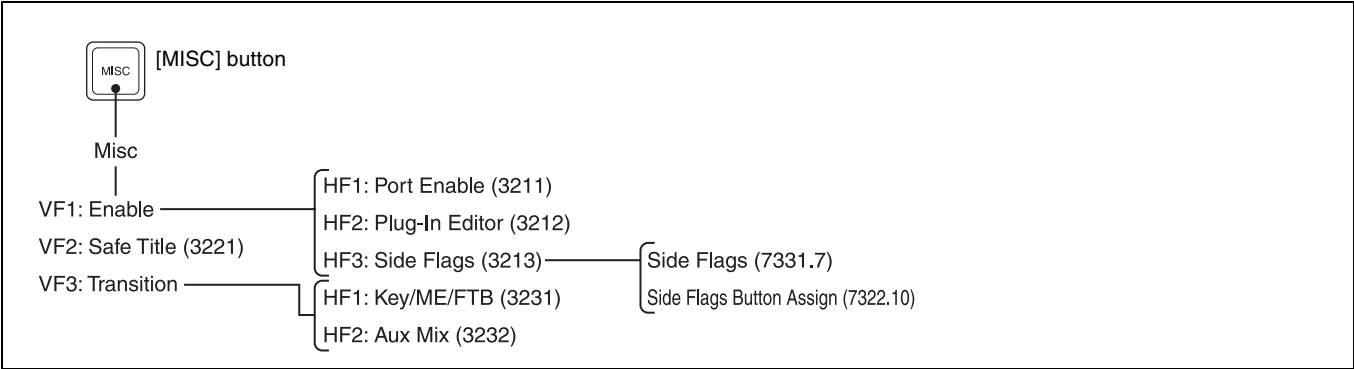
# CCR Menu



## Copy/Swap Menu



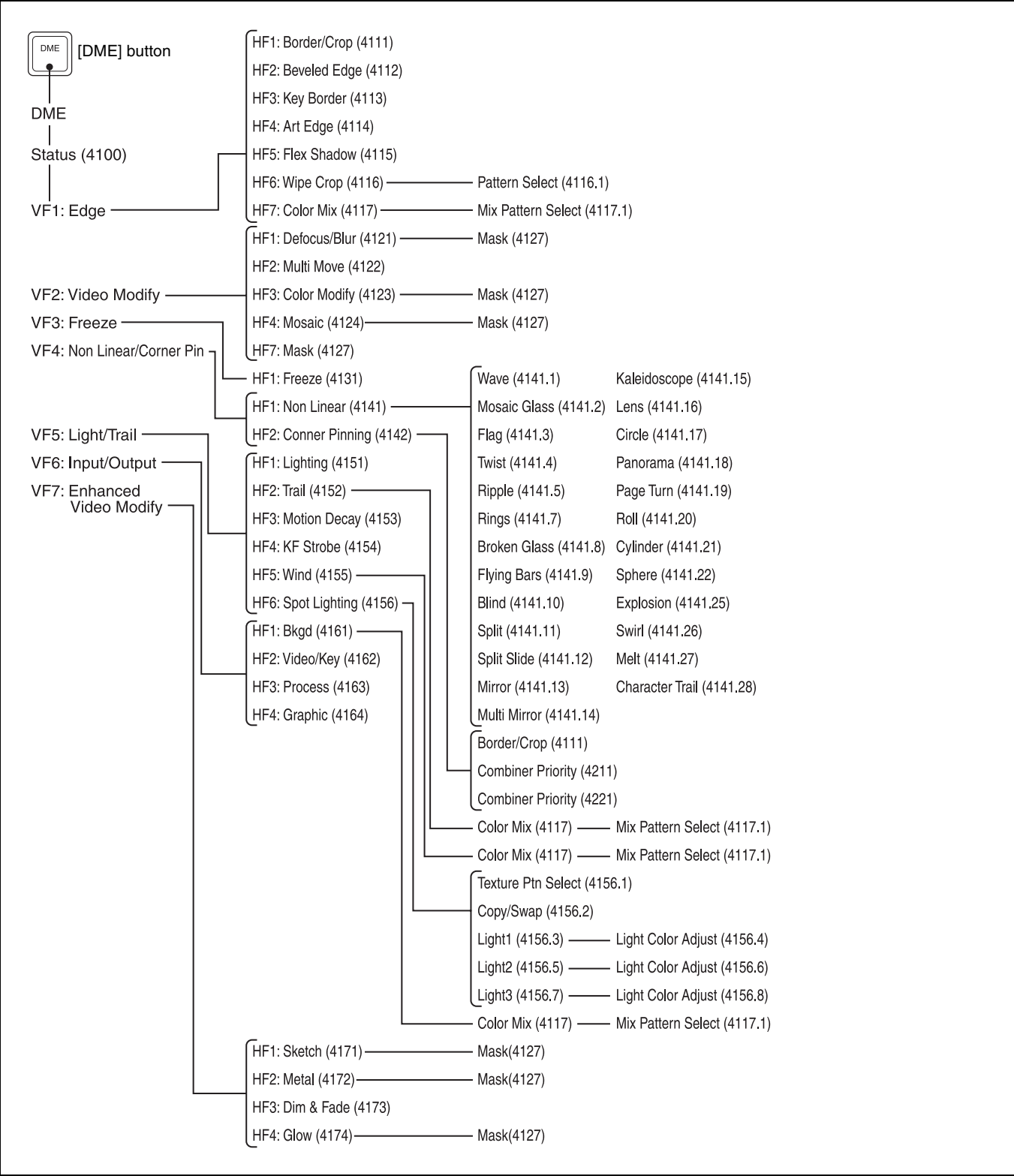
## Misc Menu



## Status Menu



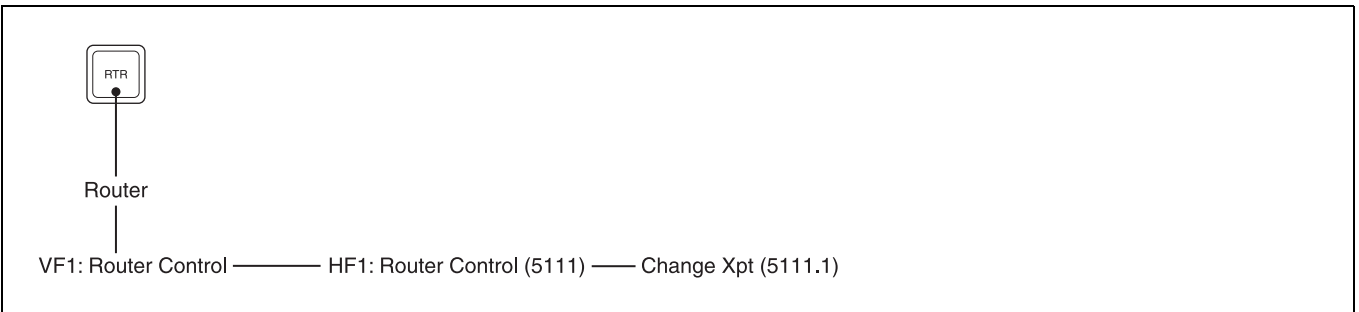
DME Menu



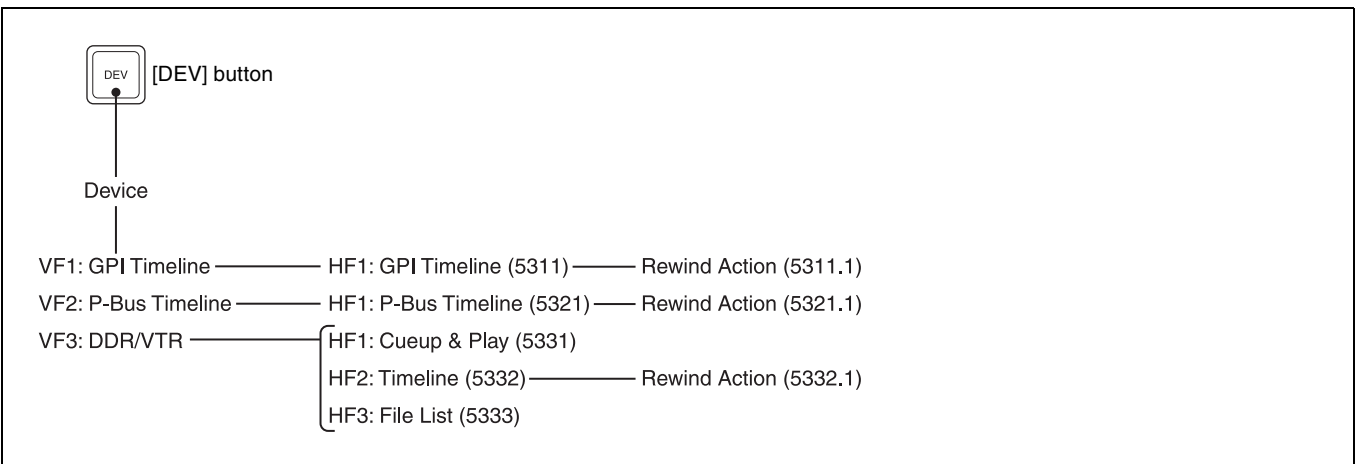
## Global Effect Menu



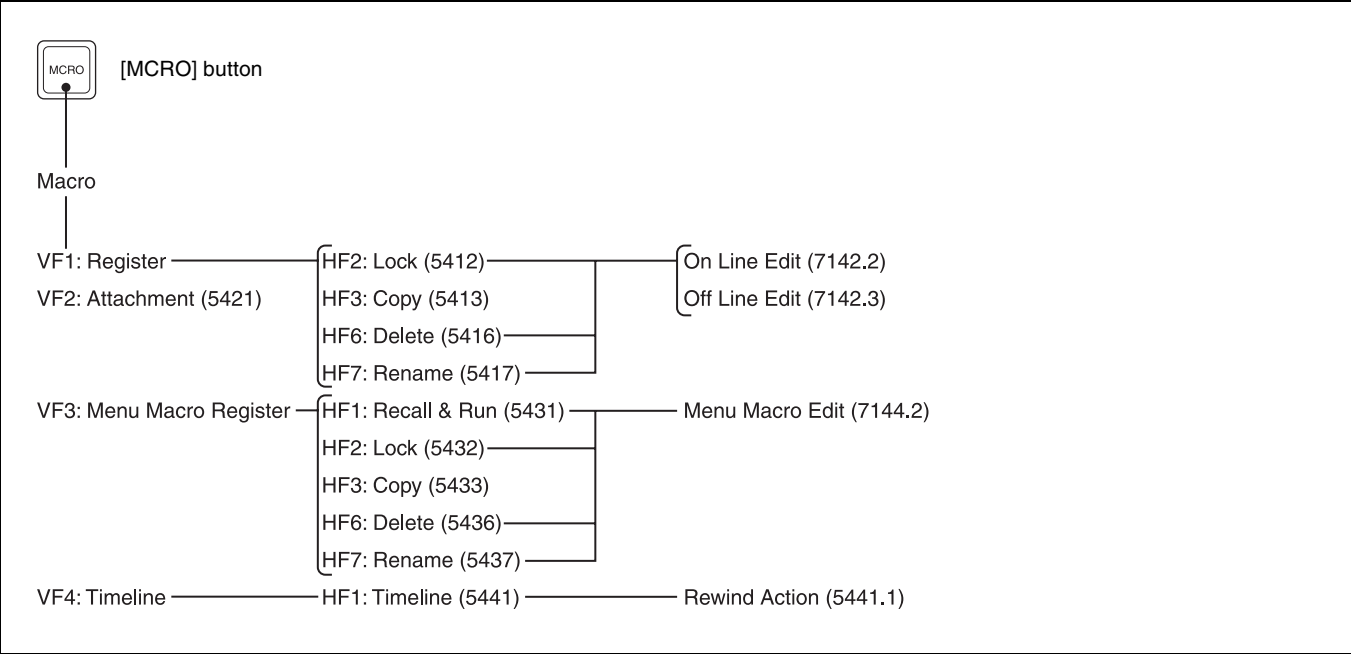
## Router Menu



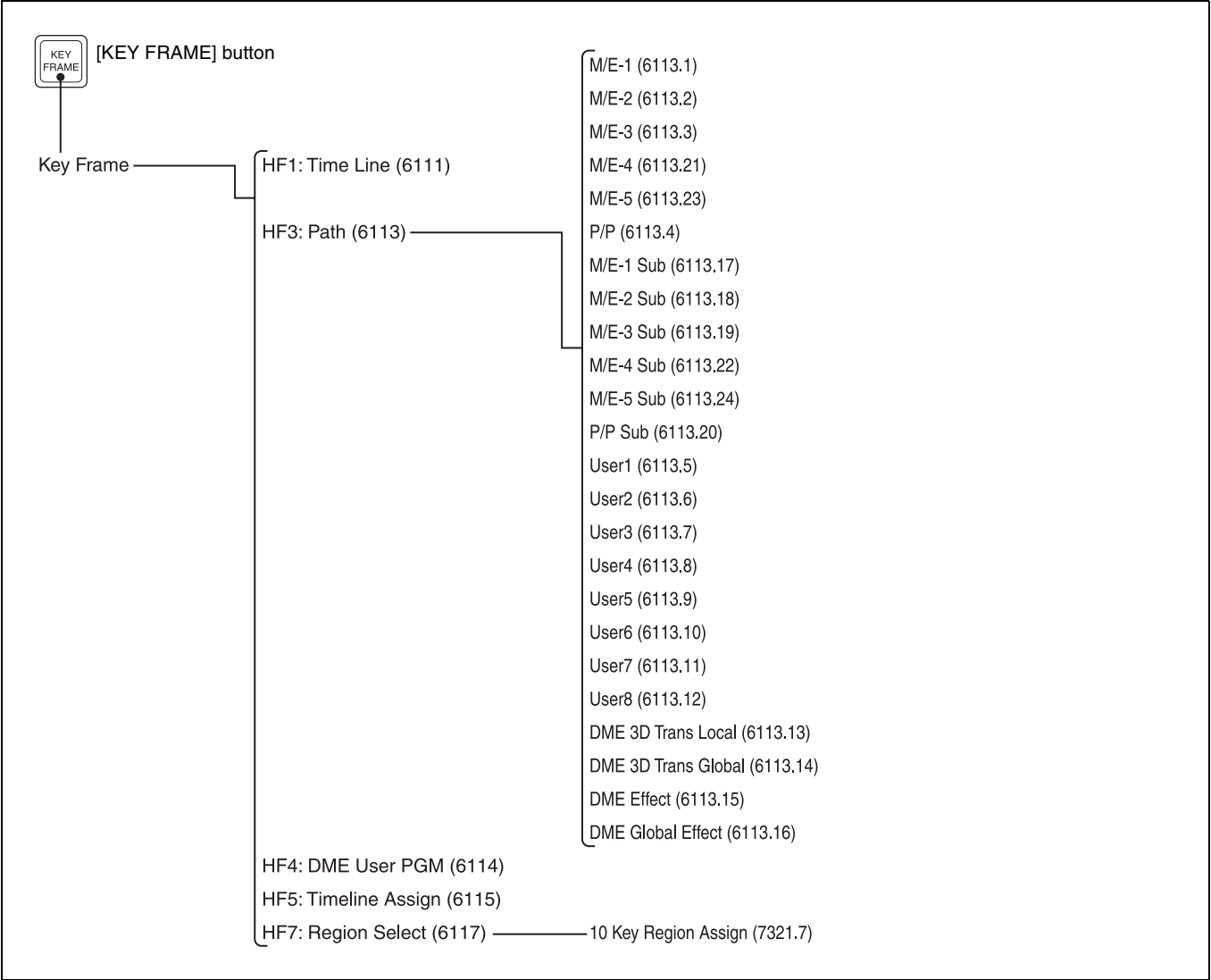
## Device Menu



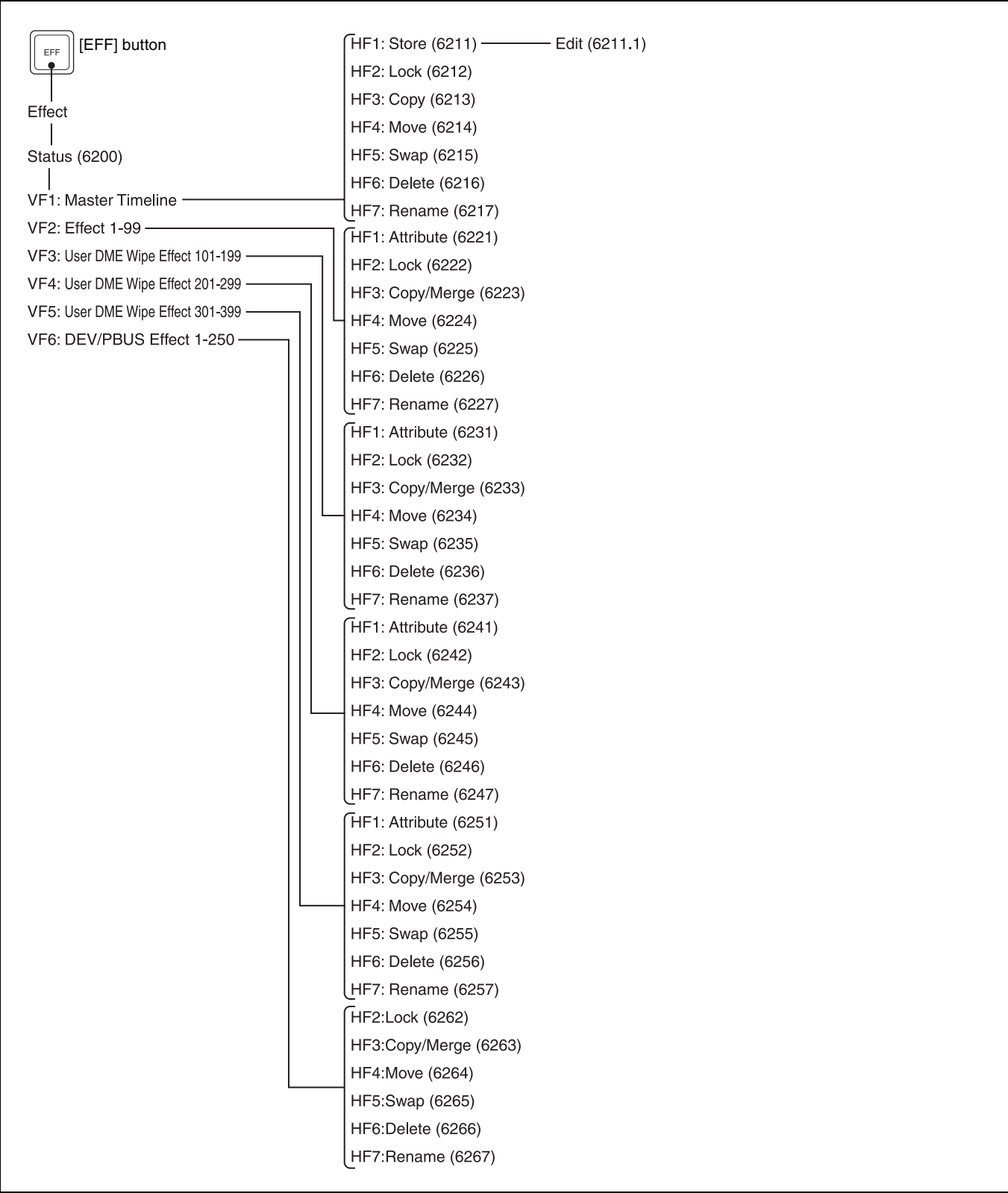
# Macro Menu



# Key Frame Menu

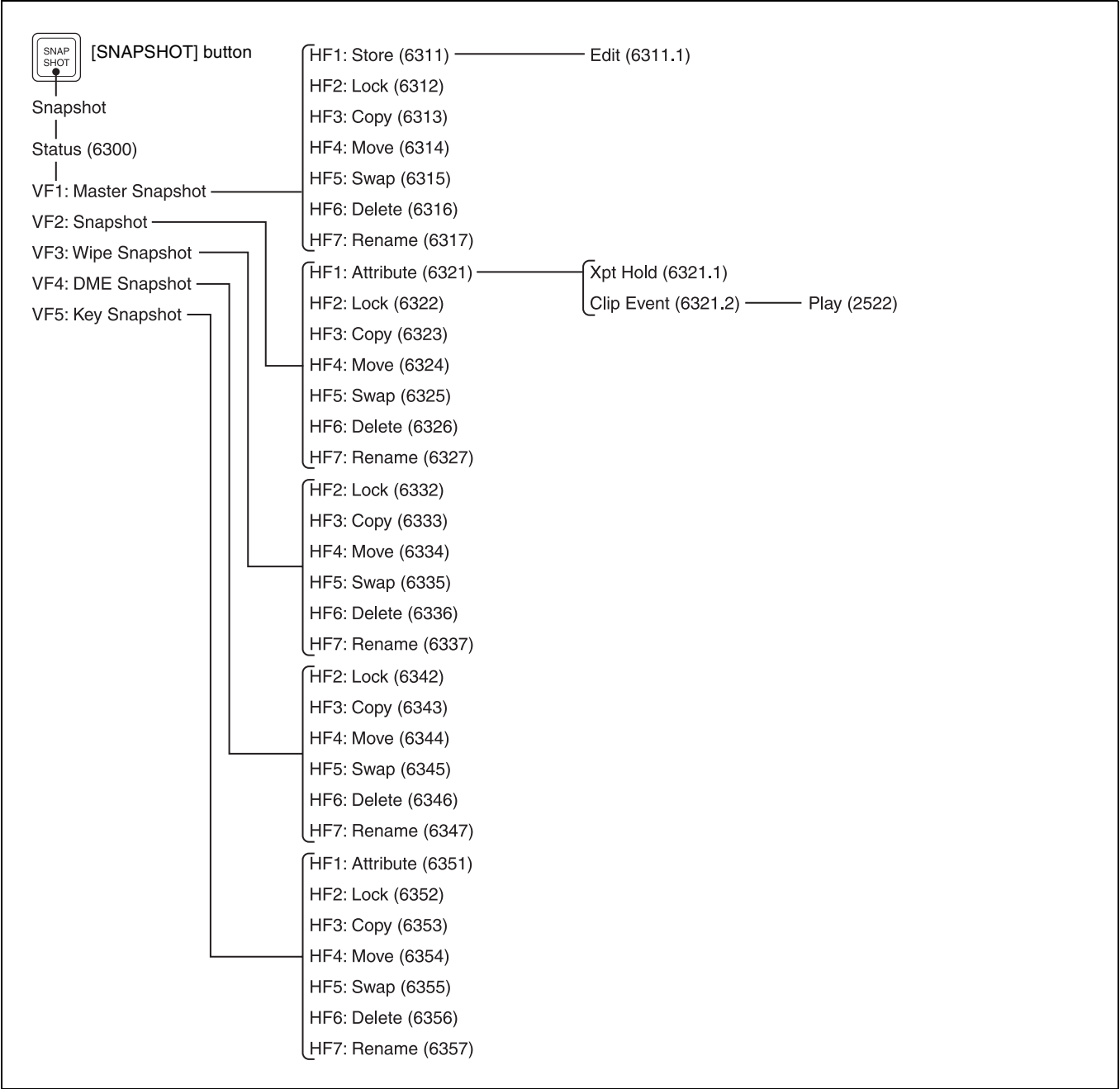


# Effect Menu

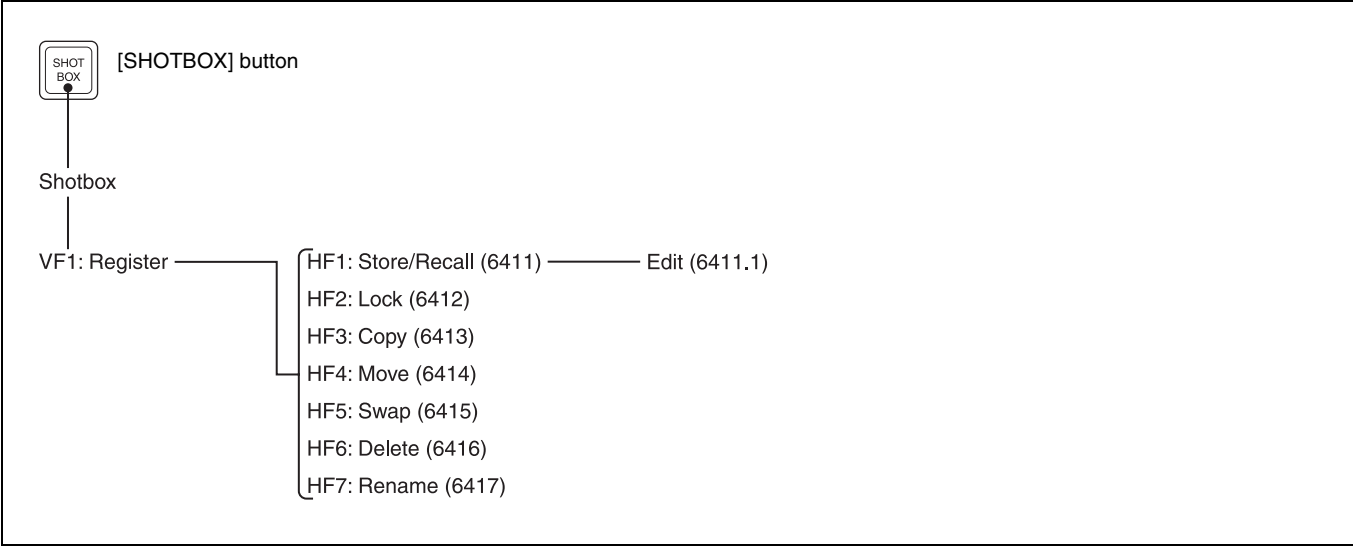




# Snapshot Menu

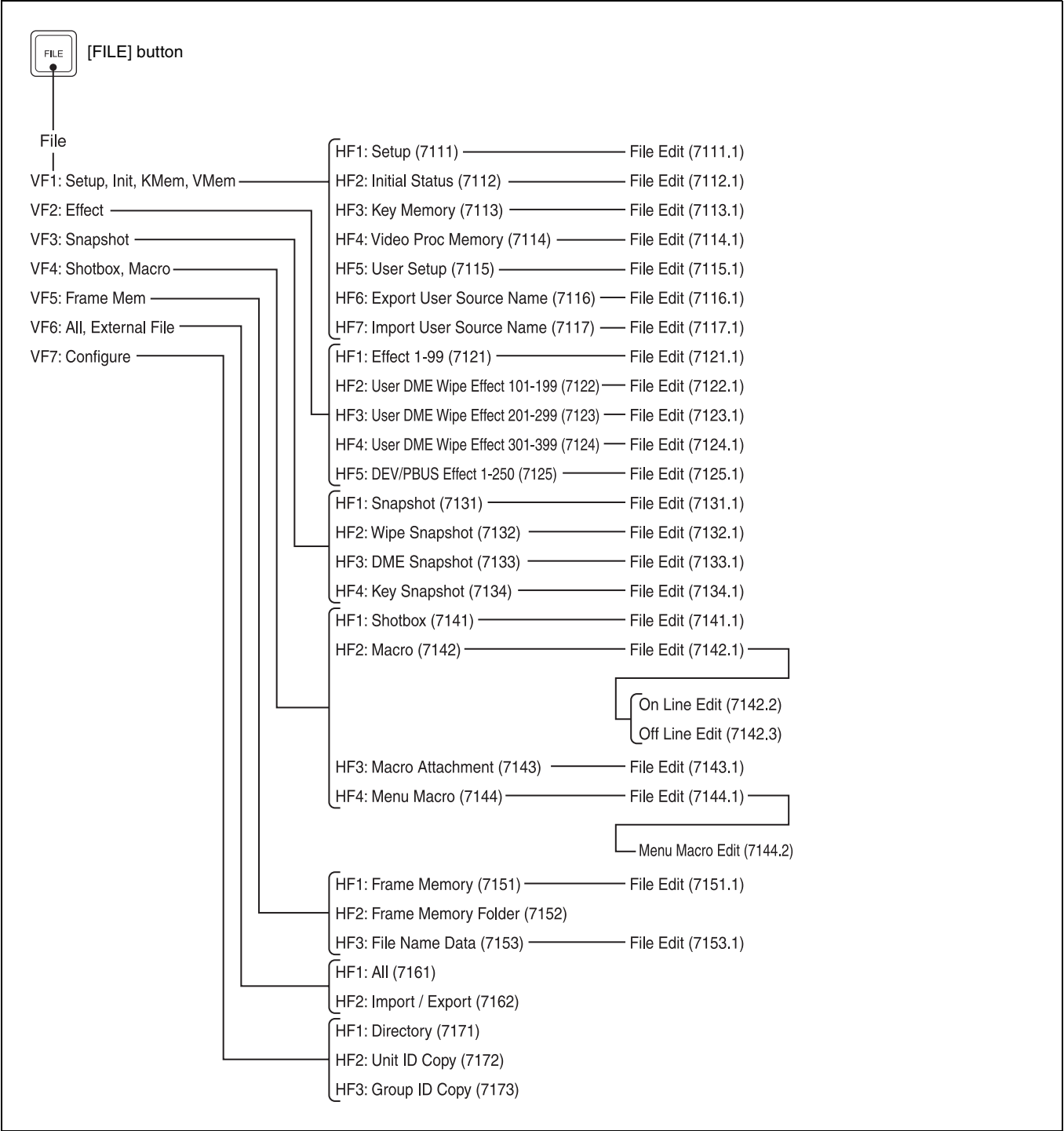


# Shotbox Menu

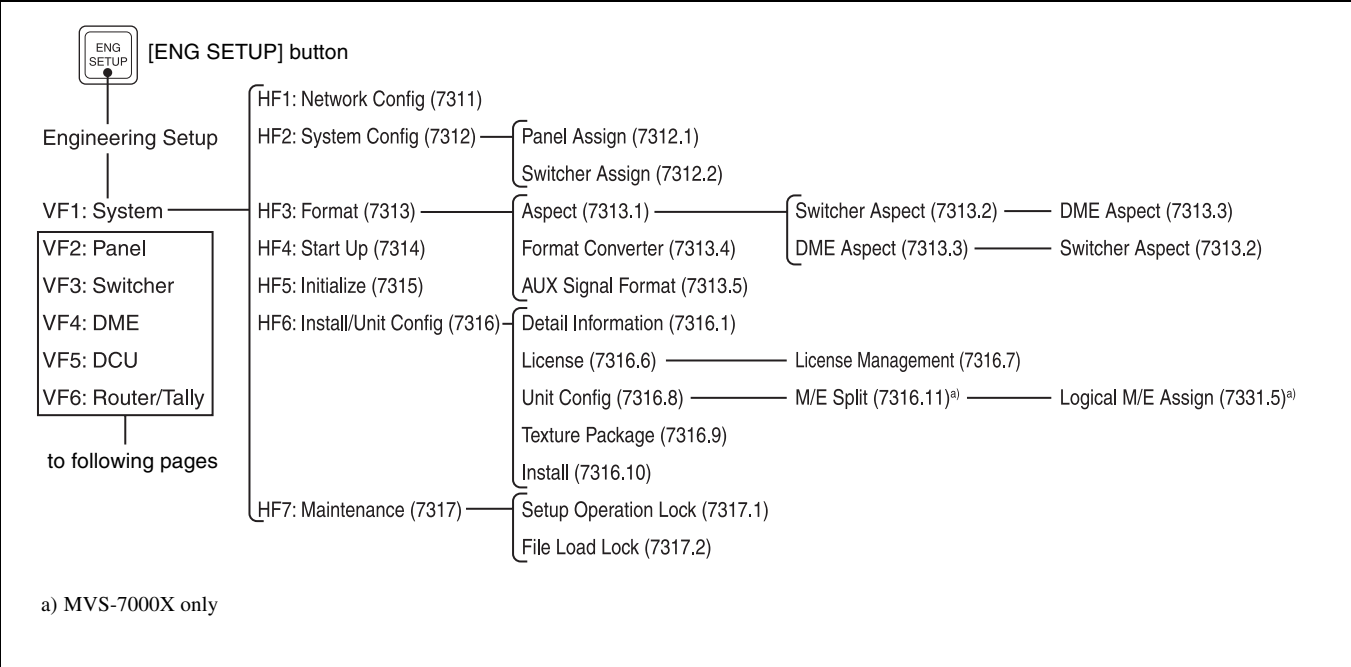


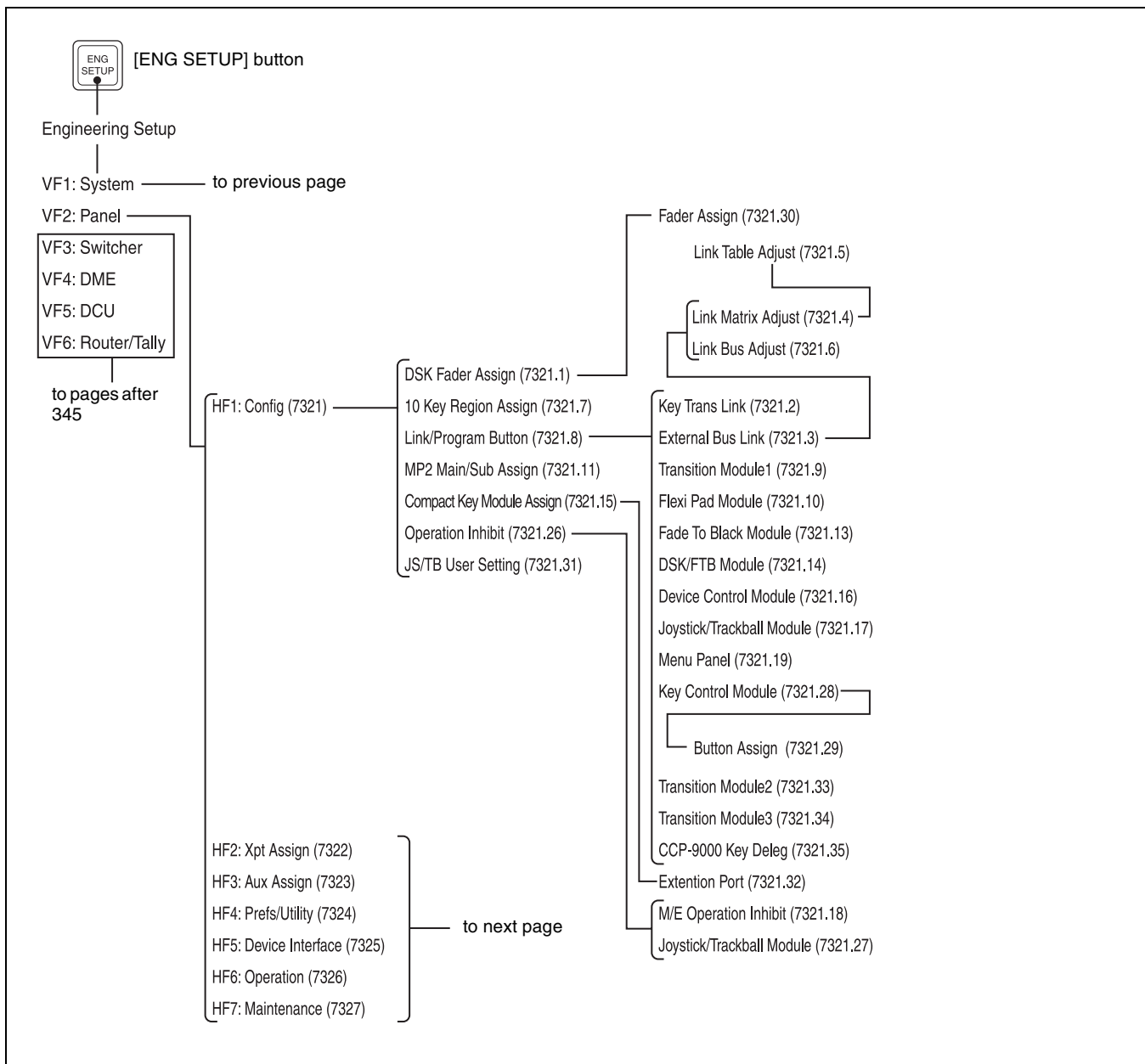
Appendix (Volume 1)

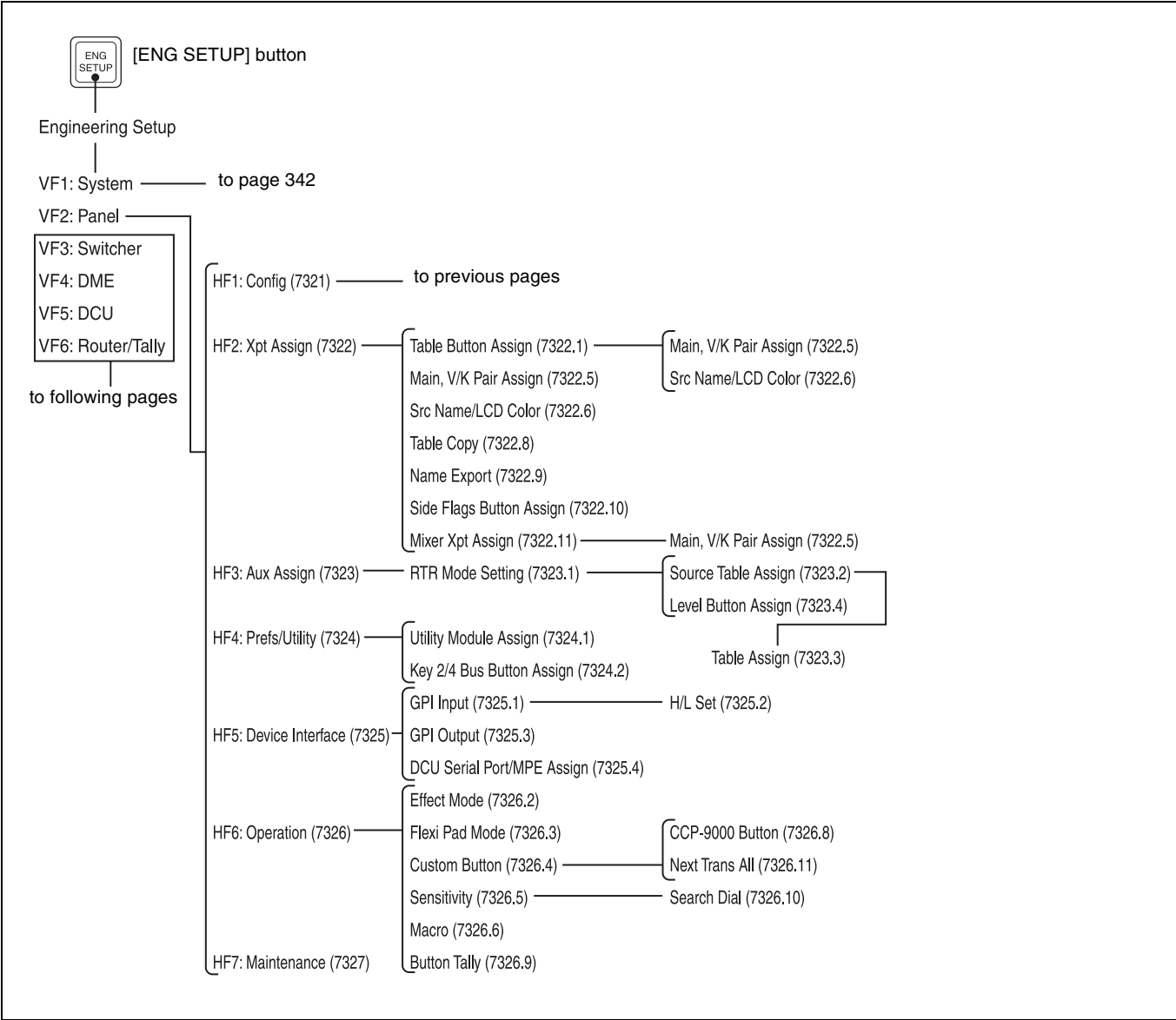
# File Menu

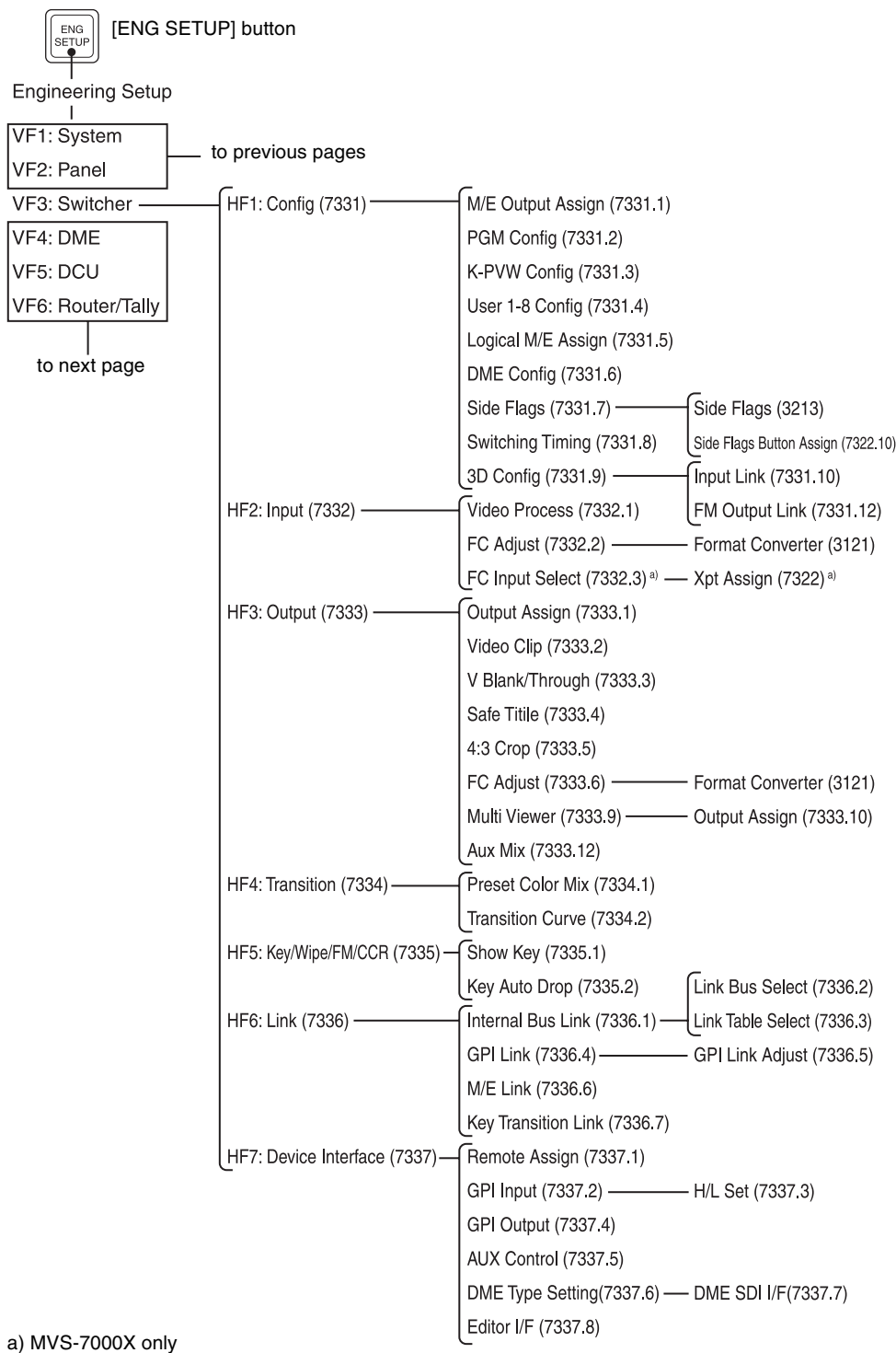


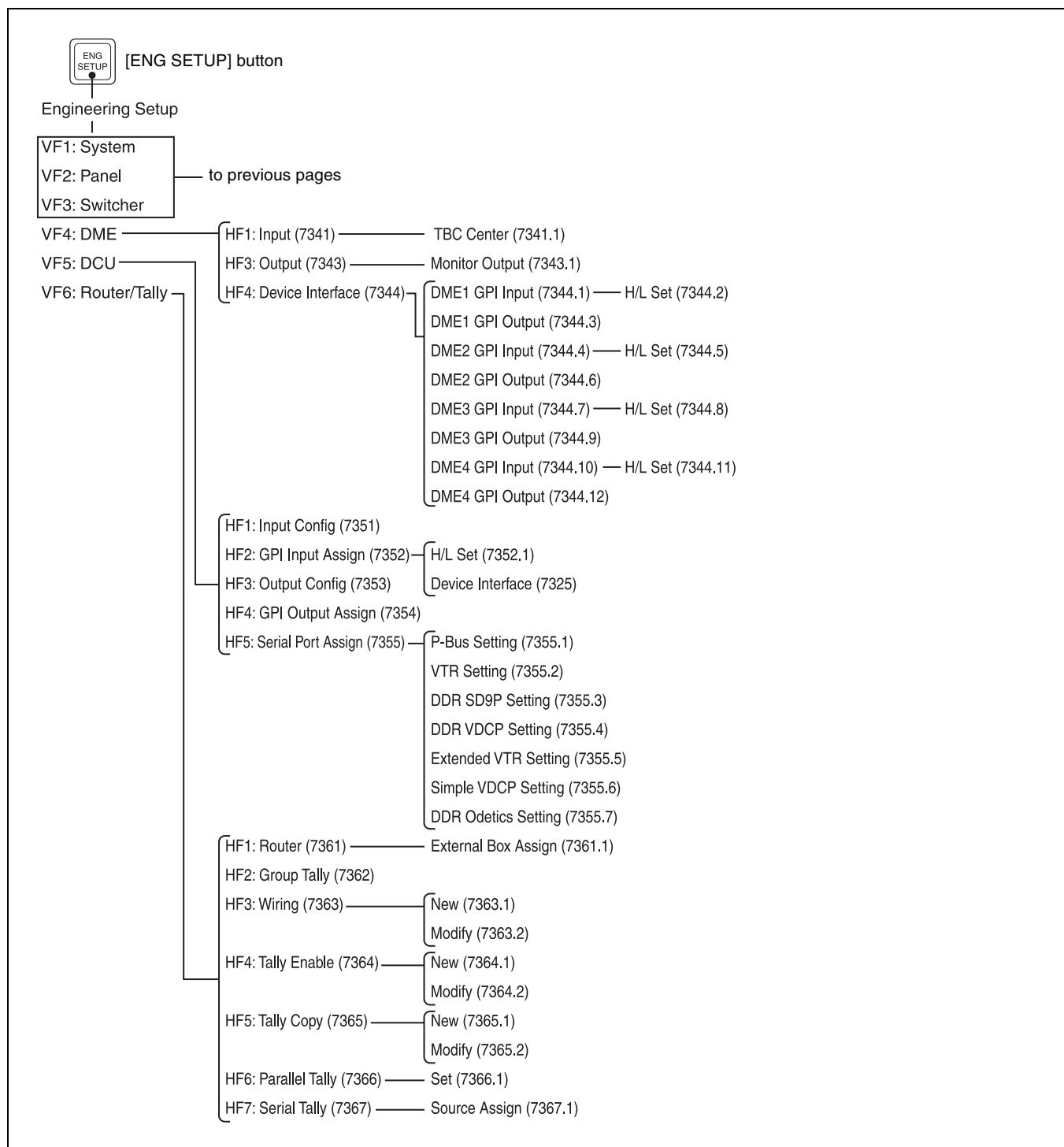
# Engineering Setup Menu





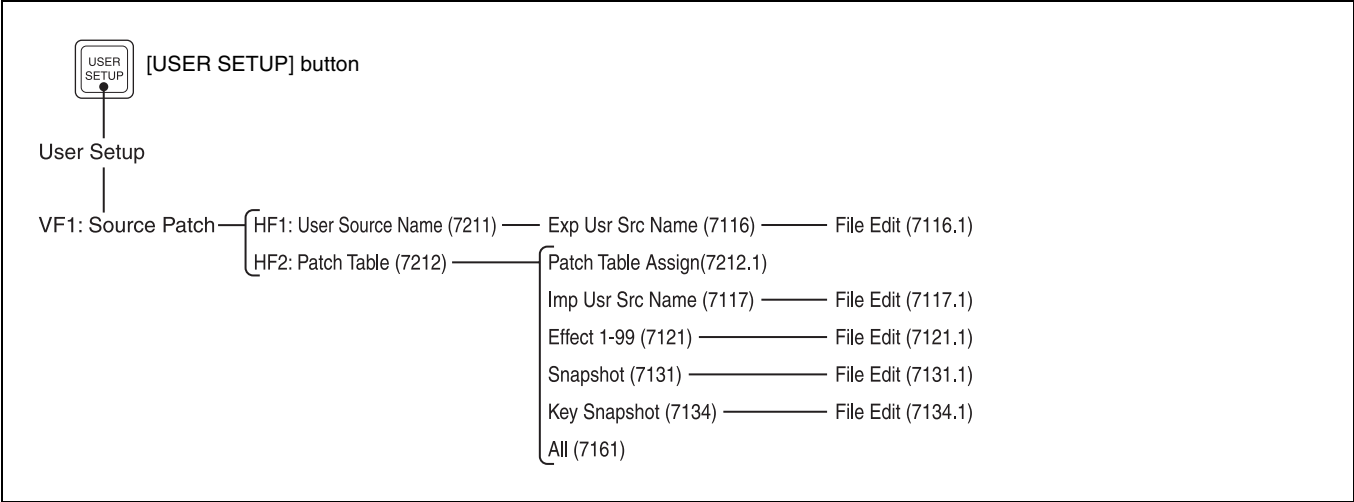




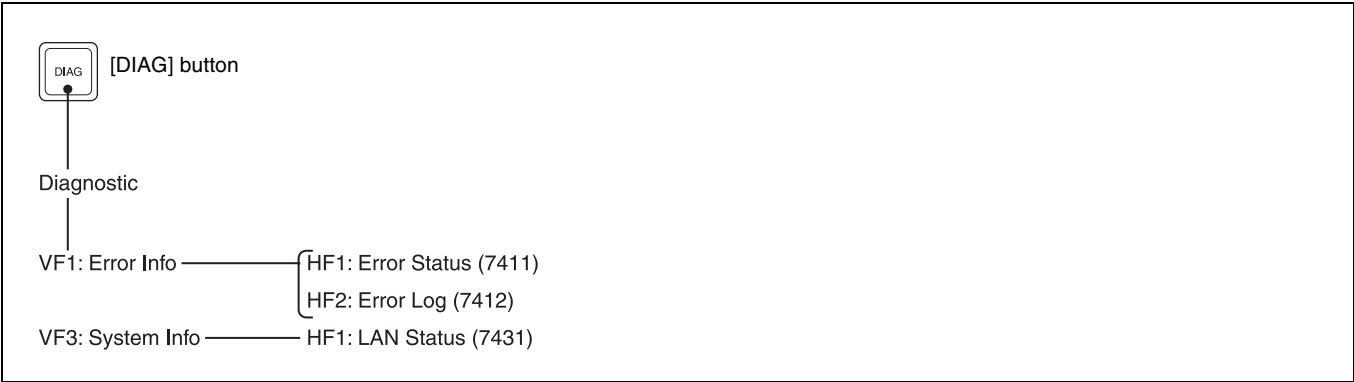




## User Setup Menu



## Diagnostic Menu



# Disabled Operation and Settings Menus

On the MVS-8000X, the following operations and settings relating to M/E-5 are disabled.

| Menu number | Menu                                    |
|-------------|---|
| 3111        | Copy/Swap >Copy/Swap >M/E               |
| 3112        | Copy/Swap >Copy/Swap >Key               |
| 3113        | Copy/Swap >Copy/Swap >Wipe              |
| 3114        | Copy/Swap >Copy/Swap >DME Wipe          |
| 3115        | Copy/Swap >Copy/Swap >Matte             |
| 3116        | Copy/Swap >Copy/Swap >Color             |
| 3213        | Misc >Enable >Side Flags                |
| 3231        | Misc >Transition >Key/ME/FTB            |
| 6113.23     | Key Frame >Path >M/E-5                  |
| 6113.24     | Key Frame >Path >M/E-5 Sub              |
| 6211.1      | Effect >Master Timeline >Store >Edit    |
| 6221        | Effect >Effect 1-99 >Attribute          |
| 6222        | Effect >Effect 1-99 >Lock               |
| 6223        | Effect >Effect 1-99 >Copy/Merge         |
| 6224        | Effect >Effect 1-99 >Move               |
| 6225        | Effect >Effect 1-99 >Swap               |
| 6226        | Effect >Effect 1-99 >Delete             |
| 6227        | Effect >Effect 1-99 >Rename             |
| 6311.1      | Snapshot >Master Snapshot >Store >Edit  |
| 6321        | Snapshot >Snapshot >Attribute           |
| 6321.1      | Snapshot >Snapshot >Attribute >Xpt Hold |
| 6322        | Snapshot >Snapshot >Lock                |
| 6323        | Snapshot >Snapshot >Copy                |
| 6324        | Snapshot >Snapshot >Move                |
| 6325        | Snapshot >Snapshot >Swap                |
| 6326        | Snapshot >Snapshot >Delete              |
| 6327        | Snapshot >Snapshot >Rename              |
| 6332        | Snapshot >Wipe Snapshot >Lock           |
| 6333        | Snapshot >Wipe Snapshot >Copy           |
| 6334        | Snapshot >Wipe Snapshot >Move           |
| 6335        | Snapshot >Wipe Snapshot >Swap           |
| 6336        | Snapshot >Wipe Snapshot >Delete         |
| 6337        | Snapshot >Wipe Snapshot >Rename         |
| 6342        | Snapshot >DME Snapshot >Lock            |
| 6343        | Snapshot >DME Snapshot >Copy            |
| 6344        | Snapshot >DME Snapshot >Move            |
| 6345        | Snapshot >DME Snapshot >Swap            |
| 6346        | Snapshot >DME Snapshot >Delete          |
| 6347        | Snapshot >DME Snapshot >Rename          |

| Menu number | Menu  |
|-------------|---|
| 6351        | Snapshot >Key Snapshot >Attribute   |
| 6352        | Snapshot >Key Snapshot >Lock  |
| 6353        | Snapshot >Key Snapshot >Copy  |
| 6354        | Snapshot >Key Snapshot >Move  |
| 6355        | Snapshot >Key Snapshot >Swap  |
| 6356        | Snapshot >Key Snapshot >Delete  |
| 6357        | Snapshot >Key Snapshot >Rename  |
| 6411.1      | Shotbox >Register >Store/Recall >Edit   |
| 7121        | File >Effect >Effect 1-99   |
| 7121.1      | File >Effect >Effect 1-99 >File Edit  |
| 7131        | File >Snapshot >Snapshot  |
| 7131.1      | File >Snapshot >Snapshot >File Edit   |
| 7132        | File >Snapshot >Wipe Snapshot   |
| 7132.1      | File >Snapshot >Wipe Snapshot >File Edit  |
| 7133        | File >Snapshot >DME Snapshot  |
| 7133.1      | File >Snapshot >DME Snapshot >File Edit   |
| 7134        | File >Snapshot >Key Snapshot  |
| 7134.1      | File >Snapshot >Key Snapshot >File Edit   |
| 7313.2      | Engineering Setup >System >Format >Aspect >Switcher Aspect                                |
| 7321        | Engineering Setup >Panel >Config  |
| 7321.1      | Engineering Setup >Panel >Config >DSK Fader Assign  |
| 7321.2      | Engineering Setup >Panel >Config >Link/Program Button >Key Trans Link                     |
| 7321.3      | Engineering Setup >Panel >Config >Link/Program Button >External Bus Link                  |
| 7321.6      | Engineering Setup >Panel >Config >Link/Program Button >External Bus Link >Link Bus Adjust |
| 7321.7      | Engineering Setup >Panel >Config >10 Key Region Assign                                    |
| 7321.11     | Engineering Setup >Panel >Config >MP2 Main/Sub Assign                                     |
| 7321.13     | Engineering Setup >Panel >Config >Link/Program Button >Fade To Black Module               |
| 7321.14     | Engineering Setup >Panel >Config >Link/Program Button >DSK/FTB Module                     |
| 7321.17     | Engineering Setup >Panel >Config >Link/Program Button >Joystick/Trackball Module          |
| 7321.18     | Engineering Setup >Panel >Config >Operation Inhibit >M/E Operation Inhibit                |
| 7321.19     | Engineering Setup >Panel >Config >Link/Program Button >Menu Panel                         |
| 7321.29     | Engineering Setup >Panel >Config >Link/Program Button >Key Control Module >Button Assign  |
| 7321.32     | Engineering Setup >Panel >Config >Compact Key Module Assign >Extension Port               |
| 7322        | Engineering Setup >Panel >Xpt Assign  |
| 7322.5      | Engineering Setup >Panel >Xpt Assign >Main, V/K Pair Assign                               |
| 7322.6      | Engineering Setup >Panel >Xpt Assign >Src Name/LCD Color                                  |
| 7323        | Engineering Setup >Panel >Aux Assign  |
| 7325.1      | Engineering Setup >Panel >Device Interface >GPI Input                                     |
| 7325.3      | Engineering Setup >Panel >Device Interface >GPI Output                                    |
| 7331        | Engineering Setup >Switcher >Config   |
| 7331.1      | Engineering Setup >Switcher >Config >M/E Output Assign                                    |
| 7331.2      | Engineering Setup >Switcher >Config >PGM Config   |
| 7331.3      | Engineering Setup >Switcher >Config >K-PVW Config   |
| 7331.6      | Engineering Setup >Switcher >Config >DME Config   |
| 7333.1      | Engineering Setup >Switcher >Output >Output Assign  |



# Using the M/E-4 or M/E-5 Bank

## Assigning a Button for M/E-4 or M/E-5 Selection in the Setup Menu

- In the factory defaults for this system, M/E-4 and M/E-5 are not assigned to buttons on the control panel.
- To select M/E-4 or M/E-5, assign buttons in the Setup menu according to the following table.

### Notes

On the MVS-8000X, M/E-5 cannot be used. M/E-5 operation and settings are disabled, even if they appear in the menu.

| Control block                | Button                     | Menu number      | Reference in User Guide<br>“Control Panel Setup (Panel)” and “Cross-Point Settings (Xpt Assign Menu)” in Chapter 19 (Volume 2)   |
|------------------------------|----------------------------|------------------|--|
| Cross-point control block    | Reentry buttons            | 7322.1<br>7322.5 | “Creating Cross-Point Assign Tables”<br>Engineering Setup >Panel >Xpt Assign >Table Button Assign menu<br>Engineering Setup >Panel >Xpt Assign >Main, V/K Pair Assign menu |
| Entire switcher bank         | -                          | 7321             | “Interchanging the Bank Order or Disabling Operation”<br>Engineering Setup >Panel >Config menu   |
| Key control block            | Delegation buttons         | 7321.29          | “Assigning Functions to Key Control Block Buttons”<br>Engineering Setup >Panel >Config >Link/Program Button >Key Control Module >Button Assign menu                        |
| Device control block         | Region selection buttons   | 7321.17          | “Assigning Functions to the Device Control Block”<br>Engineering Setup >Panel >Config >Link/Program Button >Joystick/Trackball Module menu                                 |
| Numeric keypad control block | Region selection buttons   | 7321.7           | “Assigning a Region to the Region Selection Buttons in the Numeric Keypad Control Block”<br>Engineering Setup >Panel >Config >10 Key Region Assign menu                    |
| Menu control block           | Top menu selection buttons | 7321.19          | “Assigning Functions to the Menu Control Block Top Menu and User Preference Buttons”<br>Engineering Setup >Panel >Config >Link/Program Button >Menu Panel menu             |

# Using Keys 5 to 8

**Notes**

Keys 5 to 8 cannot be used when the signal format is 1080P.

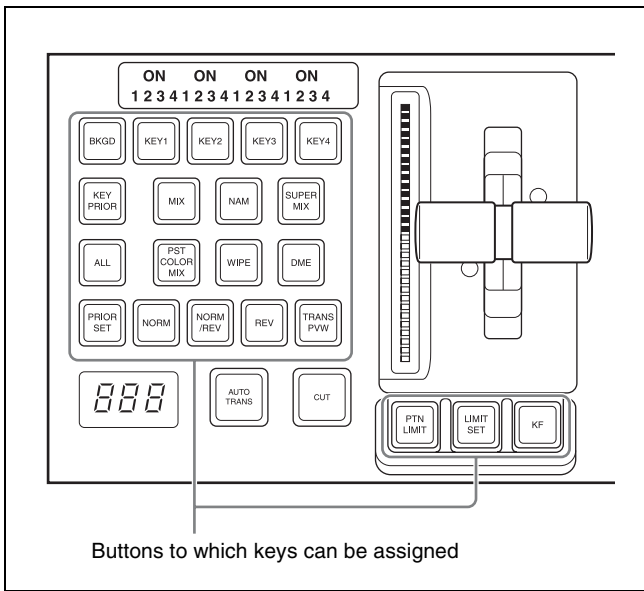
## Assigning Buttons for Selection of Keys 5 to 8 in the Setup Menu

In the factory defaults for this system, keys 5 to 8 are not assigned to buttons on the control panel.

To select keys 5 to 8, assign buttons in the Setup menu according to the following table.

| Control block                    | Button                                       | Menu number | Reference in User Guide  |
|----------------------------------|--|-------------|--|
|                                  |  |             | “Control Panel Setup (Panel)” and “Cross-Point Settings (Xpt Assign Menu)” in Chapter 19 (Volume 2)  |
| Transition control block         | Next transition selection buttons            | 7321.9      | “Setting Transition Control Block Button Assignments”<br>Engineering Setup >Panel >Config >Link/Program Button >Transition Module1 menu  |
| Cross-point control block        | SHIFT button                                 | 7322.1      | “Creating Cross-Point Assign Tables” “Setting the action of the [SHIFT] button in the cross-point control block”<br>Engineering Setup >Panel >Xpt Assign >Table Button Assign menu |
| Key control block                | Delegation button                            | 7321.35     | “Assigning Functions to Key Control Block Buttons”<br>Engineering Setup >Panel >Config >Link/Program Button >CCP-9000 Key Deleg menu   |
| Transition control block         | Independent key transition execution section | 7321.34     | “Setting Transition Control Block Button Assignments”<br>Engineering Setup >Panel >Config >Link/Program Button >Transition Module3 menu  |
| Downstream key control block     | Key delegation buttons                       | 7321.1      | “Assigning the Key Delegation in the Downstream Key Control Block”<br>Engineering Setup >Panel >Config >DSK Fader Assign menu  |
| Device control block (joystick)  | Operating buttons                            | 7321.31     | “Selecting the Module to be the Reference for Device Control Block”<br>Engineering Setup >Panel >Config >JS/TB User Setting menu   |
| Device control block (trackball) |  |             |  |

## Selecting Keys 5 to 8 for Next Transition



To select keys 5 to 8 for the next transition, in addition to assigning [KEY5] to [KEY8] for the operation, it is also possible to make the selection with [KEY1/5], [KEY2/6], [KEY3/7], [KEY4/8], [SHIFT], and [ADD].

The following describes this method of operation.

First in the Setup menu, assign the following to any buttons:

[KEY1/5], [KEY2/6], [KEY3/7], [KEY4/8], [SHIFT], and [ADD]

By way of example, this is the procedure for [KEY1/5].

### To select key 5

Press [SHIFT], turning it on, then press the [KEY1/5] button.

### To select keys 1 and 5 simultaneously

- 1** Press the [KEY1/5] button alone.

This selects key 1.

- 2** Press [SHIFT], turning it on.

- 3** Holding down [ADD], press the [KEY1/5] button.

This selects keys 1 and 5 simultaneously.

# Menus Accessed by Pressing a Button Twice

For relevant buttons other than the top menu selection buttons, pressing twice in rapid succession directly recalls a related menu page. The following table lists these buttons of each control block, together with the menus they recall.

Cross-point control block

| Buttons                            | Menus  | See             |
|------------------------------------|--|-----------------|
| FM1 to 8 signals assigned buttons  | Frame Memory >Still >Recall  | <i>page 167</i> |
| Color Bkgd1 signal assigned button | Color Bkgd >Color Bkgd1  | <i>page 186</i> |
| Color Bkgd2 signal assigned button | Color Bkgd >Color Bkgd2  |                 |
| CCR1 signal assigned button        | CCR >CCR1 >XX  | <i>page 197</i> |
| CCR2 signal assigned button        | CCR >CCR2 >XX  |                 |
| DME1 to DME4                       | DME >XX  | <i>page 243</i> |
| KEY1 to KEY8 (DSK1 to DSK8)        | <ul style="list-style-type: none"> <li>M/E-1 &gt;Key1, 2, 3, 4, 5, 6, 7, 8 &gt;XX</li> <li>PGM/PST &gt;DSK1, 2, 3, 4, 5, 6, 7, 8 &gt;XX</li> </ul> | <i>page 95</i>  |

Transition control block

| Buttons  | Menus  | See             |
|--|--|-----------------|
| KEY1 (DSK1)                                    | <ul style="list-style-type: none"> <li>M/E-1 &gt;Key1 &gt;XX</li> <li>PGM/PST &gt;DSK1 &gt;XX</li> </ul> | <i>page 95</i>  |
| KEY2 (DSK2)                                    | <ul style="list-style-type: none"> <li>M/E-1 &gt;Key2 &gt;XX</li> <li>PGM/PST &gt;DSK2 &gt;XX</li> </ul> |                 |
| KEY3 (DSK3)                                    | <ul style="list-style-type: none"> <li>M/E-1 &gt;Key3 &gt;XX</li> <li>PGM/PST &gt;DSK3 &gt;XX</li> </ul> |                 |
| KEY4 (DSK4)                                    | <ul style="list-style-type: none"> <li>M/E-1 &gt;Key4 &gt;XX</li> <li>PGM/PST &gt;DSK4 &gt;XX</li> </ul> |                 |
| KEY5 (DSK5)                                    | <ul style="list-style-type: none"> <li>M/E-1 &gt;Key5 &gt;XX</li> <li>PGM/PST &gt;DSK5 &gt;XX</li> </ul> |                 |
| KEY6 (DSK6)                                    | <ul style="list-style-type: none"> <li>M/E-1 &gt;Key6 &gt;XX</li> <li>PGM/PST &gt;DSK6 &gt;XX</li> </ul> |                 |
| KEY7 (DSK7)                                    | <ul style="list-style-type: none"> <li>M/E-1 &gt;Key7 &gt;XX</li> <li>PGM/PST &gt;DSK7 &gt;XX</li> </ul> |                 |
| KEY8 (DSK8)                                    | <ul style="list-style-type: none"> <li>M/E-1 &gt;Key8 &gt;XX</li> <li>PGM/PST &gt;DSK8 &gt;XX</li> </ul> |                 |
| WIPE   | M/E-1, PGM/PST >Wipe >Main Pattern   | <i>page 127</i> |
| DME  | M/E-1, PGM/PST >DME Wipe >XX   | <i>page 147</i> |
| SUPER MIX                                      | M/E-1, PGM/PST >Misc >Transition   | <i>page 77</i>  |
| PST COLOR MIX                                  | M/E-1, PGM/PST >Misc >Transition   | <i>page 77</i>  |
| FM1&2 CLIP, FM3&4 CLIP, FM5&6 CLIP, FM7&8 CLIP | M/E-1, PGM/PST >Misc >Clip Transition  | <i>page 177</i> |
| PRIOR SET                                      | M/E-1, PGM/PST >Misc >Key Priority   | <i>page 74</i>  |
| KEY PRIOR                                      | M/E-1, PGM/PST >Misc >Next Key Priority  | <i>page 75</i>  |



Key control block <sup>a)</sup>

| Buttons | Menus   | See      |
|---------|---|----------|
| KEY1    | <ul style="list-style-type: none"> <li>M/E-1 &gt;Key1 &gt;XX</li> <li>PGM/PST &gt;DSK1 &gt;XX</li> </ul>  | page 95  |
| KEY2    | <ul style="list-style-type: none"> <li>M/E-1 &gt;Key2 &gt;XX</li> <li>PGM/PST &gt;DSK2 &gt;XX</li> </ul>  |          |
| KEY3    | <ul style="list-style-type: none"> <li>M/E-1 &gt;Key3 &gt;XX</li> <li>PGM/PST &gt;DSK3 &gt;XX</li> </ul>  |          |
| KEY4    | <ul style="list-style-type: none"> <li>M/E-1 &gt;Key4 &gt;XX</li> <li>PGM/PST &gt;DSK4 &gt;XX</li> </ul>  |          |
| KEY5    | <ul style="list-style-type: none"> <li>M/E-1 &gt;Key5 &gt;XX</li> <li>PGM/PST &gt;DSK5 &gt;XX</li> </ul>  |          |
| KEY6    | <ul style="list-style-type: none"> <li>M/E-1 &gt;Key6 &gt;XX</li> <li>PGM/PST &gt;DSK6 &gt;XX</li> </ul>  |          |
| KEY7    | <ul style="list-style-type: none"> <li>M/E-1 &gt;Key7 &gt;XX</li> <li>PGM/PST &gt;DSK7 &gt;XX</li> </ul>  |          |
| KEY8    | <ul style="list-style-type: none"> <li>M/E-1 &gt;Key8 &gt;XX</li> <li>PGM/PST &gt;DSK8 &gt;XX</li> </ul>  |          |
| LUM     | <ul style="list-style-type: none"> <li>M/E-1 &gt;Key1, 2, 3, 4, 5, 6, 7, 8 &gt;Type</li> <li>PGM/PST &gt;DSK1, 2, 3, 4, 5, 6, 7, 8 &gt;Type</li> </ul>                                      | page 96  |
| LIN     |   |          |
| CVK     |   |          |
| PTN     |   |          |
| CRK     | <ul style="list-style-type: none"> <li>M/E-1 &gt;Key 1, 2, 3, 4, 5, 6, 7, 8 &gt;Type &gt;Chroma Adjust</li> <li>PGM/PST &gt;DSK1, 2, 3, 4, 5, 6, 7, 8 &gt;Type &gt;Chroma Adjust</li> </ul> | page 100 |

a) The menu recalled depends on which of the M/E delegation buttons and key delegation buttons are selected in the key control block.

Numeric keypad control block

| Buttons                  | Menus  | See                      |
|--------------------------|--|--------------------------|
| EFF                      | <ul style="list-style-type: none"> <li>Effect &gt;Effect 1-99 &gt;XX <sup>b)</sup></li> <li>Effect &gt;Master Timeline &gt;Store <sup>c)</sup></li> </ul>  | Chapter 13<br>(Volume 2) |
| SNAPSHOT                 | <ul style="list-style-type: none"> <li>Snapshot &gt;Snapshot &gt;XX <sup>b)</sup></li> <li>Snapshot &gt;Master Snapshot &gt;Store <sup>c)</sup></li> </ul> | Chapter 14<br>(Volume 2) |
| SHOTBOX                  | Shotbox >Register >Store/Recall  | Chapter 15<br>(Volume 2) |
| MCRO                     | Macro >Register >XX  | Chapter 16<br>(Volume 2) |
| TRANS RATE <sup>a)</sup> | Misc >Transition >Key/ME/FTB   | page 192                 |
| STORE RCALL              | Key Frame >Region Select <sup>d)</sup>   | Chapter 13<br>(Volume 2) |

a) The menu recalled depends on which of the M/E-1 bank and PGM/PST bank the numeric control block is delegated to.

b) When other than [MASTR] is selected with the region selection buttons.

c) When [MASTR] is selected with the region selection buttons.

d) When the [SNAPSHOT] button or [EFF] button is set to On, or lit green.

Downstream key control block <sup>a)</sup>

| Buttons                  | Menus  | See                   |
|--------------------------|--|-----------------------|
| DSK1                     | <ul style="list-style-type: none"> <li>M/E-1 &gt;Key1 &gt;XX</li> <li>PGM/PST &gt;DSK1 &gt;XX</li> </ul>   | page 95               |
| DSK2                     | <ul style="list-style-type: none"> <li>M/E-1 &gt;Key2 &gt;XX</li> <li>PGM/PST &gt;DSK2 &gt;XX</li> </ul>   |                       |
| DSK3                     | <ul style="list-style-type: none"> <li>M/E-1 &gt;Key3 &gt;XX</li> <li>PGM/PST &gt;DSK3 &gt;XX</li> </ul>   |                       |
| DSK4                     | <ul style="list-style-type: none"> <li>M/E-1 &gt;Key4 &gt;XX</li> <li>PGM/PST &gt;DSK4 &gt;XX</li> </ul>   |                       |
| WIPE                     | <ul style="list-style-type: none"> <li>M/E-1 &gt;Key1, 2, 3, 4, 5, 6, 7, 8 &gt;Transition &gt;DME Wipe Adjust &gt;Pattern Select</li> <li>PGM/PST &gt;DSK1, 2, 3, 4, 5, 6, 7, 8 &gt;Transition &gt;Wipe Adjust &gt;1ch Pattern Select</li> </ul>     | page 139              |
| DME                      | <ul style="list-style-type: none"> <li>M/E-1 &gt;Key1, 2, 3, 4, 5, 6, 7, 8 &gt;Transition &gt;DME Wipe Adjust &gt;Pattern Select</li> <li>PGM/PST &gt;DSK1, 2, 3, 4, 5, 6, 7, 8 &gt;Transition &gt;DME Wipe Adjust &gt;1ch Pattern Select</li> </ul> | page 153              |
| K-SS STORE <sup>b)</sup> | Snapshot >Key Snapshot >XX   | Chapter 14 (Volume 2) |

a) The menu recalled depends on which of keyers 1 to 8 the downstream key control block is delegated to.

b) Recalling is possible only when the [K-SS] button is On.

Auxiliary bus control block

| Buttons                            | Menus                       | See      |
|------------------------------------|-----------------------------|----------|
| FMS1, FMS2                         | Frame Memory >Still >Recall | page 167 |
| FM1 to 8 signals assigned buttons  | Frame Memory >Still >Recall | page 167 |
| Color Bkgd1 signal assigned button | Color Bkgd >Color Bkgd1     | page 186 |
| Color Bkgd2 signal assigned button | Color Bkgd >Color Bkgd2     |          |
| CCR1 signal assigned button        | CCR >CCR1 >XX               | page 197 |
| CCR2 signal assigned button        | CCR >CCR2 >XX               |          |

Device control block (trackball)

| Buttons                             | Menus  | See                   |
|-------------------------------------|--|-----------------------|
| DME1 to DME8 <sup>a)</sup>          | DME >XX  | page 243              |
| DEV1 to DEV12 assigned buttons      | <ul style="list-style-type: none"> <li>Device &gt;DDR/VTR &gt;Cueup &amp; Play <sup>b)</sup></li> <li>Device &gt;DDR/VTR &gt;Timeline <sup>c)</sup></li> </ul>                           | Chapter 12 (Volume 2) |
| FM1CLIP to FM8CLIP assigned buttons | Frame Memory >Clip >Recall   | —                     |
| K1RSZ to K8RSZ <sup>d)</sup>        | <ul style="list-style-type: none"> <li>M/E-1 &gt;Key1, 2, 3, 4, 5, 6, 7, 8 &gt;Processed Key/Resizer</li> <li>PGM/PST &gt;DSK1, 2, 3, 4, 5, 6, 7, 8 &gt;Processed Key/Resizer</li> </ul> | page 118              |

a) When the three-dimensional transformation operation mode is enabled.

c) When the [MENU] button is On.

b) When the [MENU] button is Off.

d) or the MVS-8000G in resizer control mode

Device control block (search dial)

| Buttons                             | Menus  | See                   |
|-------------------------------------|--|-----------------------|
| DEV1 to DEV12                       | <ul style="list-style-type: none"> <li>Device &gt;DDR/VTR &gt;Cueup &amp; Play <sup>a)</sup></li> <li>Device &gt;DDR/VTR &gt;Timeline <sup>b)</sup></li> </ul> | Chapter 12 (Volume 2) |
| FM1CLIP to FM8CLIP assigned buttons | Frame Memory >Clip >Recall   | —                     |

a) When the [TIMELINE] button is Off.

b) When the [TIMELINE] button is On.

# Menus Allowing a Return to Default Settings

| Top menu selection button name | VF number (HF number) | Menu number             | Menu name               |
|--------------------------------|-----------------------|-------------------------|-------------------------|
| M/E1                           | VF1 <sup>a)</sup>     | 1110-series/1510-series | Key1/Key5 <sup>b)</sup> |
|                                | VF2 <sup>a)</sup>     | 1120-series/1520-series | Key2/Key6 <sup>b)</sup> |
|                                | VF3 <sup>a)</sup>     | 1130-series/1530-series | Key3/Key7 <sup>b)</sup> |
|                                | VF4 <sup>a)</sup>     | 1140-series/1540-series | Key4/Key8 <sup>b)</sup> |
|                                | VF5                   | 1150-series             | Wipe <sup>b)</sup>      |
|                                | VF6                   | 1160-series             | DME Wipe <sup>b)</sup>  |
|                                | VF7                   | 1170-series             | Misc <sup>b)</sup>      |
| M/E2                           | VF1 <sup>a)</sup>     | 1210-series/1610-series | Key1/Key5 <sup>b)</sup> |
|                                | VF2 <sup>a)</sup>     | 1220-series/1620-series | Key2/Key6 <sup>b)</sup> |
|                                | VF3 <sup>a)</sup>     | 1230-series/1630-series | Key3/Key7 <sup>b)</sup> |
|                                | VF4 <sup>a)</sup>     | 1240-series/1640-series | Key4/Key8 <sup>b)</sup> |
|                                | VF5                   | 1250-series             | Wipe <sup>b)</sup>      |
|                                | VF6                   | 1260-series             | DME Wipe <sup>b)</sup>  |
|                                | VF7                   | 1270-series             | Misc <sup>b)</sup>      |
| M/E3                           | VF1 <sup>a)</sup>     | 1310-series/1710-series | Key1/Key5 <sup>b)</sup> |
|                                | VF2 <sup>a)</sup>     | 1320-series/1720-series | Key2/Key6 <sup>b)</sup> |
|                                | VF3 <sup>a)</sup>     | 1330-series/1730-series | Key3/Key7 <sup>b)</sup> |
|                                | VF4 <sup>a)</sup>     | 1340-series/1740-series | Key4/Key8 <sup>b)</sup> |
|                                | VF5                   | 1350-series             | Wipe <sup>b)</sup>      |
|                                | VF6                   | 1360-series             | DME Wipe <sup>b)</sup>  |
|                                | VF7                   | 1370-series             | Misc <sup>b)</sup>      |
| M/E4                           | VF1 <sup>a)</sup>     | 8110-series/8510-series | Key1/Key5 <sup>b)</sup> |
|                                | VF2 <sup>a)</sup>     | 8120-series/8520-series | Key2/Key6 <sup>b)</sup> |
|                                | VF3 <sup>a)</sup>     | 8130-series/8530-series | Key3/Key7 <sup>b)</sup> |
|                                | VF4 <sup>a)</sup>     | 8140-series/8540-series | Key4/Key8 <sup>b)</sup> |
|                                | VF5                   | 8150-series             | Wipe <sup>b)</sup>      |
|                                | VF6                   | 8160-series             | DME Wipe <sup>b)</sup>  |
|                                | VF7                   | 8170-series             | Misc <sup>b)</sup>      |
| M/E5                           | VF1 <sup>a)</sup>     | 8210-series/8610-series | Key1/Key5 <sup>b)</sup> |
|                                | VF2 <sup>a)</sup>     | 8220-series/8620-series | Key2/Key6 <sup>b)</sup> |
|                                | VF3 <sup>a)</sup>     | 8230-series/8630-series | Key3/Key7 <sup>b)</sup> |
|                                | VF4 <sup>a)</sup>     | 8240-series/8640-series | Key4/Key8 <sup>b)</sup> |
|                                | VF5                   | 8250-series             | Wipe <sup>b)</sup>      |
|                                | VF6                   | 8260-series             | DME Wipe <sup>b)</sup>  |
|                                | VF7                   | 8270-series             | Misc <sup>b)</sup>      |

| Top menu selection button name | VF number (HF number) | Menu number             | Menu name                           |
|--------------------------------|-----------------------|-------------------------|-------------------------------------|
| P/P                            | VF1 <sup>a)</sup>     | 1410-series/1810-series | DSK1/DSK5 <sup>b)</sup>             |
|                                | VF2 <sup>a)</sup>     | 1420-series/1820-series | DSK2/DSK6 <sup>b)</sup>             |
|                                | VF3 <sup>a)</sup>     | 1430-series/1830-series | DSK3/DSK7 <sup>b)</sup>             |
|                                | VF4 <sup>a)</sup>     | 1440-series/1840-series | DSK4/DSK8 <sup>b)</sup>             |
|                                | VF5                   | 1450-series             | Wipe <sup>b)</sup>                  |
|                                | VF6                   | 1460-series             | DME Wipe <sup>b)</sup>              |
|                                | VF7                   | 1470-series             | Misc <sup>b)</sup>                  |
| COLOR BKGD                     | VF1                   | 2210                    | Color Bkgd 1 <sup>b)</sup>          |
|                                | VF2                   | 2220                    | Color Bkgd 2 <sup>b)</sup>          |
| CCR                            | VF1                   | 2410-series             | CCR1 <sup>b)</sup>                  |
|                                | VF2                   | 2420-series             | CCR2 <sup>b)</sup>                  |
| FRAME MEM                      | VF1                   | 2510-series             | Still <sup>c)</sup>                 |
|                                | VF2                   | 2520-series             | Clip <sup>c)</sup>                  |
|                                | VF3                   | 2530-series             | Reposition/Lock <sup>c)</sup>       |
|                                | VF4                   | 2540-series             | File <sup>c)</sup>                  |
|                                | VF5                   | 2550-series             | Folder <sup>c)</sup>                |
| AUX                            | VF1                   | 2311                    | Aux Bus <sup>c)</sup>               |
| DME                            | VF1                   | 4110-series             | Edge <sup>c)</sup>                  |
|                                | VF2                   | 4120-series             | Video Modify <sup>c)</sup>          |
|                                | VF3                   | 4131                    | Freeze <sup>c)</sup>                |
|                                | VF4                   | 4141                    | Non-Linear <sup>c)</sup>            |
|                                | VF5                   | 4150-series             | Light/Trail <sup>c)</sup>           |
|                                | VF6                   | 4160-series             | Input/Output <sup>c)</sup>          |
|                                | VF7                   | 4170-series             | Enhanced Video Modify <sup>b)</sup> |
| GLB EFF                        | VF1                   | 4210-series             | Ch1–Ch4 <sup>c)</sup>               |
|                                | VF2                   | 4220-series             | Ch5–Ch8 <sup>c)</sup>               |
| KEY FRAME                      | (HF3)                 | 6113                    | Path <sup>c)</sup>                  |

a) VF1 to VF4 are shared between Key1 (DSK1) to Key4 (DSK4) and Key5 (DSK5) to Key8 (DSK8).

b) Menu to return to the default settings for particular functions or for particular knob parameters (*for the relevant knob parameters, see page 358*)

c) Menu to return to the default settings for particular knob parameters (*for the relevant knob parameters, see page 358*)

Knob parameters to which default recall does not apply

| Menu number <sup>a)</sup> | Menu name           | Button name                                  | Knob                              | Parameter             |
|---------------------------|---------------------|--|-----------------------------------|-----------------------|
| 1111                      | Type                | [Luminance] and [Linear] in <Key Type> group | 4                                 | Filter                |
|                           |                     | [Color Vector] in <Key Type> group           | 1<br>2<br>(Parameter group [2/2]) | Y Filter,<br>C Filter |
| 1111.1                    | Type >Chroma Adjust | [Key Active]                                 | 5                                 | Filter                |
|                           |                     | [Color Cancel] in <Color Cancel> group       | 5                                 | Filter                |
| 1112.1                    | Edge >Matte Adjust  | [Mix Color] in <Edge Matte> group            | 5                                 | Pattern               |
|                           |                     | [Multi]                                      | 3                                 | Invert Type           |
| 1113                      | Main Mask           | [Pattern]                                    | 5                                 | Pattern               |
|                           |                     | [Multi]                                      | 3                                 | Invert Type           |

Knob parameters to which default recall does not apply

| Menu number <sup>a)</sup> | Menu name                    | Button name   | Knob   | Parameter                  |
|---------------------------|------------------------------|---|--------|----------------------------|
| 1116                      | Transition                   | [Wipe] in <ON Transition Type> group  | 1<br>5 | Transition Rate<br>Pattern |
|                           |                              | [Wipe] in <OFF Transition Type> group   | 1<br>5 | Transition Rate<br>Pattern |
|                           |                              | [Key Blink] and [Edge Blink] in <Blink> group   | 1      | Blink Rate                 |
|                           |                              | [Mix] in <Transition Type> group  | 1      | Transition Type            |
|                           |                              | [Wipe] in <Transition Type> group   | 1<br>5 | Transition Rate<br>Pattern |
| 1116.1                    | Transition >Wipe Adjust      | [Multi]   | 3      | Invert Type                |
|                           |                              | [H] and [V] in <Pairing> group  | 1      | Width                      |
|                           |                              | [H], [V], and [Fringe] in <Modulation> group  | 4      | Shape                      |
| 1154                      | Edge/Direction               | [Split] in <Edge> group   | 1      | Split No                   |
| 1154.1                    | Edge/Direction >Matte Adjust | [Mix Color] in <Edge Matte> group   | 3      | Pattern                    |
|                           |                              | [Multi]   | 3      | Invert Type                |
| 1155                      | Main Modify                  | [H] and [V] in <Pairing> group  | 1      | Width                      |
|                           |                              | [H], [V], and [Fringe] in <Modulation> group  | 4      | Shape                      |
| 1164                      | Edge/Direction               | [Independent Trans Rate] in <Pattern Limit Release> group   | 1      | Transition Rate            |
| 1171                      | Transition                   | [Mix], [Nam], [Super Mix], [Preset Color Mix], [Wipe], [DME Wipe], and [FTB] in <Transition Type> group | 1      | Transition Rate            |

a) The menu numbers shown by way of example are those for M/E-1: the same applies for M/E-2, M/E-3, M/E-4, M/E-5, and P/P. Also, content applying to Key1 applies equally to Key2 to Key8.

Knob parameters subject to restriction on default recall

| Menu number          | Menu name                    | Button name                        | Knob   | Parameter                |
|----------------------|------------------------------|------------------------------------|--------|--------------------------|
| 1111.1 <sup>a)</sup> | Type >CRK Adjust             | [Sample Mark] in the <Auto> group  | 1<br>2 | Position H<br>Position V |
| 1112.1 <sup>a)</sup> | Edge >Matte Adjust           | [Position]                         |        |                          |
| 1113 <sup>a)</sup>   | Main Mask                    | [Position]                         |        |                          |
| 1116.1 <sup>a)</sup> | Transition >Wipe Adjust      | [Position]                         |        |                          |
| 1116.3 <sup>a)</sup> | Transition >DME Wipe Adjust  | [Position]                         | 1<br>2 | H<br>V                   |
| 1154.1 <sup>a)</sup> | Edge Direction >Matte Adjust | [Position]                         | 1<br>2 | Position H<br>Position V |
| 1155 <sup>a)</sup>   | Main Modify                  | [Position] in the <Position> group |        |                          |
| 1155.1 <sup>a)</sup> | Main Modify >Multi Adjust    | [Position]                         |        |                          |
| 1156 <sup>a)</sup>   | Sub Modify                   | [Position] in the <Position> group |        |                          |
| 1156.1 <sup>a)</sup> | Sub Modify >Multi Adjust     | [Position]                         |        |                          |

Knob parameters subject to restriction on default recall

| Menu number          | Menu name                               | Button name     | Knob   | Parameter                |
|----------------------|---|-----------------|--------|--------------------------|
| 2122.2               | Composite >Pattern Adjust               | [Position]      | 1<br>2 | Position H<br>Position V |
| 2131                 | Reposition                              | [Normal]        |        |                          |
|                      |   | [Black&White]   |        |                          |
| 2210                 | Color Bkgd1 <sup>b)</sup>               | [Position]      |        |                          |
| 2412.1 <sup>c)</sup> | Primary CCR >Mask1 Adjust <sup>d)</sup> | [Position]      | 5      | Pattern                  |
| 4116                 | DME >Edge >Wipe Crop                    | [Position/Size] |        |                          |
| 4127                 | DME >Video Modify >Mask                 | [Position/Size] |        |                          |

a) The menu numbers shown by way of example are those for M/E-1: the same applies to M/E-2, M/E-3, M/E-4, M/E-5, and P/P. Equally, content applying to Key1 applies equally to Key2 to Key8.











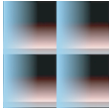
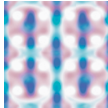



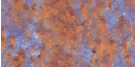
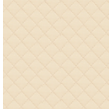

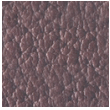



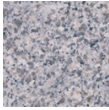





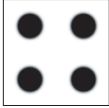
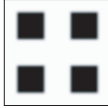
b) The same applies to Color Bkgd2.

c) The menu numbers shown by way of example are those for CCR1: the same applies to CCR2.

d) The sample applies to Mask2 Adjust.



# Spotlighting

## Texture Patterns

|    |   |    |   |    |   |    |  |    |   |    |   |
|----|---|----|---|----|---|----|--|----|---|----|---|
| 1  |    | 2  |    | 3  |    | 4  |    | 5  |    | 6  |    |
| 7  |    | 8  |    | 9  |    | 10 |    | 11 |    | 12 |    |
| 13 |    | 14 |    | 15 |    | 16 |    | 17 |    | 18 |    |
| 19 |   | 20 |   | 21 |    | 22 |    | 23 |   | 24 |   |
| 25 |  | 26 |  | 27 |  | 28 |  | 29 |  | 30 |  |

Material provided by Digital Archive Japan, INC.

## Shape Patterns

|   |   |   |   |
|---|---|---|---|
| 1 |  | 2 |  |
|---|---|---|---|

# Functional Differences With Models of DME

| Function   | Menu number  | MVE-8000A                                    | MVE-9000                                   | MKS-7470X/7471X                            | See                                |
|--|--------------|--|--|--|------------------------------------|
| Selection of signal to insert in the border  | 4111         | Flat Color only                              | Flat Color<br>Ext Video<br>Mix Color       | Flat Color<br>Ext Video<br>Mix Color       | <i>page 244</i>                    |
| Key Border   | 4113         | No   | Cannot be turned on when Glow is on.       | Cannot be turned on when Glow is on.       | <i>page 247</i>                    |
| Art Edge   | 4114         | No   | Yes  | Yes  | <i>page 247</i>                    |
| Flex Shadow  | 4115         | No   | Yes  | Yes <sup>a)</sup>                          | <i>page 251</i>                    |
| Wipe Crop  | 4116         | No   | Yes  | Yes  | <i>page 255</i>                    |
| Color Mix  | 4117         | No   | Yes  | Yes  | <i>page 257</i>                    |
| Defocus/Blur   | 4121         | Cannot be turned on when Glow is on.         | Yes  | Yes  | <i>page 258</i>                    |
| Mask   | 4127         | Yes <sup>b)</sup>                            | Yes  | Yes  | <i>page 265</i>                    |
| Adjustment of entire image brightness in Lighting/Spotlighting (parameter [Total Ambient]) | 4151<br>4156 | No   | Yes  | Yes  | <i>page 284</i><br><i>page 294</i> |
| Setting the bar mode of the highlight area   | 4151         | No   | Yes  | Yes  | <i>page 285</i>                    |
| Adjustment of color of the diffuse light area (parameter [Bar Diffuse Color])              | 4151         | No   | Yes  | Yes  | <i>page 286</i>                    |
| Selection of signal to insert in the trail afterimage portion                              | 4152         | Freeze Video<br>Flat Color<br>Hue Rotate     | Without limitation                         | Without limitation                         | <i>page 286</i>                    |
| Combine process for Trail  | 4152         | No   | Yes  | Yes  | <i>page 287</i>                    |
| Defocus function for Trail   | 4152         | No   | Yes  | Yes  | <i>page 287</i>                    |
| Combine process for Keyframe Strobe  | 4154         | No   | Yes  | Yes  | <i>page 289</i>                    |
| Wind   | 4155         | No   | Yes  | Yes  | <i>page 290</i>                    |
| Spotlighting   | 4156         | No   | Yes  | Yes  | <i>page 291</i>                    |
| Selection of signal to insert in the background  | 4161         | Flat Color only                              | Flat Color<br>Ext Video<br>Mix Color       | Flat Color<br>Ext Video<br>Mix Color       | <i>page 299</i>                    |
| Interpolation settings   | 4163         | Yes (SD only)                                | Yes (both SD/HD)                           | Yes (both SD/HD)                           | <i>page 301</i>                    |
| Anti-moiré filter  | 4163         | Yes (HD only)                                | No   | No   | <i>page 302</i>                    |
| Flex shadow axis settings  | 4164         | No   | Yes  | Yes  | <i>page 242</i>                    |
| Dim and Fade   | 4173         | No   | Yes  | Yes  | <i>page 264</i>                    |
| Glow   | 4174         | Cannot be turned on when Defocus/Blur is on. | Cannot be turned on when Key Border is on. | Cannot be turned on when Key Border is on. | <i>page 265</i>                    |
| Combiner depth settings (three-dimensional crossing function) (parameter [Depth])          | 4211         | No   | Yes  | Yes  | <i>page 307</i>                    |



| Function  | Menu number | MVE-8000A  | MVE-9000   | MKS-7470X/7471X  | See  |
|---|-------------|--|--|--|--|
| Adding user texture patterns (for Spotlighting) | 7316.9      | No   | Yes  | Yes  | "Adding User Texture Patterns" in Chapter 18 (Volume 2)                              |
| Setting AUX bus output/reentry input            | 7337.7      | It is not possible to make settings for DME 1 to 8 Ext In. | It is not possible to make settings for DME 1 to 8 Ext In. | It is not possible to make settings for DME 1 to 8 Ext In. | "Setting the AUX Bus Output and Reentry Input" in Chapter 20 (Volume 2)              |
| TBC window center position (Video/Key)          | 7341.1      | Yes only when SDI interface is used.                       | Yes only when SDI interface is used.                       | No   | "Setting the TBC Window Center Position" in Chapter 21 (Volume 2)                    |
| TBC window center position (Ext In)             |             | No   | Yes  | Yes  | "Setting the TBC Window Center Position" in Chapter 21 (Volume 2)                    |
| Adjustment of monitor output video clip level   | 7343        | Yes only when SDI interface is used.                       | Yes only when SDI interface is used.                       | No   | "Adjusting the DME1 and DME2 Output Video Clip Levels" in Chapter 21 (Volume 2)      |
| Settings relating to usage of editor port       | 7344        | Yes  | Yes  | No   | "Interfacing With External Devices (Device Interface Menu)" in Chapter 19 (Volume 2) |
| 1080P supported                                 | 7313.1      | Yes  | No   | Yes  | "Setting the Signal Format (Format Menu)" in Chapter 18 (Volume 2)                   |

a) [External] cannot be selected in the <Flex Shadow Source> group or [Ext Video] cannot be selected in the <Flex Shadow Fill> group.

b) Effect groups 1 and 2 cannot be selected at the same time. Pattern 304 (Round Corner) is not supported.

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**SONY®**

Multi Format Switcher System

**MVS-8000X System**

**MVS-7000X System**

**(With CCP-9000 Series Center Control Panel)**

User's Guide Volume 2 English

Software Version 12.10 and Later

1st Edition (Revised 2)

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# External Devices

## Chapter

# 12

## Control of External Devices

In this system, you can operate while controlling the following types of external device:

- Devices supporting P-Bus (Peripheral II protocol) (referred to as “P-Bus devices” in the manual)
- Devices supporting GPI
- VTRs
- Disk recorder (Sony disk 9-pin protocol, video disk communications protocol, Odetics protocol)
- Extended VTR (Abekas A53 protocol)

*For details on the devices that can be connected, consult your Sony representative.*

Use the Device menu to carry out operations for controlling above external devices.

### To access the Device menu

In the menu control block, press the top menu selection button [DEV].

VTR, Extended VTR, and disk recorder operations are only possible when the optional device control block (MKS-8031TB trackball module or MKS-8036A search dial module) is installed.

#### Notes

- To operate P-Bus devices, VTRs, Extended VTRs, and disk recorders in this system, the following settings are required on the DCU 9-pin serial port.
  - Device type setting
  - Device name
  - Setting of control panel (SCU) to be used*For details of the settings, see “Making Serial Port Settings” (page 571).*
- When using a disk recorder or Extended VTR, be sure to go to the Device >DDR/VTR >File List menu, and recall the file (*see page 384*).

## Shared Functions for External Device Control

### Keyframe functions

There are 250 registers, numbered 1 to 250, holding external device control data as keyframe data (*see page 388*) (only 99 registers for the GPI timeline).

The following are the keyframe functions that can be used.

- RECALL (1-250), STORE (1-250), RECALL UNDO, STORE UNDO, empty register search, AUTO SAVE, RECALL MODE (RECALL, RECALL & REWIND)
- EDIT ENABLE, EDIT UNDO
- CONST DUR, EFF DUR, KF DUR, DELAY, PAUSE, INSERT BEFORE, INSERT AFTER, MODIFY, DELETE, COPY, PASTE BEFORE, PASTE AFTER, FROM TO, ALL
- PREV KF, NEXT KF, GOTO TC, GOTO KF, RUN, REWIND, FF, STOP NEXT KF, NORMAL, JOG, KF FADER

#### Notes

- Actions set in a keyframe are executed only when the keyframe effect is executed in the normal direction. Take care when executing simultaneously with a switcher or DME keyframe effect, since the actions are not executed in the reverse direction.
- The following keyframe functions cannot be used.
  - KF LOOP, EFFECT LOOP, REVERSE, NORMAL/REVERSE
  - PATH

### Saving to registers

Set the data for controlling external devices in the Device menu. You can save the set data in keyframe, snapshot, or shotbox registers (*see page 387*). You can recall the register in which the data is saved, and carry out operations on it with the keyframe control block.

## Editing registers

You can carry out the following operations on the registers in which the data for controlling external devices is saved.

- Copy
- Move
- Swap
- Merge (this cannot be carried out for registers holding VTR, disk recorder, or Extended VTR control data.)
- Lock
- Name

## File related functions

As effect data, you can save and recall, using the File menu.

# Control of P-Bus Devices

You can control P-Bus devices from this system through the 9-pin serial port of a DCU.

## P-Bus device control modes

There are two modes of P-Bus device control, as follows.

**Trigger:** Operating a previously specified button outputs the command for an action assigned to that button.

**Timeline:** Carrying out a keyframe effect under the control of the center control panel controls external devices.

In the setup, select which of Trigger mode and Timeline mode to use.

You can set the following actions (set what action command is output to which device) in both modes.

- Store
- Recall
- Trigger

## Creating and Editing the P-Bus Timeline

At a keyframe point on the P-Bus timeline, you can set an action. At any single keyframe point you can set actions for a maximum of 24 devices.

*For details of keyframe creation and editing operations, see “Creating and Editing Keyframes” (page 399).*

For the action setting (or P-Bus timeline editing), use the Device menu.

You can save the data set in the Device menu in keyframe effect registers. Recalling the register starts execution of the keyframe effect, and when this reaches the keyframe point at which actions are set, action commands are output to external devices through the 9-pin serial port assigned to P-Bus.

### Notes

Using the P-Bus timeline function requires the P-Bus control mode to be set to [Timeline]. Carry out this setting in the Engineering Setup >Panel >Device Interface menu (see page 526).

## Setting an action

- 1 In the Device menu, press VF2 ‘P-Bus Timeline.’

The Device >P-Bus Timeline menu appears.

The status area shows two lists. The left list is for setting combinations of devices and actions. The

settings in this list will be saved as keyframe point data. The right list is for selecting the action.

- 2** Select the P-Bus device for which you want to set an action, by using any of the following methods to specify the device ID.

- Press directly on the list on the left of the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment    | Setting values |
|------|-----------|---------------|----------------|
| 1    | ID        | Device number | 0 to 23        |

- 3** Using either of the following methods, select the action.

- Press directly on the list on the right of the status area.
- Turn the knob.

| Knob | Parameter | Adjustment | Setting values       |
|------|-----------|------------|----------------------|
| 2    | Action No | Action     | 1 to 4 <sup>a)</sup> |

- a) 1: Off (no specification)  
 2: Store  
 3: Recall  
 4: Trigger

- 4** If in step **3** you selected 2 (Store), 3 (Recall), or 4 (Trigger), turn knob 3 to select the register number or trigger number.

The indication for knob 3 changes to reflect the selection of Store, Recall, or Trigger.

| Knob | Parameter  | Adjustment                 | Setting values |
|------|------------|----------------------------|----------------|
| 3    | Store No   | Register number for Store  | 1 to 250       |
| 3    | Recall No  | Register number for Recall | 1 to 250       |
| 3    | Trigger No | Trigger number             | 0 to 15        |

The setting is reflected in the list on the right of the status area.

- 5** Press [Set].

For the device selected in the list on the left of the status area, this sets the action specified in step **4**.

Repeat steps **2** to **5** as required for other devices.

## Testing an action command

To produce a test output of the action command, press [Test Fire].

The action command is output from the 9-pin serial port of the DCU according to the setting in the list on the left of the status area.

## Clearing an action setting

### To clear the setting for separate devices

- 1** In the list on the left of the status area, select the device for which you want to clear the action setting.
- 2** In the list on the right, select “Off.”
- 3** Press [Set].

### To clear the action settings for all devices in a single operation

Press [All Off].

## Setting the action for a rewind operation

On the P-Bus timeline, when the [REWIND] button in the keyframe control block is pressed the action set for the first keyframe is not executed; when the [RUN] button is pressed, then the first keyframe action is executed. To execute an action when the [REWIND] button is pressed, it is necessary to set this action (Rewind Action). To carry out this setting, in the Device >P-Bus Timeline menu, press [Rewind Action] to recall the Rewind Action menu. In this setting screen, use the same setting method as in the screen for setting an action on the P-Bus timeline. Alternatively, you can select the reverse arrangement, whereby when the [REWIND] button is pressed, this executes the action set for the first keyframe, and when the [RUN] button is pressed the first keyframe action is not executed. In this case, the Rewind Action setting is still valid.

*For details, see “Setting the First Keyframe When a Rewind is Executed” (page 529).*

## Carrying out a Direct Store

You can carry out a Learn with the register number specified for the device selected in the menu.

- 1** Using any of the following methods, select the device.
  - Press directly on the list on the left of the status area.
  - Press the arrow keys to scroll the reverse video cursor.
  - Turn the knob.

| Knob | Parameter | Setting   | Setting values |
|------|-----------|-----------|----------------|
| 1    | ID        | Device ID | 0 to 23        |

- 2** In the Device >P-Bus Timeline menu, press [Direct Store].

The numeric keypad window appears.



- 3 Enter the register number for which you want to carry out the Learn.  
The setting range is from 1 to 250.
- 4 Press [Enter].

## P-Bus Trigger

“P-Bus trigger” is a function whereby a button operation in the numeric keypad control block or keyframe control block outputs an action command to a P-Bus device.

### Notes

To use the P-Bus trigger function, the P-Bus control mode must be set to [Trigger]. Make this setting in the Engineering Setup >Panel >Device Interface menu.

*For details, see “Setting the Control Mode for P-Bus Devices” (page 526).*

The relation between the operation in each of the control blocks and the action command output is as follows.

### Action command for an operation in the numeric keypad control block

- RECALL: Recall
- STORE: Store

This recalls the register specified in the numeric keypad control block, and a Recall or Store is carried out, according to the setting.

### Action command for an operation in the keyframe control block

- RUN: Trigger 1
- REWIND: Trigger 4
- NEXT KF: Trigger 7
- PREV KF: Trigger 8

## Outputting an action command

As an example, to output a Recall, use the following procedure.

- 1 In the numeric keypad control block, press the [EFF] button, turning it on.  
  
The [RCALL] button in the numeric keypad control block lights.
- 2 Press the [P-BUS] button in the numeric keypad control block, turning it on, to select the P-Bus region.
- 3 Enter the number of the register (1 to 250) to be recalled with the numeric keypad buttons.
- 4 Press the [ENTER] button in the numeric keypad control block.

# Control of GPI Devices

You can control GPI devices from the control panel of this system, or through the GPI output port of a DCU.

## GPI timeline

For a keyframe effect controlled from the center control panel, the GPI timeline allows you to set an action (setting a trigger output from a particular GPI output port) at a keyframe point on the GPI timeline. At any keyframe point, you can make a maximum of eight GPI output port settings.

### GPI timeline actions

The actions that can be used on the GPI timeline are as follows.

- Control panel GPI output port
- DCU GPI output port

For the GPI output settings (keyframe editing), use the Device menu.

The data set in the Device menu is saved in a keyframe effect register. When you recall this register and start execution of the keyframe effect, and advance the effect to the keyframe point for which the GPI output is set, a trigger pulse is output to the external device from the specified GPI output port.

## GPI Timeline Creation and Editing

This section describes how to set GPI output ports to be registered at a keyframe point, and how to carry out creation and editing of the GPI timeline.

*For details of keyframe creation and editing operations, see “Creating and Editing Keyframes” (page 399).*

## GPI output port settings

Set the GPI output port number of the control panel or DCU which outputs GPI pulses at a keyframe point on the GPI timeline.

Use the following procedure. Use the same procedure to subsequently change the settings.

- 1 In the Device menu, press VF1 ‘GPI Timeline.’

The Device >GPI Timeline menu appears.

The status area shows the “GPI Output” list on the left and the “GPI Port” list on the right.

The “GPI Output” list (on the left) shows the relation between ports 1 to 8 for the GPI timeline and the trigger pulse output destination ports. The content of this list is saved as keyframe data.

The “GPI Port” list (on the right) is for selecting the GPI trigger pulse output destination.

- 2** Using either of the following methods, select the GPI timeline port you want to set on the GPI Timeline.

- Press directly on the list on the left of the status area.
- Turn the knob.

| Knob | Parameter     | Setting                  | Setting values |
|------|---------------|--------------------------|----------------|
| 1    | GPI Output No | GPI timeline port number | 1 to 8         |

- 3** Using either of the following methods, trigger output destination.

- Press directly on the list on the right of the status area.
- Turn the knob.

| Knob | Parameter   | Setting   | Setting values       |
|------|-------------|---|----------------------|
| 2    | GPI Port No | SCU/DCU GPI port to be the trigger output destination | 1 to 3 <sup>a)</sup> |

- a) 1: Off (no specification)  
 2: Control panel (SCU) GPI port  
 3: DCU GPI port

- 4** If in step **3** you selected 2 (SCU) or 3 (DCU), then use the knob to select the port number.

The indication for knob 3 depends on whether SCU or DCU is selected.

| Knob | Parameter   | Setting             | Setting values        |
|------|-------------|---------------------|-----------------------|
| 3    | SCU Port No | SCU GPI port number | 1 to 8                |
| 3    | DCU Port No | DCU GPI port number | 1 to 50 <sup>a)</sup> |

- a) The number of DCU GPI ports depends on the settings in Engineering Setup.

The setting is reflected in the list on the right of the status area.

### Notes

For the output port you have set here, be sure to set the trigger type to “Rising Edge,” “Falling Edge” or “Any Edge.”

For details of the trigger type settings, see “Making Control Panel GPI Output Settings” (page 525) and “Making DCU GPI Output Settings” (page 570).

- 5** Press [Set].

This specifies the SCU/DCU GPI port whose number you specified in step **4** as the pulse output destination

for the GPI timeline port selected in the list on the left of the status area.

Repeat steps **1** to **5** for other GPI timeline ports as required.

## Testing trigger output

To test the trigger output, press [Test Fire].

According to the list settings on the left of the status area, a pulse is output from the selected output port.

## Clearing output port settings

### To clear the settings for each port

- 1** In the list on the left of the status area, select the GPI timeline port whose settings you want to clear.

- 2** In the list on the right, select “Off.”

- 3** Press [Set].

### To clear the settings for all ports

Press [All Off].

## Setting the action for a rewind operation

On the GPI timeline, when the [REWIND] button in the keyframe control block is pressed the action set for the first keyframe is not executed; when the [RUN] button is pressed, then the first keyframe action is executed.

To execute an action when the [REWIND] button is pressed, it is necessary to set this action (Rewind Action). To carry out this setting, in the Device >GPI Timeline menu, press [Rewind Action] to recall the Rewind Action menu. In this setting screen, use the same setting method as in the screen for setting an action on the GPI timeline. Alternatively, you can select the reverse arrangement, whereby when the [REWIND] button is pressed, this executes the action set for the first keyframe, and when the [RUN] button is pressed the first keyframe action is not executed. In this case, the Rewind Action setting is still valid.

For details of the setting, see “Setting the First Keyframe When a Rewind is Executed” (page 529).

# Control of VTRs, Extended VTRs, and Disk Recorders

In this system, for up to 12 VTRs, disk recorders or Extended VTRs connected to a DCU, you can carry out the following manual operations and timeline settings.

- Controlling manually from the device control block (MKS-8031TB or MKS-8036A, option)
- Saving a start point, stop point, start delay time, variable speed and so on in a data register, then recalling the register to control automatically from the keyframe control block (Cueup & Play and VTR/disk recorder/Extended VTR timeline).
- In the Device menu, you can check the following VTR, disk recorder and Extended VTR information:
  - Device name
  - Register number
  - VTR/disk recorder/Extended VTR status
  - Current time
  - Start point
  - Stop point
  - Variable speed
  - Start delay time
  - Loop setting
  - Recue setting

Operations of a VTR, Extended VTR, or disk recorder require the optional device control block (trackball module or search dial module).

To control a VTR, Extended VTR, or disk recorder in this system, the following settings are required.

- **Button assignment:** For a VTR, Extended VTR, or disk recorder connected to the DCU 9-pin serial port, assign a device selection button in the device control block.
- **Timecode source:** When using a VTR, specify a reference signal used for determining the tape position.

For details, see “Making DCU Serial Port Settings” (page 526) and “Making Detailed Settings on the External Device Connected to the Serial Port” (page 572).

## Manual Operation

In the device control block, you can carry out the following operations manually.

- **VTR, disk recorder or Extended VTR selection**
- **Tape transport and disk drive control:** You can use the following tape transport and disk drive control buttons:
  - REC, REW, PLAY, FF, CUE, VAR, SHTL, JOG, STB OFF, STOP, and ALL STOP.

Depending on the settings made in the Setup menu, the CUE, PLAY and STOP operations can be carried out from the transition control block.

For details of the operation of the buttons, see “Transition Control Block” in Chapter 2 (Volume 1).

- **Setting a start point:** For each selected VTR/disk recorder/Extended VTR you can set the start point timecode value as keyframe data.
- **Setting a stop point:** For each selected VTR/disk recorder/Extended VTR you can set the stop point timecode value as keyframe data.
- **Setting a start delay time:** For each selected VTR/disk recorder/Extended VTR you can set the start delay as key frame data.
- **Recording to VTR or disk recorder:** Record video to the selected VTR/disk recorder.
- **Loop/recue setting:** You can select loop or recue as the playback mode. These operate as follows.
  - **When loop is selected:** Playback repeats from the start to the end of the currently recalled file.
  - **When recue is selected:** When playback reaches the stop point, automatically cue up to the start point.

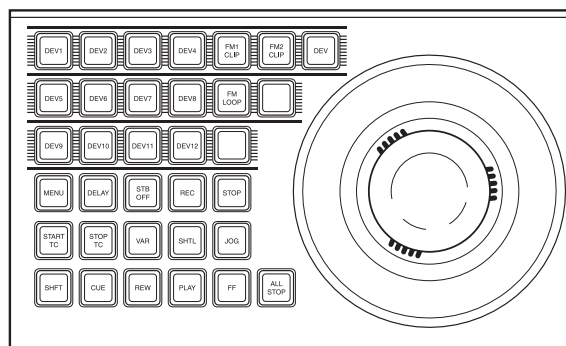
To use the loop or recue function, it is necessary to enable the function in setup.

For details, see “Serial Port Settings (Serial Port Assign Menu)” (page 571).

## Controlling the Tape/Disk Transport

### To switch to VTR/disk recorder/frame memory operation mode

To control a VTR/Extended VTR/disk recorder with the optional device control block (trackball module), press the [DEV] button in the device control block, turning it on, to switch the device control block to the VTR/disk recorder/frame memory operation mode. The button assignment changes as follows (the [SHFT] button is disabled in VTR/disk recorder/frame memory operation mode).



Device control block in the VTR/disk recorder/frame memory operation mode (trackball module)

In the device control block (search dial module), there is no such a mode selection button and you can directly select a device.

## Buttons used when the VTR/disk recorder/frame memory operation mode is enabled

**DELAY:** Press this button, turning it on, to enter a delay value from the numeric keypad control block.

**STB OFF (standby off):** Press this button to switch to standby off mode. This button cannot be used for frame memory clip operations.

**REC (record):** Press this button at the same time as the [PLAY] button to start recording. This button cannot be used for frame memory clip operations.

**STOP:** Press this button to stop the tape, disk or frame memory clip.

**START TC (start timecode):** Press this button to set the timecode of the start point at that time. The timecode of the start point is updated to the current time each time this button is pressed.

When the device the operation applies to is a VTR/disk recorder, the start point updated by the setting of the [MENU] button is as follows.

- **When the [MENU] button is On:** start point of the timeline
- **When the [MENU] button is Off:** start point of Cueup & Play

**STOP TC (stop timecode):** Press this button to set the timecode of the stop point at that time. The timecode of the stop point is updated to the current time each time this button is pressed.

When the device the operation applies to is a VTR/disk recorder, the stop point updated by the setting of the [MENU] button is as follows.

- **When the [MENU] button is On:** stop point of the timeline
- **When the [MENU] button is Off:** stop point of Cueup & Play

**VAR (variable speed playback):** Pressing this button and turning the Z-ring plays back the tape, disk or frame memory clip at a variable speed and direction proportional to the rotation angle of the Z-ring. The variable speed range is -1 to +3 times normal playback speed.

**SHTL (shuttle):** Pressing this button and turning the Z-ring plays back the tape, disk or frame memory clip at a speed and direction proportional to the rotation angle of the Z-ring.

**JOG:** Pressing this button and turning the Z-ring plays back the tape, disk or frame memory clip at a speed and direction proportional to the rotation of the Z-ring. You can set the Z-ring operation sensitivity to any of six levels, in the setup menus.

You can also change the sensitivity by holding down this button during an operation. You can select the sensitivity in this case from six levels.

*For details of the settings, see “Setting Trackball, Joystick, Search Dial, and Double-Click Sensitivity” (page 531).*

**CUE:** Pressing this button cues the tape, disk or frame memory clip automatically to the start point.

**REW (rewind):** Press this button to rewind the tape, disk or frame memory clip.

**PLAY:** Press this button to play the tape, disk or frame memory clip.

**FF (fast forward):** Press this button to fast forward the tape, disk or frame memory clip.

**ALL STOP:** Press this button to stop all tape transport/disk drive/frame memory operations.

## Selecting a VTR/Extended VTR/disk recorder

To select the VTR/Extended VTR/disk recorder to be controlled, in the device selection buttons of the device control block, press a selection of those buttons turning them on.

*For details on frame memory clip operations, see “Frame Memory Clip Operations” in Chapter 7 (Volume 1).*

## Controlling the tape/disk transport

Using the buttons in the device control block, you can control the tape transport or the disk transport.

*For more details of the effect of buttons in VTR/disk recorder operation mode, see “Device Control Block (MKS-8031TB Trackball Module, Option)” and “Device Control Block (MKS-8036A Search Dial Module, Option)” in Chapter 2 (Volume 1).*

If an appropriate setup setting has been made, VTR, Extended VTR, or disk recorder can also be operated with the transition control block.

*For more details of the effect of buttons in VTR/disk recorder operation mode, see “Transition Control Block” in Chapter 2 (Volume 1).*

*For details of settings in setup, see “Setting Transition Control Block Button Assignments” (page 501).*

## Controlling the tape/disk transport with the search dial

With the device control block, you can play back the material on an external device in variable speed.

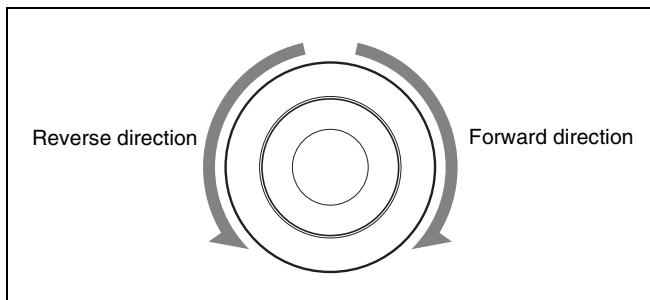
This section describes the three playback modes, taking the optional device control block (MKS-8036A search dial module) as an example.

If you turn this dial during video playback, the direction and speed of playback depend on the direction and angle of rotation. To use this dial, press the [ENBL] button to the

upper right of the dial, lighting it amber. This dial has three operation modes: jog, shuttle, and variable. To prevent overheating, if the search dial is on continuously for 10 seconds, it is automatically turned off. However, in this state, if a movement of the dial is detected, it switches on again.

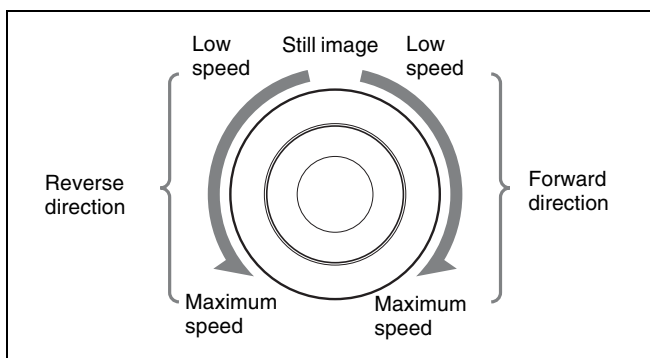
### Jog mode

Press the [JOG] button, lighting the button amber, to switch the dial to jog mode. In this mode, you can advance material frame by frame at a speed proportional to the rotation angle of the dial. To show a still image, stop turning the search dial.



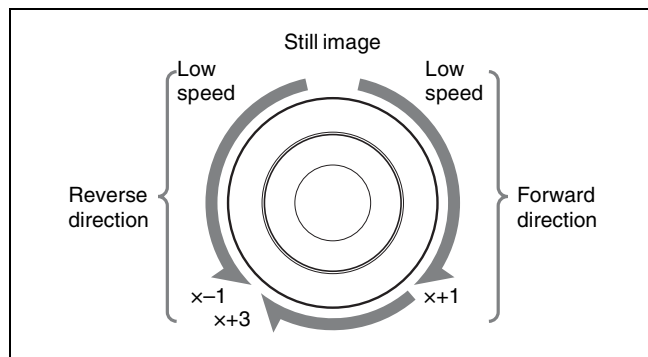
### Shuttle mode

Press the [SHTL] button, lighting the button amber, to switch the dial to shuttle mode. In this mode, the playback speed varies in steps according to the rotation angle of the dial, to a maximum of 50 times normal. If the valid angle is exceeded, the dial makes a clicking sound. To show a still image, return the dial to the home position, where it stops with a clicking sound.



### Variable mode

Press the [VAR] button, lighting the button amber, to switch the dial to variable mode. In this mode, the playback speed varies according to the rotation angle of the dial from  $-1$  to  $+3$  times normal speed. The dial indicates the positions where the playback speed is  $-1$  times normal speed,  $+1$  times normal speed, and  $+3$  times normal speed by making a clicking sound at those positions. To show a still image (playback speed 0%), return the dial to its home position, where it stops with a clicking sound.



$\times -1$ :  $-1$  times normal speed  
 $\times +3$ :  $+3$  times normal speed  
 $\times +1$ :  $+1$  times normal speed

To disable the search dial and end variable mode, press the [STOP] button. Additionally, pressing any of the [REW], [PLAY], [FF], [STB OFF], and [ALL STOP] editing buttons ends the variable mode. For shuttle mode and variable mode, you can set the valid range of the operating angle in the Engineering Setup >Panel >Operation >Sensitivity >Search Dial menu to either of the following.

### Narrow operating angle

- Shuttle mode: approx.  $-150$  to  $+150^\circ$
- Variable mode: approx.  $-120$  to  $+210^\circ$  ( $+1$  times normal speed is  $+120^\circ$ )

### Wide operating angle

- Shuttle mode: approx.  $-180$  to  $+180^\circ$
- Variable mode: approx.  $-200$  to  $+348^\circ$  ( $+1$  times normal speed is  $+200^\circ$ )

## Recording to VTRs and disk recorders

You can record to the VTR or disk recorder selected in the device control block. Proceed as follows.

### Notes

- Recording is not possible if the VTR or disk recorder is not set to Recorder.
- The disk recorder type must be specified to use the video disk communications protocol (see page 572).
- When using a disk recorder, recording is not possible unless a new file name is specified.  
*For details, see "Creating new files" (page 384).*
- Recording is not possible when using the Odetics protocol.

- 1 Using the buttons of the device control block, select the VTR or disk recorder to which you want to record. You can select more than one button.

The first button pressed lights green to indicate the reference device, and the subsequent buttons light amber.

- 2** While holding down the [REC] button in the device control block, press the [PLAY] button.

Recording starts. During recording, the [REC] button lights red and the [PLAY] button lights amber.

### Notes

Note the following points about recording to a disk recorder.

- The maximum length of time that can be recorded in one operation is 30 minutes.
- If you want to record to a different file than the file used in the previous recording, use the Device >DDR/VTR >File List menu to create a new file.
- If you resume recording without executing [Unload] from the Device >DDR/VTR >File List menu, recording starts at the position in the same file where recording was interrupted.

### To stop recording

Press the [STOP] button or the [ALL STOP] button in the device control block.

## Checking VTR/Disk Recorder/Extended VTR Information

You can check the VTR/disk recorder/Extended VTR information (timecode information and operating status) set in the device control block, in the Device menu display. To check the VTR/disk recorder/Extended VTR information, press VF3 'DDR/VTR' and HF1 'Cueup & Play' or HF2 'Timeline' in the Device menu.

The Device >DDR/VTR >Cueup & Play menu or Device >DDR/VTR >Timeline menu appears, and a list shows the timecode information and operating status for each device. The columns of the list show the following information.

**DEV (device name):** DEV1 to DEV12 represent respectively device 1 to device 12.

**Reg (register):** Number of the register to which settings apply.

**Status:** Status of each device. The meaning of the indications is as follows.

| Operating status display | When VTR is used   | When video disk communications protocol, Extended VTR, Sony disk 9-pin protocol, or Odetics protocol is used |
|--------------------------|--|--|
| XXXX                     | Communications with the device are being carried out normally, but status information is not received. | Not communicating, or communicating but the device type cannot be read.                                      |

| Operating status display | When VTR is used                                       | When video disk communications protocol, Extended VTR, Sony disk 9-pin protocol, or Odetics protocol is used |
|--------------------------|--|--|
| Local                    | The REMOTE/LOCAL switch of the device is set to LOCAL. | Port is not open.  |
| Tape Out                 | No tape is loaded.                                     | No file loaded. <sup>b)</sup>  |
| Rec                      | Recording.   | Recording. <sup>a) b)</sup>  |
| Cue>                     | Cueing up in the forward direction.                    | —  |
| Cue<                     | Cueing up in the reverse direction.                    | —  |
| Eject                    | Ejecting cassette.                                     | —  |
| Stb Off                  | Stopped in standby off mode.                           | —  |
| Stop                     | Stopped in standby on mode.                            | Stopped.   |
| Play                     | Playing.   | Playing.   |
| FF                       | Fast forwarding.                                       | —  |
| Rewind                   | Rewinding.   | —  |
| Shtl>                    | Playing in the forward direction in shuttle mode.      | —  |
| Shtl<                    | Playing in the reverse direction in shuttle mode.      | —  |
| Var>                     | Playing in the forward direction in variable mode.     | Playing in the forward direction in variable mode.   |
| Var<                     | Playing in the reverse direction in variable mode.     | Playing in the reverse direction in variable mode.   |
| Jog>                     | Playing in the forward direction in jog mode.          | Playing in the forward direction in jog mode.  |
| Jog<                     | Playing in the reverse direction in jog mode.          | Playing in the reverse direction in jog mode.  |
| Still                    | Playing still image.                                   | —  |

a) Not supported for Extended VTR.

b) Not supported for the Odetics protocol.

**Current:** Shows timecode for current device position.

**Start TC:** Shows timecode for start point set on device.

**Stop TC:** Shows timecode for stop point set on device.

**Variable:** Shows the variable speed set for each device.

**Delay:** Shows start delay time set on device.

**Mode:** Shows operation mode (Loop or Recue) set for the device.

## Cueup & Play

You can use the device control block or Device menu to save Cueup & Play settings (start point timecode, stop point timecode, start delay time, and so on) for a VTR, disk recorder or Extended VTR in an effect register. By recalling this register, you can operate the following buttons in the keyframe control block to automatically control the VTR, disk recorder or Extended VTR.

**[REWIND] button:** Cue up to the start point timecode

**[RUN] button:** Play

With this function you can also stop the VTR, disk recorder or Extended VTR used for playback at the stop point timecode recalled from the same register.

### Disk recorder (video disk communications protocol) operation when loop /recue is set

**When loop is set:** playback repeatedly between the start point and stop point.

**When recue is set:** when playback reaches the stop point, automatically cue up to the start point.

#### Notes

- In an effect register set on the VTR/disk recorder timeline, Cueup & Play settings are not possible. To add Cueup & Play settings to such a register, first clear the VTR/disk recorder timeline setting before carrying out the operation.
- When using a disk recorder with Cueup & Play, if you carry out the following sequence of operations, the system may freeze on the frame of the start point.

1. Press the [RUN] button to play to a point close to the end of a file.
2. Stop playback.
3. Press the [RUN] button once more.

In such cases, first recall a different register, then carry out the following sequence:

1. Recall the original register again.
2. Press the [REWIND] button.
3. Press the [RUN] button.

## Making and saving settings relating to Cueup & Play

- 1 Press the [EFF] button in the numeric keypad control block, turning it on.

This assigns the numeric keypad control block to keyframe operations, and the [RCALL] button lights.

- 2 Press the region selection button for the region for which you want to make the setting, turning it on.

You can select more than one button.

- 3 Enter the number of the register to be recalled with the numeric keypad buttons.  
To search for an empty register, instead of entering a number, press the [.] (period) button.

The display shows the register number. A letter “e” or “E” after the number indicates the register status, as follows:

- e:** This register is empty in the selected region.
- E:** This register is empty in all selectable regions.

- 4 Press the [ENTER] button.

This recalls the register you selected in step 3.

- 5 When using the MKS-8031TB trackball module, press the [DEV] button in the device control block, turning it on.

#### Notes

Check that the [MENU] button is not lit. If it is lit, press to turn it off.

- 6 With the device selection buttons in the device control block, select the VTR, Extended VTR, or disk recorder for which you want to make the setting.

You can select more than one button.

The first button pressed lights green to indicate the reference region, and the subsequent buttons light amber.

- 7 Set the start point.

- Using the [START TC] button:  
Play the VTR, Extended VTR or disk recorder by control from the device control block. Find the desired start point, and press the [START TC] button at that position.  
If using the [START TC] button, each time you press the button the start point timecode is overwritten.
- Using the [SET START TC]:  
Press the [SET START TC] button in the optional device control block (search dial module, option). The display in the numeric keypad control block shows “START TC.” Enter the desired timecode from the numeric keypad control block, and press [ENTER].  
*For details of timecode entry, see “Setting the start point and stop point with the [SET XX] buttons” (page 378).*
- Setting with the Cueup & Play menu:  
Set the start point, stop point, and start delay duration (*see page 379*).

- 8 Set the stop point or duration.

When two of the start point, stop point and duration are set, the remaining one is automatically determined. For example, if you set the stop point in the following procedure, you do not need to enter the value of the duration.

- Using the [STOP TC] button:  
Play the VTR, Extended VTR or disk recorder by control from the device control block. Find the desired stop point, and press the [STOP TC] button at that point.  
If using the [STOP TC] button, each time you press the button the stop point timecode is overwritten.
- Using the [SET STOP TC] button of the optional device control block (search dial module):  
Press the [SET STOP TC] button in the search dial module. The display in the numeric keypad control block shows “STOP TC.” Enter the desired timecode from the numeric keypad control block, and press [ENTER].
- Using the [SET DUR] button of the optional device control block (search dial module):  
Press the [SET DUR] button in the search dial module. The display in the numeric keypad control block shows “DUR” and the current setting. Enter the desired duration from the numeric keypad control block, and press [ENTER].  
*For details of timecode entry, see “Setting the start point and stop point with the [SET XX] buttons” (page 378).*
- Setting with the Cueup & Play menu:  
Set the start point, stop point, and start delay duration (see page 379).

**9** To set a start delay time, press the [DELAY] button in the device control block, and enter a value in the numeric keypad control block. Alternatively, make the setting in the Device >DDR/VTR>Cueup & Play menu. If no setting is required, continue to step **10**.

**10** Press the [STORE] button, turning it on, in the numeric keypad control block.

**11** Enter the number of the register in which to save the settings.

When overwriting the settings in the register recalled in step **3**, continue to step **12** without changing the displayed register number.

**12** Press the [ENTER] button.

## Automatically cueing up and playing VTR/Extended VTR/disk recorder

By recalling a register in which you have saved setting data for Cueup & Play, you can control the VTR/Extended

VTR/disk recorder automatically in the same way as when automatically executing a keyframe effect.

**1** In the numeric keypad control block, press the [EFF] button, turning it on.

The [RCALL] button in the numeric keypad control block lights.

**2** With the region selection buttons in the numeric keypad control block, select the region.  
You can select more than one button.

**3** Enter the number of the register to be recalled with the numeric keypad buttons.

**4** Press the [REWIND] button in the keyframe control block.

The VTR/Extended VTR/disk recorder automatically advances to the timecode value set as the start point. While the VTR/Extended VTR/disk recorder is operating, the [ALL STOP] button in the device control block flashes amber, and when the start point is reached lights green.

If the operating VTR/Extended VTR/disk recorder is selected as the reference region in the device control block, the [CUE] button also flashes and lights in the same way as the [ALL STOP] button. Also, when the start point is reached, the [STOP] button lights amber.

**5** Press the [RUN] button in the keyframe control block.

The VTR/Extended VTR/disk recorder is now controlled according to the keyframe data.

## Setting the start point and stop point with the [SET XX] buttons

When you enter a timecode and make a setting with the [SET START TC], [SET STOP TC], or [SET DUR] button in the optional device control block (MKS-8036A search dial module), the timecode display changes as follows. With these buttons you can set the start point and stop point timecodes, and the duration (the duration is not displayed). When two of these values are set, the remaining one is automatically determined.

### Example 1

**1** Press the [SET START TC] button, and enter “00000000” from the numeric keypad control block.

|                       |             |
|-----------------------|-------------|
| START TC              | 00:00:00:00 |
| STOP TC               | --:--:--:-- |
| (DUR (not displayed)) | )           |



- 2** Press the [SET STOP TC] button, and enter “200” from the numeric keypad control block. This automatically sets DUR.

|          |             |
|----------|-------------|
| START TC | 00:00:00:00 |
| STOP TC  | 00:00:02:00 |
| (DUR     | 0:02:00)    |

- 3** Press the [SET DUR] button, and enter “-100” from the numeric keypad control block. START TC remains the same, and STOP TC changes.<sup>a)</sup>

|          |             |
|----------|-------------|
| START TC | 00:00:00:00 |
| STOP TC  | 00:00:01:00 |
| (DUR     | 0:01:00)    |

### Example 2

- 1** Press the [SET DUR] button, and enter “200” from the numeric keypad control block.

|          |             |
|----------|-------------|
| START TC | --:--:--:-- |
| STOP TC  | --:--:--:-- |
| (DUR     | 0:02:00)    |

- 2** Press the [SET STOP TC] button, and enter “01000000” from the numeric keypad control block. This automatically sets START TC.

|          |             |
|----------|-------------|
| START TC | 00:59:58:00 |
| STOP TC  | 01:00:00:00 |
| (DUR     | 0:02:00)    |

- 3** Press the [SET STOP TC] button, and without entering anything from the numeric keypad control block, press [ENTER].

The STOP TC display, and the START TC display automatically calculated in step 2 disappear, and the setting of the DUR does not change.

|          |             |
|----------|-------------|
| START TC | --:--:--:-- |
| STOP TC  | --:--:--:-- |
| (DUR     | 0:02:00)    |

a) If after pressing the [SET XX] button you press the [+ / -] button in the numeric keypad control block, you can enter offsets from the existing setting values. Each time you press this button, the sign of the offset cycles through the settings “ ” (absolute value) → “+” → “-”..., and the sign appears in the numeric keypad control block display. If there is no existing setting value, then it is only possible to enter an absolute value, and not an offset value.

### Setting the start point, stop point, and start delay time in a menu

In the Device menu, you can set the start point, stop point, and start delay time.

- 1** In the Device menu, press VF3 ‘DDR/VTR’ and HF1 ‘Cueup & Play.’

The Device >DDR/VTR >Cueup & Play menu appears.

The status area shows the device number, register number, status information, current time, start point, stop point, and start delay time.

- 2** Using any of the following methods, select the device.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment    | Setting values |
|------|-----------|---------------|----------------|
| 1    | Dev       | Device number | 1 to 12        |

- 3** Carry out any of the following operations as required.

- To set the start point, press [Set] in the <Start TC> group.
- To set the stop point, press [Set] in the <Stop TC> group.
- To set the start delay time, press [Set] in the <Delay> group.

A timecode window appears.

- 4** Set the timecode value for the start point, stop point, or start delay time.

#### Notes

You can enter a start delay time in the range that depends on the signal format as follows:

00:00 to 59:nn,  
where nn = (number of frames per second) – 1 frame.

- 5** Press [Enter].

### Clearing the start point, stop point, and start delay time settings in a menu

In the Device menu, use the following procedure.

- 1** Press VF3 ‘DDR/VTR’ and HF1 ‘Cueup & Play.’

- 2** Using any of the following methods, select the device for which you want to clear the settings.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Setting       | Setting values |
|------|-----------|---------------|----------------|
| 1    | Dev       | Device number | 1 to 12        |

- 3** Carry out any of the following operations as required.

- To clear the start point, press [Clear] in the <Start TC> group.
- To clear the stop point, press [Clear] in the <Stop TC> group.
- To clear the start delay time, press [Clear] in the <Delay> group.

This clears the setting of the start point, stop point, or start delay time.

## Selecting Loop or Recue as the playback mode

You can set the device operation mode to loop or recue.

**Loop:** Carry out playback from the start point of a file to the stop point, then indefinitely repeat playback from the start point.

**Recue:** Carry out playback from the start point of a file to the stop point, then return to the start point and stop.

### Notes

Loop and recue functions are only available when using the video disk communications protocol. Note that these functions may not operate, depending on the connected device.

In the Device menu, use the following procedure.

### 1 Press VF3 'DDR/VTR' and HF1 'Cueup & Play.'

The Device >DDR/VTR >Cueup & Play menu appears.

The status area shows the device number, register number, status information, current time, start point, stop point, start delay time, and playback mode.

### 2 Using any of the following methods, select the device.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment    | Setting values |
|------|-----------|---------------|----------------|
| 1    | Dev       | Device number | 1 to 12        |

### 3 In the <Mode> group, press [Loop] or [Recue], turning it on.

## VTR/Disk Recorder/Extended VTR Timeline

For a keyframe effect controlled from the center control panel, the timeline allows you to set a VTR, disk recorder or Extended VTR action at a keyframe point on the timeline.

### Timeline actions

The actions that can be used on the timeline are as follows.

- Start
- Stop
- Cueup
- Variable speed

For the action settings (VTR/disk recorder/Extended VTR timeline editing), use the Device menu.

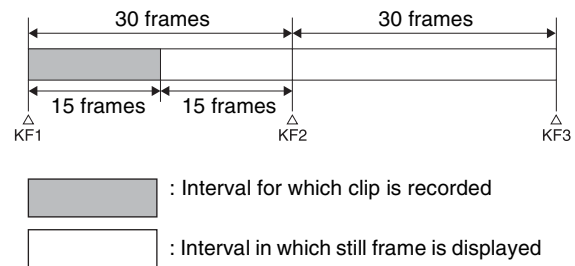
The data set in the Device menu is saved in a keyframe effect register. When you recall this register and start execution of the keyframe effect, and advance the effect to the keyframe point for which the action is set, an action command is output to the external device through the 9-pin serial port assigned to the VTR, disk recorder or Extended VTR.

### Notes

When executing a timeline using a disk recorder or Extended VTR, note the following points.

- It is not possible to use loop and recue on the timeline.
- For a disk recorder, the maximum number of files for a single register is eight.
- When carrying out keyframe settings, be sure to recall the file for operation first.
- If the duration of the recorded video clip is less than the keyframe duration, after playback to the end of the clip, the remainder of the keyframe duration is filled with a still of the last frame of the clip (*see figure below*).

Example: When the recorded clip for keyframe 1 has a duration of 15 frames



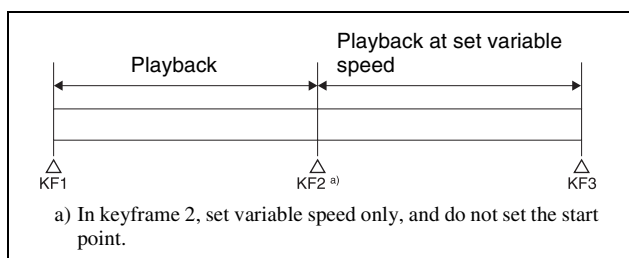
In this example, when keyframe 1 is executed, the first 15 frames consist of clip playback and the remaining 15 frames show the 15th frame as a still image.

When executing the timeline using a disk recorder, also take note of the following points.

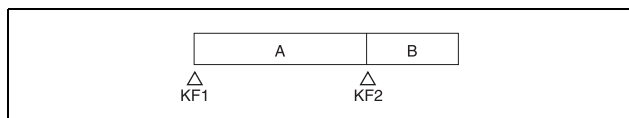
- Set the keyframe duration to at least 30 frames.
- From pressing the [RUN] button to the time when the effect actually starts execution may take around one second.

In order that pressing the [RUN] button after [REWIND] make the effect start execution as soon as possible, set cueing up of the file for operation as rewind operation <sup>1)</sup>. In the first keyframe <sup>2)</sup> to be executed with [RUN], for the cued-up file, do not set the start point, but set only the start command.

- 1) If the setting when the [REWIND] button is pressed is for the first keyframe to be executed, then the first keyframe is executed, and otherwise the setting for the Rewind Action is carried out.
  - 2) If the setting when the [REWIND] button is pressed is for the first keyframe to be executed, then the second keyframe is executed, and otherwise the first keyframe is executed.
- To execute an effect, be sure to carry out a Rewind. For example, when the start command only is set for a keyframe, playback starts from the current position, in the same way as with a VTR (no automatic cue-up).
  - During file playback, to play the next keyframe at variable speed, for the next keyframe set variable speed only, and do not set the start point (see figure below).



- When using a disk recorder with the VTR/disk recorder timeline, if you carry out the following sequence of operations, the system may freeze on the frame of the start point.
  1. Press the [RUN] button to play to a point close to the end of a file.
  2. Stop playback.
  3. Press the [RUN] button once more.
 In such cases, first recall a different register, then carry out the following sequence:
  1. Recall the original register again.
  2. Press the [REWIND] button.
  3. Press the [RUN] button.
- Some operating limitations apply when the video disk communications protocol is used. These are explained with reference to the following figure, which illustrates creation of a timeline that plays from the video of file A to the video of file B.



- Black video or still image appears momentarily when play switches from file A to file B:

| KF1 action setting | Operating status of file A | KF2 action setting |
|--------------------|----------------------------|--------------------|
| Start              | Playing                    | Start              |
| Start              | Playing                    | Cueup              |
| Variable Speed set | Playing at variable speed  | Cueup              |
| Cueup              | Cueup                      | Cueup              |

- Partial operating limitation:

| KF1 action setting | Operating status of file A | KF2 action setting               |
|--------------------|----------------------------|----------------------------------|
| Start              | Playing                    | Variable Speed set <sup>a)</sup> |
| Variable Speed set | Playing at variable speed  | Variable Speed set <sup>a)</sup> |
| Cueup              | Cueup                      | Variable Speed set <sup>a)</sup> |

a) Failure to operate when variable speed is set to minus value. However, operates when the file B action is set to Start, and then variable speed is set to minus after file B starts playing.

- Play does not switch from file A to file B:

| KF1 action setting | Operating status of file A | KF2 action setting |
|--------------------|----------------------------|--------------------|
| Variable Speed set | Playing at variable speed  | Start              |
| Cueup              | Cueup                      | Start              |

If play continues to show video of file A without switching to file B, a Stop action is required in file A in order to switch to file B.

- When using the Odetics protocol, the variable speed action may not operate, depending on the connected device.

## VTR/disk recorder/Extended VTR timeline editing

This section describes how to set an action at a keyframe point, and how to edit the timeline.

For details of the operations for keyframe creation and editing, see “Creating and Editing Keyframes” (page 399).

### To set an action in the menu

- 1 In the Device menu, press VF3 ‘DDR/VTR’ and HF2 ‘Timeline.’

The Device >DDR/VTR >Timeline menu appears.

The status area shows two lists.

The upper list shows the device number, register number, keyframe number, and action type (start point, stop point, and variable speed) set for the keyframe.

The lower list is used for setting the action for the device selected above, and shows the port name, current file, current time, status information, start point, stop point, variable speed, and file name (for a disk recorder or Extended VTR).

- 2 Using any of the following methods, select the device for which you want to set the action.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Setting       | Setting values |
|------|-----------|---------------|----------------|
| 1    | Dev       | Device number | 1 to 12        |

- 3** To set the name of a file when using an Extended VTR or disk recorder, recall the file using the Device >DDR/VTR >File List menu.

#### Notes

- There is a limit of eight disk recorder files that can set on a single timeline.
- If you have not set the file name when using an Extended VTR, the file recalled in the Extended VTR when the keyframe point is passed is the subject of the action.

When not using an Extended VTR or disk recorder, or when the file name has not been set for an Extended VTR, skip to step **4**.

- 4** In the <Action> group, select the action.

**Cueup:** Output a command to cue up to the currently displayed start point.

**Start:** Output a Play command.

#### Notes

When the stop point and variable speed are both set, the variable speed setting takes priority.

**Stop:** Output a Stop command.

#### Notes

Before executing the Stop command, if the timecode for the set stop point has been reached, or on an Extended VTR or disk recorder if the end of the file has been reached, then at that point the device stops.

- 5** To set a start point, in the <Start TC> group, press [Set].

A timecode window appears.

If you do not want to set the start point, skip to step **8**.

#### Notes

For a disk recorder on which the start point is not set, the file recalled in the disk recorder when the keyframe point is passed is the subject of the action.

- 6** Set the start point as a timecode value.

- 7** Press [Enter].

The new start point setting is reflected in the status area.

- 8** To set the stop point, in the <Stop TC> group press [Set].

A timecode window appears.

If you do not want to set the stop point, skip to step **11**.

- 9** Set the stop point as a timecode value.

- 10** Press [Enter].

The new stop point setting is reflected in the status area.

- 11** To set the variable speed, in the <Variable Speed> group, carry out either of the following.

- Press [Fit].  
Without setting a speed value, this automatically carries out playback according to automatically calculated values for the duration and keyframe duration to fit the set start point and stop point.
- Press [Set], and adjust the parameter with the knob.

| Knob | Parameter | Setting        | Setting values             |
|------|-----------|----------------|----------------------------|
| 2    | Variable  | Variable speed | –100 to +200 <sup>a)</sup> |

a) The setting range of the variable speed depends on the type of connected device.

The new variable speed setting is reflected in the status area.

Repeat steps **2** to **11** as required for other devices.

### To carry out start point and stop point settings and cueing up operations in the device control block

With the following buttons in the device control block, you can set the start point or stop point of a keyframe point on the timeline, or carry out a cueing up operation.

#### Notes

- When using the optional device control block (trackball module), check that the [MENU] button in the block is lit amber. If it is not lit, press it, turning it on.
- When using the device control block (search dial), check that [TIMELINE] is lit amber.

**[START TC] button:** Set the start point of the keyframe point to the current time.

**[STOP TC] button:** Set the stop point of the keyframe point to the current time.

**[SET START TC] button (of the search dial module, option):** Enable to input the timecode of the start point

of the keyframe point with the numeric keypad control block.

**[SET STOP TC] button (of the search dial module, option):** Enable to input the timecode of the stop point of the keyframe point with the numeric keypad control block.

**[SET DUR] button (of the search dial module, option):** Enable to input the duration between the start point and stop point of a keyframe point with the numeric keypad control block.

**[CUE] button:** Cue up to the start point set for the keyframe point.

To display or check the settings, use the Device >DDR/VTR >Timeline menu.

### To test an action command output

To test an action command output, select the desired device from the upper list in the status area, and press [Test Fire].

An action command is output from the DCU 9-pin serial port, according to the settings in the list.

### To clear the start point, stop point, and variable speed settings

- 1 In the upper list in the status area, select the device for which you want to clear the settings.
- 2 Carry out any of the following operations as required.
  - To clear the start point setting, press [Clear] in the <Start TC> group.
  - To clear the stop point setting, press [Clear] in the <Stop TC> group.
  - To clear the variable speed setting, press [Clear] in the <Variable Speed> group.

### To set the action for a rewind operation

On the VTR/disk recorder/Extended VTR timeline, when the [REWIND] button in the keyframe control block is pressed the action set for the first keyframe is not executed; when the [RUN] button is pressed, then the first keyframe action is executed.

To execute an action when the [REWIND] button is pressed, it is necessary to set this action (Rewind Action). To carry out this setting, in the Device >DDR/VTR >Timeline menu, press [Rewind Action] to recall the Rewind Action menu. In this setting screen, use the same setting method as in the screen for setting an action on the VTR/disk recorder timeline.

Alternatively, you can select the reverse arrangement, whereby when the [REWIND] button is pressed, this executes the action set for the first keyframe, and when the [RUN] button is pressed the first keyframe action is not executed. In this case, the Rewind Action setting is still valid.

*For details of the setting, see “Setting the First Keyframe When a Rewind is Executed” (page 529).*

## Disk Recorder/Extended VTR File Operations

Material held on a disk recorder/Extended VTR is managed in units of files. You can recall a file to play it back. In the case of an Extended VTR, the register number is recalled.

To carry out disk recorder/Extended VTR file operations, use the Device menu.

### Accessing the file list

Before playback and suchlike operations on a disk recorder/Extended VTR, it is first necessary to display a list of the disk recorder files on the DCU. The file list includes the following information.

- File name
- Date of last update
- Duration of recorded material

To recall the file list, use the Device menu.

### Recalling a file

In the recalled list of files, select the file you want to play back, and open the file.

### File list sharing

You can connect multiple DCU serial ports to a single disk recorder/Extended VTR.

You can share the recalled list of files between serial ports connected to the same disk recorder/Extended VTR.

*For settings relating to file list sharing, see “Sharing Disk Recorder/Extended VTR File Lists” (page 527).*

### File creation

To record a new file on the disk recorder, use the Device menu to create a new file.

## Refreshing (recalling) the disk recorder/Extended VTR file list

- 1 In the Device menu, press VF3 ‘DDR/VTR’ and HF3 ‘File List.’

The Device >DDR/VTR > File List menu appears.

In the status area, two lists appear.

The upper list shows the selected device name, and the currently selected file name (register number), and set file name.

The lower list shows a list of files for the selected device (the device appearing in the upper list). In this list is shown the file name (register number) set when the material was recorded, the length of the file data (timecode value), and the file update information.

**Notes**

- File update information is not shown when using the video disk communications protocol. When “Simple VDCP” is selected as the protocol, the file data length is also not displayed.
- For Extended VTR, the length of file data and file update information are not shown, and the register number is shown as the file name.
- When using the Odetics protocol, the length of file data and file update information are not shown.

- 2** Select the device for which you want to recall the file list, using the knob.

| Knob | Parameter | Setting       | Setting values |
|------|-----------|---------------|----------------|
| 1    | Dev       | Device number | 1 to 12        |

- 3** Press [File List Update].

This starts the process of recalling the file list, and a message box appears.  
When the file list recall is completed, the message box disappears.

**To cancel recalling the file list**

During the recall, press [Cancel] in the message box.

**File list sharing**

You can share the recalled file list across serial ports connected to the same disk recorder (*see page 527*).

**Sorting files in the list**

You can sort the files in the list by name, number, or update date.

- 1** In the Device menu, press VF3 ‘DDR/VTR’ and HF3 ‘File List.’

The Device >DDR/VTR >File List menu appears.

- 2** Select the device for which you want to recall the file list, using the knob.

| Knob | Parameter | Setting       | Setting values |
|------|-----------|---------------|----------------|
| 1    | Dev       | Device number | 1 to 12        |

- 3** In the <Sort> group, press one of [File Name], [File No], and [Update].

**File Name:** Sort in alphabetical order of file name.

**File No:** Sort in ascending file number order.

**Update:** Sort in file update date order, newest first.

**Notes**

- Files cannot be sorted by the file update date and time when using the video disk communications protocol or Odetics protocol.
- For Extended VTR, it is not possible to sort files.

This sorts the files in the selected order.

**Recalling a file**

To recall a file from the file list, use the following procedure.

**Notes**

Files cannot be recalled when the disk recorder is set to Recorder.

- 1** In the Device menu, press VF3 ‘DDR/VTR’ and HF3 ‘File List.’

The Device >DDR/VTR >File List menu appears.

- 2** Select the device from which you want to recall a file, using the knob.

| Knob | Parameter | Setting       | Setting values |
|------|-----------|---------------|----------------|
| 1    | Dev       | Device number | 1 to 12        |

- 3** Using any of the following methods, select the file you want to recall.

- Press directly on the lower list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Setting        | Setting values                                   |
|------|-----------|----------------|--|
| 2    | No        | File selection | 1 to 5000 <sup>a)</sup><br>0 to 99 <sup>b)</sup> |

a) For disk recorders. The range of setting values depends on the total number of files.

b) For Extended VTRs. The range of setting values depends on the total number of files.

- 4** Press [Load].

This recalls the selected file, and the file name appears at the top of the status area.

**Creating new files**

A file name must be specified to record to a new file on a disk recorder.

**Notes**

- New files cannot be created when the disk recorder is set to Player or Recorder/Player.

- For Extended VTR or when using the Odetics protocol, new files cannot be created.

- 1** In the Device menu, press VF3 'DDR/VTR' and HF3 'File List.'

The Device >DDR/VTR >File List menu appears.

- 2** Press [New File].

The keyboard window appears.

- 3** Enter a file name and press [Enter].

**When using the Sony disk recorder 9-pin protocol:**  
Up to 23 characters.

**When using the video disk communications protocol:** Up to 8 characters (in Fixed 8 Character mode) or 23 characters (in Variable Length mode)

*For details of how to select the file name character count mode in the video disk communications protocol, see "Making Detailed Settings on the External Device Connected to the Serial Port" (page 572).*

The name appears as the current file name at the top of the status area.

### **When the loaded file is not a target for recording**

When a file that is not a target for recording is loaded in the disk recorder, proceed as follows.

- 1** In the Device menu, press VF3 'DDR/VTR' and HF3 'File List.'

The Device >DDR/VTR >File List menu appears.

- 2** Press [Unload].

The current file name at the top of the status area is cleared.

## Regions

The term “region” refers to some sort of functional block of the system.

When saving or recalling snapshot registers and effect registers, or creating or editing effects, you first select the region to which the operation applies. You can also select multiple regions simultaneously.

### Classification of the regions

The regions are classified as follows.

- Master region
- The following regions
  - Switcher: M/E1, PGM/PST, User1 to User8
  - DME: DME ch1 to DME ch8 (inclusive of Global)
  - External devices: P-Bus, Router, Device 1 to Device 12, GPI, Macro

Only the regions assigned to the region selection buttons of the numeric keypad control block can be used simultaneously (*see page 500*).

### Regions applicable to keyframe operations

The above regions less the Router region.

### Regions applicable to snapshot operations

The above regions less all of the external device regions.

### “User” regions

You can optionally assign the following regions to the regions User1 to User8 (*see page 537*). The User regions shown in parenthesis are the default assignments.

- Color backgrounds 1 and 2 (User1)
- AUX1 to AUX48 (User2)
- Frame Memory 1 to 8 (User4)
- Color correctors 1 and 2

### Notes on saving or recalling a frame memory still image for or by a snapshot/keyframe

- The saving and recalling of frame memory images for snapshots and keyframes is restricted to the still images or clips on the eight frame memory outputs. The settings made for frame memory images in the Freeze menu or other menus do not apply to snapshots or keyframes.

- To reproduce a frame memory still image or a clip of them by recalling a snapshot or keyframe, you must have the same images that were present in the frame memory when you saved the snapshot or keyframe. Therefore, when saving a snapshot or keyframe using frame memory, you must also save the images to a storage media such as the hard disk.

### Reference region

When multiple regions are selected, only one region appears in the displays for menu and numeric keypad operations. This is called the “reference region.”

The reference region is determined according to the following precedence.

```
M/E1 >P/P >User1 >User2 >User3 >User4 >User5
>User6 >User7 >User8 >DME ch1 >DME ch2 >DME
ch3 >DME ch4 >DME ch5 >DME ch6 >DME ch7
>DME ch8 >Device1 >Device2 >Device3 >Device4
>Device5 >Device6 >Device7 >Device8 >Device9
>Device10 >Device11 >Device12 >P-Bus >GPI
>Router >Macro
```

### Master region

The regions saved in a master snapshot register or master timeline register and the register numbers saved in such regions can be recalled at a time as the master region.

The master region can be saved or recalled using the numeric keypad control block.



# Registers

A register is an area of memory in a device which holds a snapshot (*see chapter 16*), keyframe, macro (*see chapter 13*), and so on.

## Keyframe effect registers

### Dedicated effect registers

There are 99 dedicated registers for keyframe effects in each region, numbered 1 to 99.

### Shared user-programmable DME registers

In addition to the 99 DME registers for each region (i.e. each channel), there are also shared registers for each processor as shown in the following table. These are used for user-programmable DME.

| Register number | Register allocation                       |
|-----------------|---|
| 101 to 199      | Shared register for one-channel effects   |
| 201 to 299      | Shared register for two-channel effects   |
| 301 to 399      | Shared register for three-channel effects |

### Notes

When operating with these shared registers, be sure to select the appropriate regions depending on the number of channels.

When recalling registers in the 200 range, select two consecutive channels for the regions, as for example [DME1] and [DME2]. Similarly, for registers in the 300 range, select three consecutive registers.

### Registers for P-Bus Device regions

There are 250 registers for P-Bus and Device1 to Device12 in each region, numbered 1 to 250.

### Work register

This is a temporary register used when editing keyframes. When you recall an effect, it is read from the effect register into the work register, and when you save, the contents of the work register are written to the effect register.

### Master timeline registers

There are 99 master timeline registers, numbered 1 to 99, for each control panel. They store keyframe effect regions and the register numbers saved in the regions.

### Snapshot registers

These are registers for snapshots, and there are 99, numbered 1 to 99 for each region.

### Master snapshot registers

There are 99 master snapshot registers, numbered 1 to 99, for each control panel. They store snapshot regions and the register numbers saved in the regions.

# Keyframes

A keyframe represents an instantaneous state of an image; it can be saved and recalled for reuse.

## Effects

By arranging a number of keyframes on the time axis, and interpolating between successive keyframes, you can create an effect in which there is a continuous change from each keyframe to the next.

You can save the sequence of keyframes representing a single effect in a register. Then by recalling this register, you can replay the same effect (*See page 387*).

## Saving and Recalling Effects

To create a new effect, first recall an empty register, then create the keyframes one at a time in this register. To run an effect, it is also necessary to set the time and the path. To edit an existing effect, recall the register holding the effect, then make the changes.

When you have finished creating or editing the effect, save it in the recalled register or another specified register.

### Auto save function

When you recall an effect, the currently recalled effect is automatically saved in a register. This is called the auto save function. You can disable this function in the Setup menu.

## Effect Attributes

An individual effect may also have attached special conditions relating to switcher or DME operation when the effect is recalled.

These conditions are called “attributes” of the effect, and can be added when the keyframe effect is saved or recalled.

### Type of attribute

The attribute that can be attached to an effect is as follows.

**Effect dissolve:** The transition from the state before the effect recall to the state at the effect start point is carried out smoothly, by a dissolve. The dissolve duration can be set in the Effect menu.

### Temporary attributes

When a keyframe is recalled, independently of the attributes held in the register, you can also enable or

disable temporary attributes. These temporary attributes are set when the keyframe effect is recalled.

## Effect Editing

For editing operations such as to insert, delete, or modify a keyframe, it is necessary to stop the effect at the corresponding point on the time axis. This is termed an “edit point.”

You can edit either on a keyframe within the effect, or at any point between keyframes.

**Insert:** Insert the current image as a keyframe. Inserting a keyframe in an existing effect may change the duration of the effect (*see page 389*).

**Modify:** Modify a keyframe. You can modify a single keyframe or a range of keyframes in the effect together.

**Delete:** Delete a keyframe. You can delete a single keyframe or a range of keyframes in the effect together. Deleting keyframes from an effect reduces the duration of the effect (*see page 389*).

After deleting a keyframe, you can reinsert the keyframe with a paste operation.

**Copy:** Copy a keyframe. You can copy a single keyframe or a range of keyframes in the effect together.

**Paste:** Paste the keyframe last copied or deleted anywhere within the effect.

**Pause:** You can set a pause on a particular keyframe, so that when the effect is run it pauses on this keyframe. You can make this setting on any number of keyframes. To restart the paused effect, repeat the operation to run the effect.

**KF Loop:** Execute the effect the specified number of times through the keyframes in the specified range.

**Undo an edit operation:** Undo the effect of the last operation to insert, modify, delete, or paste a keyframe.

## Duration modes

In keyframe editing, there are two duration modes; switch between them in the keyframe operation section (*see page 399*).

**Variable duration mode:** In this mode, inserting or deleting a keyframe increases or reduces the duration.

**Constant duration mode:** In this mode, inserting or deleting a keyframe does not change the duration. This is useful for keyframe editing of an effect with a fixed duration.

In the variable and constant duration modes, the keyframes to which a modify operation applies, and the effect of a paste operation are different.

## Difference in keyframes to which a modify operation applies

| Effect position       | Variable duration mode                 | Constant duration mode                      |
|-----------------------|--|---|
| On a keyframe         | Applies to currently selected keyframe | Applies to currently selected keyframe      |
| Between two keyframes | Applies to previous keyframe           | Modify operation not possible <sup>a)</sup> |

a) A new keyframe is inserted at the effect position.

## Difference in the effect of a paste operation

**Variable duration mode:** The copied keyframe is inserted at the specified position.

**Constant duration mode:** The copied keyframe is written over the specified position.

## Transition mode

You can use an effect created with keyframes as a DME wipe pattern on the switcher. In this case, it is necessary to set the transition mode (the way in which the effect behaves) (*see page 404*).

## Time Settings

### Keyframe duration and effect duration

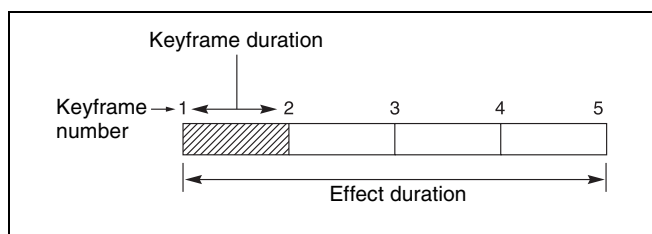
You can determine the execution time of an effect by setting either the keyframe durations or the effect duration.

**Keyframe duration:** This is the time from the keyframe to the next keyframe. You can set this time in the keyframe control block (*see page 407*).

In constant duration mode (*see page 388*), it is not possible to change the keyframe duration setting.

**Effect duration:** This is the total execution time of the effect, from the first keyframe to the last. You can set this time in the keyframe control block (*see page 407*).

When you change the effect duration, the keyframe duration for each keyframe in the effect is automatically recalculated proportionally.



Keyframe duration and effect duration

The effect duration may also be changed by inserting or deleting keyframes.

## Changes in the effect duration caused by inserting a keyframe

- When the effect is stopped on a keyframe, inserting a keyframe increases the effect duration by the duration of the inserted keyframe.
- When the effect is stopped between two keyframes, inserting a keyframe does not change the effect duration.

### Notes

In constant duration mode (*see page 388*), the duration of the current keyframe is reduced to zero, and the new keyframe is inserted with the previous duration of the current keyframe. Thus the effect duration does not change.

| Insertion position                  | Change in effect duration |
|-------------------------------------|---------------------------|
| Insertion before the first keyframe |                           |
| Insertion between two keyframes     |                           |
| Insertion at an existing keyframe   |                           |
| Insertion at the last keyframe      |                           |

Keyframe insertion position and the change in effect duration

## Changes in the effect duration caused by deleting a keyframe

- When the effect is stopped on a keyframe, a delete operation deletes the keyframe, and reduces the effect duration by the duration of the deleted keyframe.
- When the effect is stopped between two keyframes, a delete operation deletes the preceding keyframe, and reduces the effect duration by the duration of the deleted keyframe.

### Notes

In constant duration mode (*see page 388*), the duration of the keyframe before the deleted keyframe is increased by

the duration of the deleted keyframe. Thus the effect duration does not change.

| Deletion position                    | Change in effect duration |
|--------------------------------------|---------------------------|
| Deletion of the first keyframe       |                           |
| Deletion of an intermediate keyframe |                           |
| Deletion between two keyframes       |                           |
| Deletion of the last keyframe        |                           |

Keyframe deletion position and the change in effect duration

## Delay setting

You can set the delay from the time of executing an operation to run the effect, and the effect actually starting (that is, the delay until the first keyframe). You can make this setting in the keyframe control block. Note that changing the delay does not alter the duration of the effect.

## Paths

The term “path” refers to the specification of how interpolation is carried out from one keyframe to the next. Images are interpolated from an edit point to the next one according to the path setting.

*For details of the path setting procedure, see “Path Settings” (page 408).*

## Switcher path settings

Carry out path settings in the Key Frame menu. For each menu, the following settings are available.

### M/E-1 and P/P menus

| Item                 | Paths that can be set  |
|----------------------|--|
| M/E1, P/P All        | For each M/E and PGM/PST, path settings for the following items are made simultaneously.           |
| Key1 to Key8         | Overall path settings for items relating to keys 1 to 8 are made simultaneously.                   |
| Key1 All to Key8 All |  |
| Source               | Key source path for keys 1 to 8  |
| Fill                 | Key fill path for keys 1 to 8  |
| Proc                 | Proc path for keys 1 to 8  |
| Trans                | Transition path for keys 1 to 8  |
| Bkgd/Util            | Overall path settings for items relating to backgrounds and utility buses are made simultaneously. |
| Bkgd/Util All        |  |
| Bkgd A               | Path for background A  |
| Bkgd B               | Path for background B  |
| Util 1               | Path for utility 1   |
| Util 2               | Path for utility 2   |
| DME 2nd Video        | Path for video to be used for second DME channel   |
| Wipe/DME Wipe        | Overall path settings for items relating to wipes and DME wipes are made simultaneously.           |
| Wipe/DME Wipe All    |  |
| Wipe                 | Path for wipes   |
| DME Wipe             | Path for DME wipes   |
| Trans                | –  |
|                      | Transition path for each M/E and P/P bank  |

### User1 to User8 menus

The items that can be adjusted depend on the settings in the Setup menu.

*For details, see “Setting User Regions” (page 537).*

| Item                   | Paths that can be set  |
|------------------------|--|
| User1 All to User8 All | Overall path settings for the following items for each “User” are made simultaneously. |
| FM All                 | Overall path settings for frame memory items are made simultaneously.                  |
| FM Still Store         | Overall path settings for frame memory freeze image output are made simultaneously.    |
| FM Still Store All     |  |
| FM Still Store 1 to 8  | Paths for frame memory freeze image outputs 1 to 8                                     |
| Aux                    | Overall path settings for AUX buses are made simultaneously.                           |
| Aux All                |  |
| Aux 1 to 48            | Paths for AUX 1 to 48  |

| Item       |                | Paths that can be set  |
|------------|----------------|--|
| Color Bkgd |                | Overall path settings for color backgrounds are made simultaneously. |
|            | Color Bkgd All |  |
|            | Color Bkgd 1   | Paths for color background 1   |
|            | Color Bkgd 2   | Paths for color background 2   |
| CCR        |                | Overall path settings for color corrector                            |
|            | CCR All        |  |
|            | CCR 1          | Path for color corrector 1   |
|            | CCR 2          | Path for color corrector 2   |

## Paths relating to DME

### DME 3D Trans Local menu

| Item               |                                    | Paths that can be set  |
|--------------------|------------------------------------|--|
| 3D Trans Local All |                                    | Overall path settings for local channel three-dimensional transform items are made simultaneously.   |
| Loc Size           |                                    | Overall path settings for items relating to image size changes and movement are made simultaneously. |
|                    | Loc Size All                       |  |
|                    | Size                               | Path for image size  |
|                    | Post Loc X, Post Loc Y             | Paths for movement in the X- and Y-axes  |
|                    | Post Size                          | Path for size  |
| Loc XYZ            |                                    | Overall path settings for items relating to image movement are made simultaneously.                  |
|                    | Loc XYZ All                        |  |
|                    | Loc X, Loc Y, Loc Z                | Paths for the X-, Y- and Z-axes  |
| Rot                |                                    | Overall path settings for items relating to image rotation are made simultaneously.                  |
|                    | Rot All                            |  |
|                    | Rot X, Rot Y, Rot Z                | Paths for the X-, Y- and Z-axes  |
| Spin               |                                    | Overall path settings for items relating to spin are made simultaneously.                            |
|                    | Spin All                           |  |
|                    | Spin Src X, Spin Src Y, Spin Src Z | Paths for the X-, Y- and Z-axes  |
|                    | Spin X, Spin Y, Spin Z             | Paths for the X-, Y- and Z-axes  |
| Asp                |                                    | Overall path settings for items relating to aspect ratio are made simultaneously.                    |
|                    | Asp All                            |  |
|                    | Rate X, Rate Y                     | Paths for the X- and Y-axes  |

| Item     |                        | Paths that can be set  |
|----------|------------------------|--|
| Skew     |                        | Overall path settings for items relating to skew are made simultaneously.                |
|          | Skew All               |  |
|          | Skew X, Skew Y         | Paths for the X- and Y-axes  |
|          | Aspect                 | Path for aspect ratio  |
| Pers     |                        | Overall path settings for items relating to perspective are made simultaneously.         |
|          | Pers All               |  |
|          | Pers X, Pers Y, Pers Z | Paths for the X-, Y- and Z-axes  |
| Axis Loc |                        | Overall path settings for items relating to image rotation axis are made simultaneously. |
|          | Axis All               |  |
|          | Axis X, Axis Y, Axis Z | Paths for the X-, Y- and Z-axes  |

### DME 3D Trans Global menu

| Item                |                                    | Paths that can be set  |
|---------------------|------------------------------------|--|
| 3D Trans Global All |                                    | Overall path settings for three-dimensional transform items in the global channel are made simultaneously. |
| Loc Size            |                                    | Overall path settings for items relating to image size changes and movement are made simultaneously.       |
|                     | Loc Size All                       |  |
|                     | Size                               | Path for image size  |
|                     | Post Loc X, Post Loc Y             | Paths for movement in the X- and Y-axes  |
|                     | Post Size                          | Path for size  |
| Loc XYZ             |                                    | Overall path settings for items relating to image movement are made simultaneously.                        |
|                     | Loc XYZ All                        |  |
|                     | Loc X, Loc Y, Loc Z                | Paths for the X-, Y- and Z-axes  |
| Rot                 |                                    | Overall path settings for items relating to image rotation are made simultaneously.                        |
|                     | Rot All                            |  |
|                     | Rot X, Rot Y, Rot Z                | Paths for the X-, Y- and Z-axes  |
| Spin                |                                    | Overall path settings for items relating to spin are made simultaneously.                                  |
|                     | Spin All                           |  |
|                     | Spin Src X, Spin Src Y, Spin Src Z | Paths for the X-, Y- and Z-axes  |
|                     | Spin X, Spin Y, Spin Z             | Paths for the X-, Y- and Z-axes  |
| Pers                |                                    | Overall path settings for items relating to perspective are made simultaneously.                           |
|                     | Pers All                           |  |
|                     | Pers X, Pers Y, Pers Z             | Paths for the X-, Y- and Z-axes  |

| Item     |                        | Paths that can be set  |
|----------|------------------------|--|
| Axis Loc |                        | Overall path settings for items relating to image rotation axis are made simultaneously. |
|          | Axis All               | Paths for the X-, Y- and Z-axes  |
|          | Axis X, Axis Y, Axis Z |  |

## DME Effect menu

| Item         |                  | Paths that can be set   |
|--------------|------------------|---|
| Effect All   |                  | Overall path settings for DME effect items are made simultaneously.               |
| Edge         |                  | Overall path settings for edge items are made simultaneously.                     |
|              | Edge All         |   |
|              | Border           | Path for border   |
|              | Crop/Edge Soft   | Path for crop/edge softness   |
|              | Beveled Edge     | Path for beveled edge   |
|              | Key Border       | Path for key border <sup>a)</sup>   |
|              | Art Edge         | Path for art edge <sup>a)</sup>   |
|              | Flex Shadow      | Path for flex shadow <sup>a)</sup>  |
|              | Wipe Crop        | Path for wipe crop <sup>a)</sup>  |
|              | Color Mix        | Path for color mix <sup>a)</sup>  |
| Video Modify |                  | Overall path settings for video modify items are made simultaneously.             |
|              | Video Modify All |   |
|              | Defocus/Blur     | Path for defocus/blur   |
|              | Multi Move       | Path for multi-move   |
|              | Color Modify     | Path for color modify   |
|              | Mosaic           | Path for mosaic   |
|              | Mask             | Path for mask   |
|              | Sketch           | Path for sketch   |
|              | Metal            | Path for metal  |
|              | Dim/Fade         | Path for dim/fade <sup>a)</sup>   |
|              | Glow             | Path for glow   |
| Freeze       |                  | Path for freeze   |
| Non-Linear   |                  | Path for nonlinear effects  |
| Corner Pin   |                  | Path for corner pinning   |
| Light        |                  | Overall path settings for lighting items are made simultaneously.                 |
|              | Light All        |   |
|              | Lighting         | Path for lighting   |
|              | Spot Lighting    | Path for spotlighting <sup>a)</sup>   |
| Trail        |                  | Path for trails   |
| In/Out       |                  | Overall path settings for items relating to input/output are made simultaneously. |
|              | In/Out All       |   |
|              | Bkgd             | Path for background   |
|              | Video/Key        | Path for video/key  |

a) This cannot be used on the MVE-8000A.

## DME Global Effect menu

| Item              | Paths that can be set  |
|-------------------|--|
| Global Effect All | Overall path settings for DME global effect items are made simultaneously. |
| Combine           | Path for combiner  |
| Shadow            | Path for shadow  |
| Brick             | Path for brick   |

## Types of path

### Path types for Curve

There are five types, as follows.



**OFF:** Executing the effect causes no change.



**Step:** There is no interpolation between keyframes, so that the effect parameters are updated each time a keyframe is passed.



**Linear:** Linear interpolation between keyframes, resulting in constant speed movement.



**S-Curve:** The rate of change accelerates and decelerates before and after a keyframe, so that the rate of change is maximum midway between two keyframes.



**Spline:** The effect follows a smooth curved path from each keyframe to the next.

### Path types for Hue

There are four types, as follows.



**CW:** The hue changes in a clockwise direction as seen on a Vectorscope.



**CCW:** The hue changes in a counterclockwise direction as seen on a Vectorscope.



**Short:** The hue changes in whichever of the clockwise and counterclockwise directions is shorter.



**Long:** The hue changes in whichever of the clockwise and counterclockwise directions is longer.

### Path types for Xpt

There are two types, as follows.



**Xpt Hold off:** When replaying a keyframe, change the inputs to the settings saved in memory.



**Xpt Hold on:** When replaying a keyframe, do not change the inputs.

## Effect Execution

By using the [RUN] button in the keyframe control block, you can replay the effect as a continuous sequence of images. This is referred to as effect execution.

## Range of execution

Each time the [RUN] button is pressed, the range of execution of the effect is from timecode 01:00:00:00 or the current time (the position at which the current effect is stopped) to the end point of the effect. However, if there is a pause set on a keyframe, the execution range is up to that point. Pressing the [RUN] button again resumes the effect, which then runs to the next pause point or the end of the effect.

## Run mode setting

You can select from the following run modes for when the effect is executed.

**DIRECTION:** Specify the effect execution direction.

**STOP NEXT KF:** Run the effect, and stop at the next keyframe.

**EFFECT LOOP:** Repeat the effect in an endless loop. Make these settings in the keyframe control block.

*For details, see “Setting the Run Mode” (page 410).*

## Master Timelines

You can save the regions selected for a keyframe effect and the register numbers saved in the regions in a master timeline register so that operation can be applied to two or more regions at a time.

Master timeline registers can be saved or recalled from the numeric keypad control block or using a menu operation.

*For details, see “Creating and Saving a Master Timeline” (page 412).*

## Sequence of Keyframe Operations

The following table shows the principal operations involved in the sequence from creating keyframes to executing an effect. For details of each operation, see the page number in parenthesis.

*For the overview of keyframes, see “Keyframes” in Chapter 1 (Volume 1).*

### Recalling a register (see page 396)

To create a new effect, recall an empty register; to edit an effect, open the register containing it.



### Specifying the region and edit points (see page 398)

Select the region in which editing applies, and set the edit points.



### Creating and editing keyframes (see page 399)

Create the keyframes that make up the effect, using operations to create, insert, modify, or delete keyframes.



### Time settings (see page 407)

Set the overall duration of the effect or the duration of each keyframe.



### Path setting (see page 408)

Set the type of interpolation used between successive keyframes.



### Executing effects (see page 410)

This provides a smooth effect, based on the time and path settings.



### Saving effects (see page 411)

Save a completed effect in a register.

# Displaying the Timeline Menu

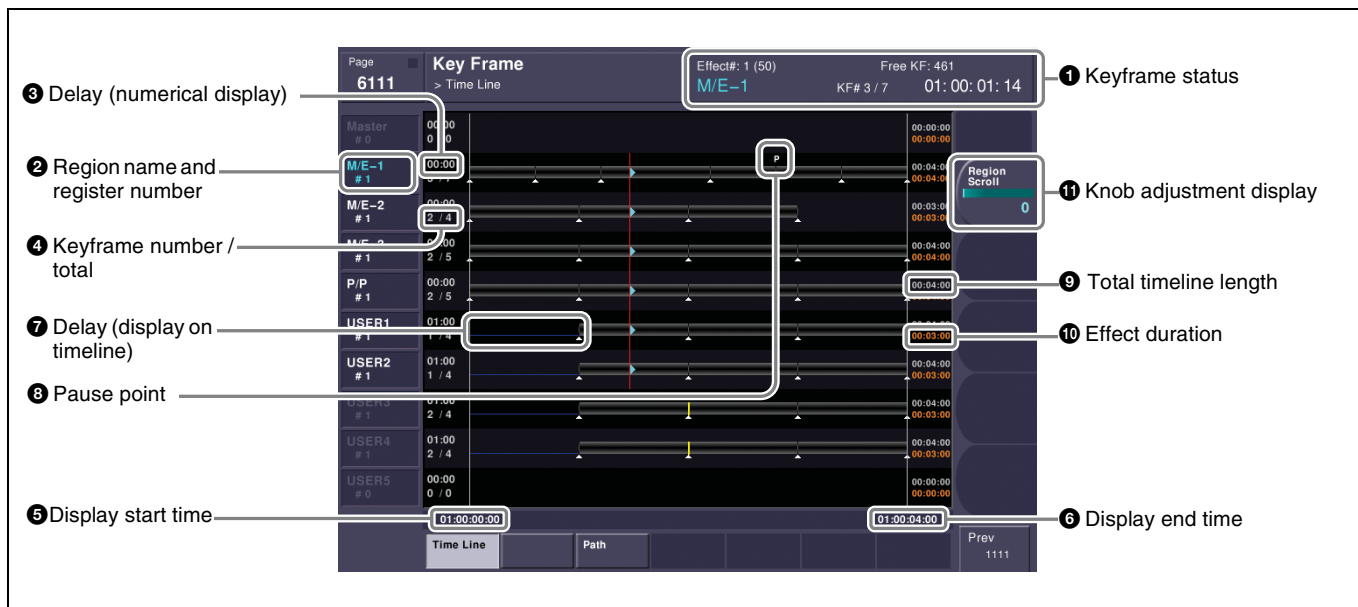
By displaying the Timeline menu, you can view keyframe effects on the timeline for each region, and the associated information.

## Recalling the timeline menu

- 1 In the menu control block, press the top menu selection button [KEY FRAME].
  - 2 Select HF1 'Time Line.'
- The Time Line menu appears.

## Interpreting the Timeline Menu

The following are the main parts of the menu display.



Key Frame >Time Line menu

### 1 Keyframe status

This shows the region name, register number, region name, number of remaining keyframes, current position and timecode with regard to the reference region.

### 2 Region name and register number

This shows the region name and the number of the register recalled in this region.

The display color indicates the region selection as follows.

**Blue:** reference region

**White:** selected region

**Gray:** not selected region

### 3 Delay (numerical display)

This shows the delay between carrying out an effect operation, and the start of the actual effect.

### 4 Keyframe number / total

This shows the number of the keyframe at the cursor position, and the total number of keyframes in the register.

### 5 Display start time

This shows the timecode value for the timeline display start point.

### 6 Display end time

This shows the timecode value for the timeline display end point.

### 7 Delay (display on timeline)

When a delay is set, the interval is shown by a blue line.

### 8 Pause point

A "P" appears where a pause is set.



**9 Total timeline length**

The total time of delays and effect duration appears in white.

**10 Effect duration**

The total duration of the effect appears in orange.

**11 Knob adjustment display**

Turning the corresponding knob scrolls the timeline display, allowing you to see the timeline for regions that were previously hidden.

## Settings in the Timeline Menu

**Selecting the region to be displayed**

The Timeline menu shows a timeline for each region, but you can also restrict the regions to be shown.

**Recalling the Timeline Assign menu**

**1** In the menu control block, press the top menu selection button [KEY FRAME].

**2** Select HF5 'Timeline Assign.'

The Key Frame >Timeline Assign menu appears. The right of the status area shows a list of the regions (including the global region) assigned to the region selection buttons in the numeric keypad control block. The left shows the regions in order of precedence, and whether each region is shown on the Timeline menu.

**Deciding which regions appear on the timeline**

In the Timeline Assign menu, press [Active Region], toggling it on or off.

**On:** The regions for which the region selection buttons in the numeric keypad control block are lit are shown in the precedence order (*see next item*) set in this menu, followed by the regions for which the buttons are off, in the same order.

**Off:** The regions appear according to the precedence order (*see next item*) and display on/off setting (*see page 395*) set in this menu.

**Deciding the precedence order for timeline display**

To change the precedence order, insert and delete regions in the list, in the desired order.

**1** In the Timeline Assign menu, use any of the following methods to select the desired precedence order position and the region you want to insert.

- Press directly on the precedence order position in the list on the left and the region you want to insert in the list on the right.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knobs to make the setting.

| Knob | Parameter | Adjustment                             | Setting values     |
|------|-----------|--|--------------------|
| 1    | Priority  | Precedence order of insertion position | 1 to maximum value |
| 2    | Region    | Region to be inserted                  | 1 to maximum value |

**2** In the <Priority> group, press [Insert].

This inserts the selected region before the specified precedence order.

If the inserted region is already present in a different precedence order, it is deleted from that precedence order.

**3** To delete a region from a precedence order, use any of the following methods to select the region.

- Press directly on the list on the left of the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment  | Setting values     |
|------|-----------|---|--------------------|
| 1    | Priority  | Precedence order assigned to the region to be deleted | 1 to maximum value |

**4** To carry out the deletion, press [Delete] in the <Priority> group.

This deletes the selected region from the precedence order list.

**Setting the display of regions in the Timeline menu on or off**

When [Active Region] is off, to select which regions are displayed in the Timeline menu, use the following procedure.

**1** In the Timeline Assign menu, use any of the following methods to select the region.

- Press directly on the list on the left of the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment       | Setting values     |
|------|-----------|------------------|--------------------|
| 1    | Priority  | Region selection | 1 to maximum value |

- 2** For no display, press [Display], turning it off. To display, press once more, turning it on.

When [Active Region] is off, regions with the “Display Off” setting are not displayed in the Timeline menu.

### To return to the default precedence order and timeline menu display settings

Press [Default] in the <Priority> group.

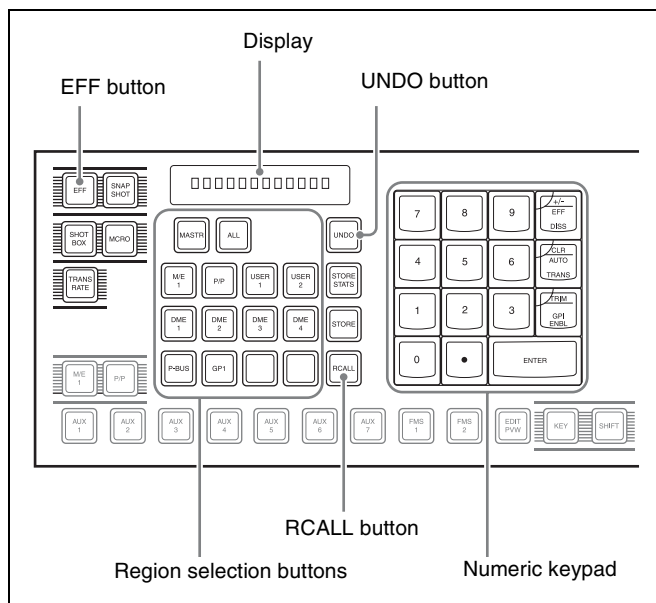
## Recalling a Register

Use the numeric keypad control block to recall a register. For each region there are 99 registers dedicated to keyframes, numbered from 1 to 99.

When creating an effect as a user programmable DME, use a 3-digit register number which is commonly used for all DME regions (channels).

*For a description of the concept of regions and registers, see “Regions” (page 386) and “Registers” (page 387).*

### Recalling a register from the numeric keypad control block



Numeric keypad control block

- 1** Press the [EFF] button, turning it on.  
This allocates the numeric keypad control block to keyframe operations, and the [RCALL] button lights.
- 2** Press the button corresponding to the region you want to select, turning it on.  
You can also press more than one button.
  - [M/E 1], [P/P]:** These select the corresponding M/E-1 and PGM/PST regions.
  - [USER 1] to [USER 8]:** These select the User regions.
  - [DME 1] to [DME 8]:** These select the DME channels.
  - [DEV 1] to [DEV 12]:** These select the regions Device 1 to Device 12, respectively.
  - [P-BUS]:** This selects P-Bus.
  - [GPI]:** This selects GPI.
  - [MACRO]:** This selects Macro.

[ALL]: This selects all valid regions.

[MASTR]: This selects the master timeline (*see page 412*)

#### Notes

The regions that can be selected simultaneously are those assigned to the region selection buttons in the numeric keypad control block (*see page 500*).

It is not possible to select [MASTR] and other regions simultaneously. If selected simultaneously, the master timeline takes precedence.

The first button pressed lights green as the reference region, and any subsequently pressed buttons light amber.

Pressing one of the amber-lit buttons, while holding down [EFF], turns the button green to indicate its corresponding region as the new reference region.

*For details of the precedence order for becoming the reference region, see “Reference region” (page 386).*

The display shows the name of the reference region, and the number of the last register recalled for this region.

- 3** Enter the number of the register you want to recall, using the numeric keypad.

To find an empty register, instead of entering a number, press the [.] (period) button. To search for an empty register common to all currently selectable regions, press the [.] button again.

To search for an empty register in the 100 range, press [1], [0], [0], [.] (period) in that order. Similarly, to search for an empty register in the 200 range, press [2], [0], [0], [.] (period), and to search for an empty register in the 300 range, press [3], [0], [0], [.] (period).

The register number appears in the display. If the number is followed by a letter “e” or “E,” this indicates the following.

**e:** The selected register is empty for the regions selected in step **2**.

**E:** The selected register is empty for all currently selectable regions.

- 4** To apply a temporary attribute (effect dissolve), press the [+/-/EFF DISS] button.

#### Notes

It is not possible to apply temporary attributes to the master timeline.

- 5** Press the [ENTER] button.

This recalls the specified register.

When the master timeline is recalled, the region selection buttons light according to the saved region information.

#### To undo the recall of a register

Immediately after recalling the register, press the [UNDO] button to undo the operation.

#### Notes

After recalling the master timeline, you cannot undo the recall.

# Specifying the Region and Edit Points

## Selecting the Region in Which Editing Applies

### Selecting by control panel

Select the region in which the editing is applied by the effect consisting of keyframes, using the region selection buttons in the numeric keypad control block.

See step 2 of “Recalling a register from the numeric keypad control block” (page 396).

### Selecting by menus

This is convenient for selecting some of the regions assigned to the numeric keypad control block or changing the reference region.

#### Notes

The function of region selection buttons in the numeric keypad control block is linked to the menu. If you carry out region selection by pressing a region selection button, then all the regions assigned to that button are selected.

- 1 In the Key Frame menu, press HF7 ‘Region Select.’

The Key Frame >Region Select menu appears.

On the left of the status area, region selection buttons appear.

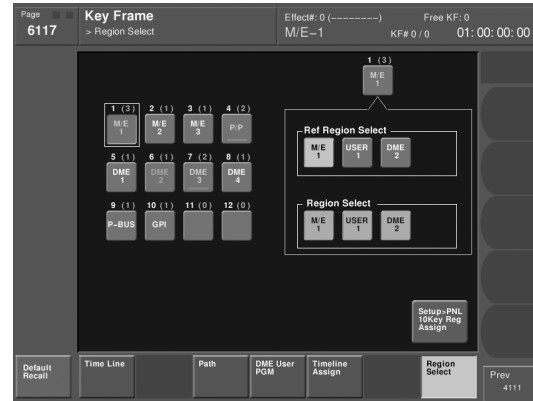
Depending on the region selection state, the following indications appear.

**Green text:** the assigned regions include the reference region.

**Orange text:** one of the assigned regions is selected.

**White text:** no assigned region is selected.

When any one or more of the regions assigned to the region selection buttons is not selected, a red bar appears within the button indication. The [STORE] and [RCALL] buttons in the numeric keypad control block flash amber.



- 2 Press a button indication on the left of the status area, to select the button you want to assign.

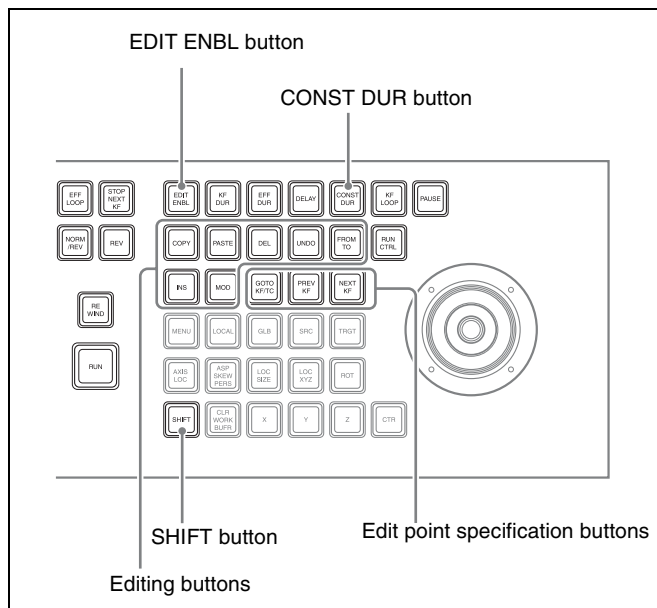
The regions currently assigned to the button you pressed appear on the right side of the status area.

- 3 In the <Region Select> group, press the button for the region you want to select, turning it on.

- 4 In the <Ref Region Select> group, press the button indication you want to make the reference region.

The button you pressed lights green.

## Setting the Edit Points



Keyframe control block

To set the edit points, use any of the following operations in the keyframe control block.

- To move the edit point to the keyframe immediately after the current time (the position at which the effect is currently stopped), press the [NEXT KF] button.

- To move the edit point to the keyframe immediately before the current time, press the [PREV KF] button.
- To move the edit point to a keyframe specified by number, press the [GO TO KF/TC] button turning its LED on, then enter the keyframe number with the numeric keypad in the numeric keypad control block, and press the [ENTER] button to confirm.
- To move the edit point to a specified timecode, holding the [SHIFT] button, press the [GO TO KF/TC] button turning its LED on, then enter the timecode value with the numeric keypad in the numeric keypad control block and press the [ENTER] button to confirm.

### To enter a difference value

When moving to a point specified with the [GO TO KF/TC] button, you can also enter the difference from the current keyframe number or timecode value.

Press the numeric keypad [+/-] button, and enter the difference, then press the [TRIM] button. Each time you press the [+/-] button, it toggles between plus (+) and minus (-).

## Creating and Editing Keyframes

### Creation

#### Creating new keyframes

To create new keyframes, after recalling an empty register, use the following procedure to create and insert each new keyframe. Use the keyframe control block for carrying out the operation.

- 1 Press the [EDIT ENBL] button, turning it on.  
This enables effect editing in the keyframe control block.
- 2 Create the image you want to be the first keyframe.
- 3 Press the [INS] button.  
This takes the current image as the first keyframe. You can make a setting in the Setup menu so that when you recall an empty register, the system state at that point is automatically captured as the first keyframe.
- 4 Create the image you want to be the next keyframe.
- 5 Press the [INS] button.  
This inserts the current image as the second keyframe after the first keyframe.

Repeat steps **4** and **5** to create the required number of keyframes.

#### To insert a new keyframe before an existing keyframe

Hold down the [SHIFT] button and press the [INS] button, to insert a new keyframe before the current keyframe.

### Insertion

#### Inserting keyframes

To insert a keyframe in an existing effect, use the following procedure in the keyframe control block.

- 1 Press the [EDIT ENBL] button, turning it on.
- 2 Stop the effect at the desired edit point.
- 3 Create the image for the keyframe you want to insert.

- 4 Press the [INS] button.  
When the edit point is on a keyframe, to insert the new keyframe before the existing keyframe, hold down the [SHIFT] button and press the [INS] button.

This inserts the current image as the new keyframe. Inserting a keyframe may change the total duration of the effect.

*For details, see “Time Settings” (page 389).*

## Modification

### Modifying keyframes

Use the following procedure in the keyframe control block.

- 1 Press the [EDIT ENBL] button, turning it on.
- 2 Stop the effect at the desired edit point.

When the edit point is on a keyframe, this is what you modify. If the edit point is between two keyframes, the previous keyframe is what you modify.

#### Notes

In constant duration mode (*see page 388*) modification is only possible when the edit point is on a keyframe.

- 3 Using image transformations or adding special effects, modify the keyframe.
- 4 Press the [MOD] button.

### Modifying more than one keyframe simultaneously

You can modify a number of keyframes simultaneously. There are three different cases for this operation.

- Modifying from the edit point to a particular keyframe
- Modifying all keyframes in the effect
- Modifying the keyframes in a specified range

The different procedures for these cases are now described.

#### To modify from the edit point to a particular keyframe

- 1 Press the [EDIT ENBL] button, turning it on.
- 2 Stop the effect at the first keyframe of the range to be modified.
- 3 Carry out the necessary modifications.
- 4 Press the [FROM TO] button, turning it on.

The display in the numeric keypad control block shows the current keyframe number, followed by “TO.”

- 5 Enter the number of the last keyframe to be modified from the numeric keypad control block and press the [ENTER] button to confirm.

- 6 Press the [MOD] button. Alternatively, hold down the [SHIFT] button and press the [MOD] button.

*For the difference in the result, see “Differences in the changes when a number of keyframes are modified” (page 400).*

#### To modify the keyframes in a specified range

- 1 Press the [EDIT ENBL] button, turning it on.
- 2 Stop the effect at any keyframe within the range to be modified.
- 3 Carry out the necessary modifications.
- 4 Press the [FROM TO] button, turning it on.

The display in the numeric keypad control block shows the current keyframe number, followed by “TO.”

- 5 Using the numeric keypad in the numeric keypad control block, carry out the following operations.
  - To set the first keyframe in the range to be modified, press the [CLR] button, then enter the keyframe number, and press the [ENTER] button to confirm.
  - To set the last keyframe in the range to be modified, enter the keyframe number from the numeric keypad, and press the [ENTER] button to confirm.
- 6 Press the [MOD] button. Alternatively, hold down the [SHIFT] button and press the [MOD] button.

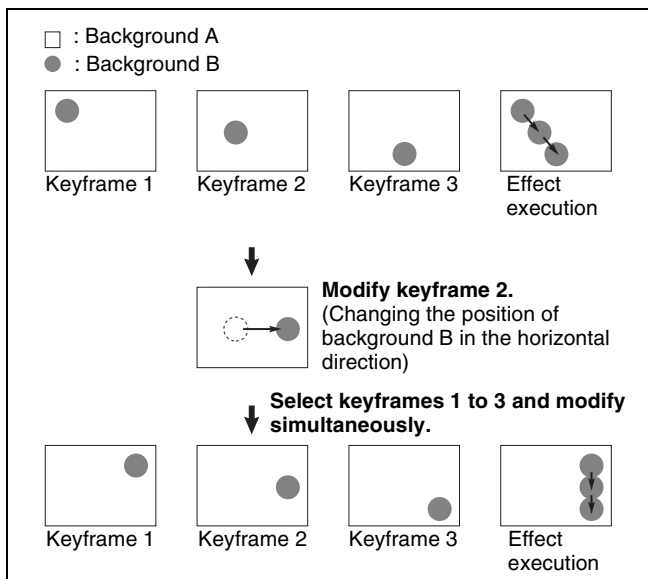
*For the difference in the result, see “Differences in the changes when a number of keyframes are modified” (page 400).*

### Differences in the changes when a number of keyframes are modified

When you select a number of keyframes to modify, and press the [MOD] button alone or in combination with the [SHIFT] button, the result of the operation differs as shown below.

#### Modifying the keyframes by pressing the [MOD] button alone

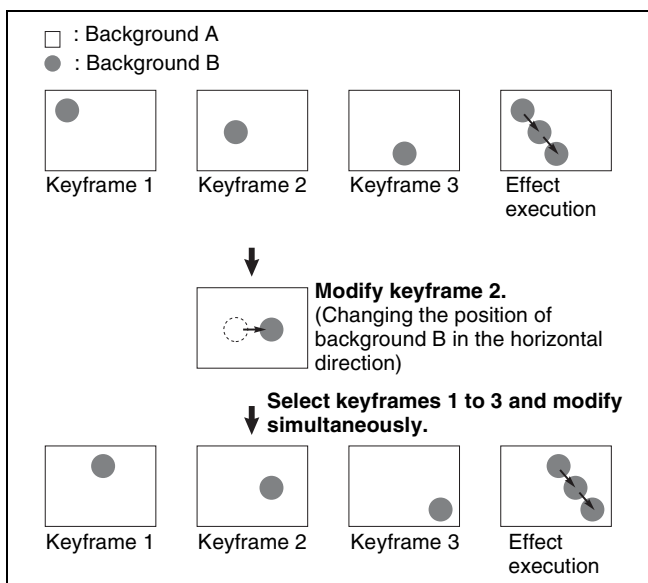
The modified parameter values are taken as absolute values, and applied to all of the selected keyframes.

**Result:**

The horizontal position of background B in keyframes 1 and 3 is now the same as that in keyframe 2. In all keyframes, the vertical position remains unchanged as the parameter is not changed.

**Modifying the keyframes by holding down the [SHIFT] button and pressing the [MOD] button**

The modified parameter values are taken as relative values, which modify all of the selected keyframes.

**Result:**

Background B of keyframes 1 and 3 is moved in the horizontal direction by the same amount as in keyframe 2.

## Deletion

### Deleting keyframes

**1** Press the [EDIT ENBL] button, turning it on.

**2** Stop the effect at the desired edit point.

When the edit point is on a keyframe, this is what you delete. If the edit point is between two keyframes, the previous keyframe is what you delete.

**3** To delete a number of keyframes in a single operation, press the [FROM TO] button, turning it on.

*For how to specify a range of keyframes, see “Modifying more than one keyframe simultaneously” (page 400).*

**4** Press the [DEL] button.

This deletes the keyframe.

Deleting a keyframe reduces the total duration of the effect.

In constant duration mode (*see page 404*), however, the duration does not change.

*For details, see “Changes in the effect duration caused by deleting a keyframe” (page 389).*

## Movement

### Moving keyframes

**1** Press the [EDIT ENBL] button, turning it on.

**2** Stop the effect at the edit point you want to move.

**3** To move a number of keyframes in a single operation, press the [FROM TO] button, turning it on, to specify the keyframes.

*For how to specify a range of keyframes, see “Modifying more than one keyframe simultaneously” (page 400).*

**4** Press the [DEL] button.

This deletes the keyframe, and saves it in the paste buffer.

**5** Move the edit point to the position to which you want to move the keyframe.

**6** Press the [PASTE] button.

This inserts the keyframe you have moved after the current keyframe. In constant duration mode, the moved keyframe overwrites the edit point.

### To insert the moved keyframe before a keyframe

Hold down the [SHIFT] button, and press the [PASTE] button to insert the moved keyframe before the current keyframe.

## Copying

### Copying keyframes

- 1 Press the [EDIT ENBL] button, turning it on.
- 2 Stop the effect at the edit point you want to copy.
- 3 To copy a number of keyframes in a single operation, press the [FROM TO] button, turning it on.

*For how to specify a range of keyframes, see “Modifying more than one keyframe simultaneously” (page 400).*

- 4 Press the [COPY] button.

This copies the specified keyframe, and saves it to the paste buffer.

- 5 Move the edit point to the position where you want to insert the copied keyframe.

- 6 Press the [PASTE] button.

This inserts the keyframe you have copied after the current keyframe. In constant duration mode, the copied keyframe overwrites the edit point.

### To insert the copied keyframe before a keyframe

Hold down the [SHIFT] button, and press the [PASTE] button to insert the copied keyframe before the current keyframe.

## Pause

To apply a pause to a keyframe, use the following procedure.

- 1 Press the [EDIT ENBL] button, turning it on.
- 2 Stop the effect on the keyframe to which you want to apply a pause.
- 3 Press the [PAUSE] button.

## Keyframe Loop (Repeated Execution of a Specified Range)

By setting the range of the loop within the effect, and the number of loop executions, you can execute the loop range repeatedly.

### Notes

It is only possible to set one keyframe loop for each region.

### Creating a new keyframe loop

To specify the loop range and loop count, carry out the following procedure.

- 1 Press the [EDIT ENBL] button, turning it on.
- 2 Stop the effect on the keyframe you want to make the first of the loop range (start point). (Here, by way of example, keyframe 2 is taken as the start point.)

- 3 Press the [KF LOOP] button in the keyframe control block, turning it on.

The numeric keypad control block display shows the start point keyframe number as follows.

**FM 2 TO**

The example shown means “from (keyframe) 2 to...,” where the end keyframe is to follow.

- 4 With the numeric keypad buttons of the numeric keypad control block, enter the number of the last keyframe in the loop range (end point). (Here, by way of example, keyframe 5 is the end point.)

**FM 2 TO 5**

- 5 Press the [ENTER] button to confirm the entry.

The display changes as follows, prompting you to enter the loop count.

**COUNT**

- 6 Enter the loop count. (Here, by way of example, “15” is entered.)

- To specify a loop count, enter a number in the range 1 to 99.
- To specify an endless loop, enter “0” (zero).

**COUNT 15**

- 7 Press the [ENTER] button to confirm the entry.



The start point, end point, and loop count that you have set are reflected in the Timeline menu.

If you enter the loop count as “0” (endless loop), the count is shown as “inf” (infinity).

The numeric keypad control block display changes back to the state shown in step 4.

## Changing the keyframe loop settings

To change the loop range or count for the currently recalled effect, carry out the following procedure.

- 1 When the [KF LOOP] button in the keyframe control block is lit amber, press it, turning it green.

The numeric keypad control block display shows the current loop range.

If, for example, the start point is keyframe 2 and the end point is keyframe 5, this appears as follows.

**FM 2 TO 5**

- 2 To change the loop range, press the [CLEAR] button in the numeric keypad control block.  
To change the loop count only, press the [ENTER] button, then skip to step 6.

When you press the [CLEAR] button, this appears as follows.

**FM TO**

- 3 Enter the keyframe number for the new start point, and press the [ENTER] button.
- 4 Enter the keyframe number for the new end point, and press the [ENTER] button.

The display shows the currently set loop count.

- 5 To change the setting, press the [CLEAR] button.

This clears the set loop count.

**COUNT**

- 6 Enter the new loop count, and press the [ENTER] button.

## Executing a keyframe loop

In the keyframe control block, press the [RUN] button. The set loop range is executed repeatedly for the set loop count number of times.

The Timeline menu shows the total loop count and the number of loops remaining. If the loop count is infinite (inf), the remaining number is not shown.

If the [REV] button is lit, the loop is played in the reverse order.

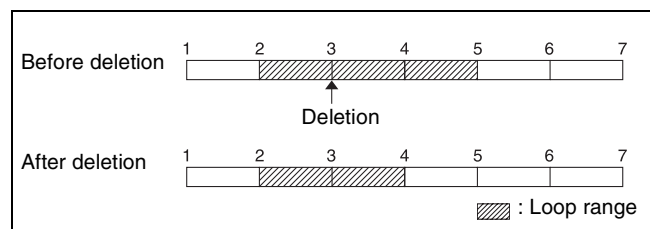
## Canceling keyframe loop execution

Press the [REWIND] button in the keyframe control block.

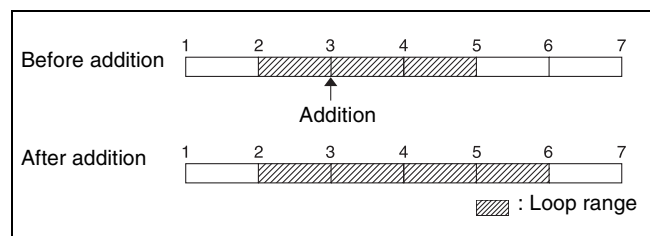
## Changes to the loop range caused by keyframe insertion/deletion

When a keyframe is inserted or deleted within the loop range, the loop range also changes. The following are examples.

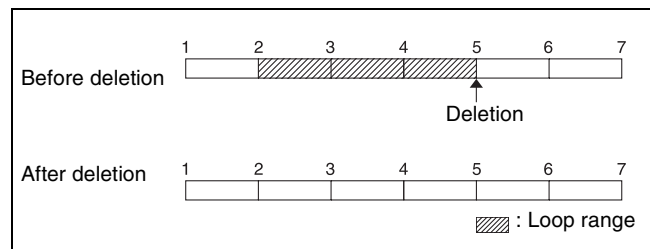
Example 1: If keyframe 3 is deleted, the loop end point moves forward as follows.



Example 2: If keyframe 3 is added, the end point keyframe number moves back.



Example 3: If the keyframe at the end of the loop range (the end point) is deleted, the keyframe loop settings are all cleared, as follows, and the [KF LOOP] button goes off. The same occurs if the first keyframe in the loop range (the start point) is deleted.



## Undoing an Edit Operation

To undo a keyframe insert, modify, delete, or paste operation immediately after execution, press the [UNDO] button.

## Duration Mode Setting

There are two keyframe duration modes: variable duration mode, and constant duration mode in which the effect duration is fixed (*see page 388*).

- To select variable duration mode, turn the [CONST DUR] button off.
- To select constant duration mode, press the [CONST DUR] button, turning it on.

## Transition Mode Settings for User Programmable DME

To create an effect for user programmable DME, it is necessary to set the transition mode.

### User programmable DME in transition mode

For the transition mode set when creating a keyframe effect for a user programmable DME pattern, the following can be used.

**Single:** single transition mode

**Flip tumble (Flip Tumble):** flip tumble transition mode

**Dual:** dual transition mode

**Picture-in-picture (PinP):** one-channel or two-channel, picture-in-picture transition mode

**Compress:** a type of picture-in-picture, in which the new image is the background, and the currently visible image shrinks, and then expands to its original size (see example in the next item).

**Frame in-out (Frame I/O):** one-channel or two-channel, frame in-out transition mode. When the first transition completes, if you move the position of the image, you can move it both horizontally and vertically.

**Frame in-out H (Frame I/O H):** a type of frame in-out mode, which is specified when creating a transition effect in the horizontal direction.

The image movement is reflected at both the transition start point and end point (*see page 405*).

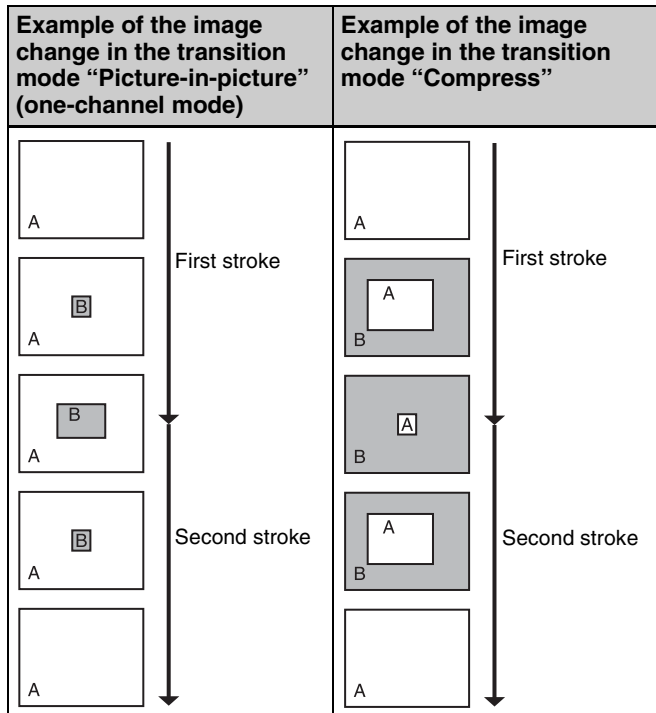
The operation is carried out according to DME wipe patterns 1202, 1203, or 1204.

**Frame in-out V (Frame I/O V):** a type of frame in-out mode, which is specified when creating a transition effect in the vertical direction.

The image movement is reflected at both the transition start point and end point (*see page 405*).

### Transition mode “Compress”

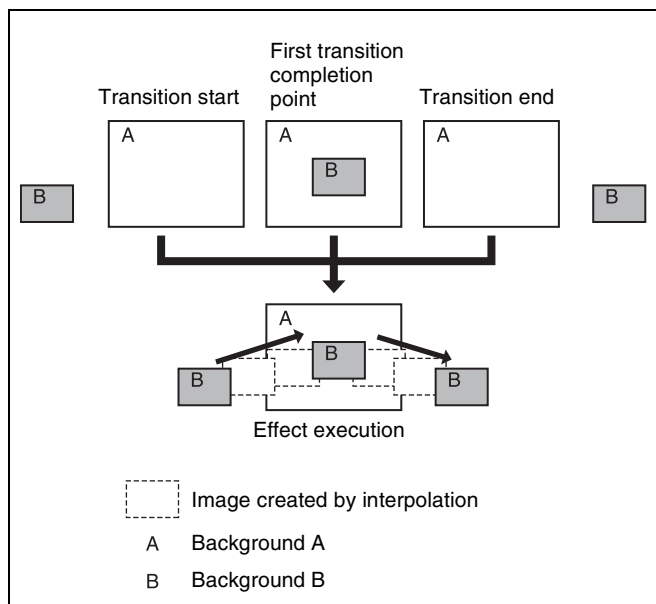
The change in the image when the transition mode is set to “Compress” is as follows, in comparison to the case of “Picture-in-picture.”



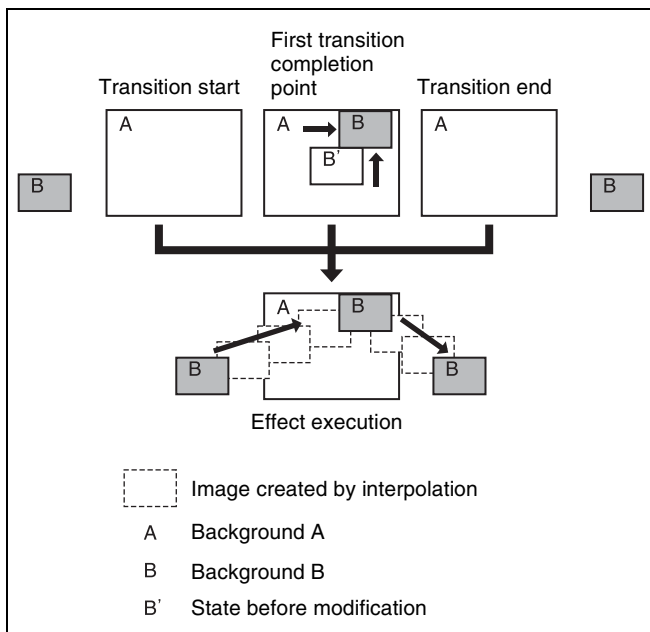
### Transition mode “Frame in-out”

In this mode, when the first transition has completed, you can move the image with the positioner in both horizontal and vertical directions, but the image position at the transition start point and end point does not change.

The description is of an example of creating an effect such as the following.



At the first transition completion point, if you move the image with the positioner, the transition appears as in the following figure.

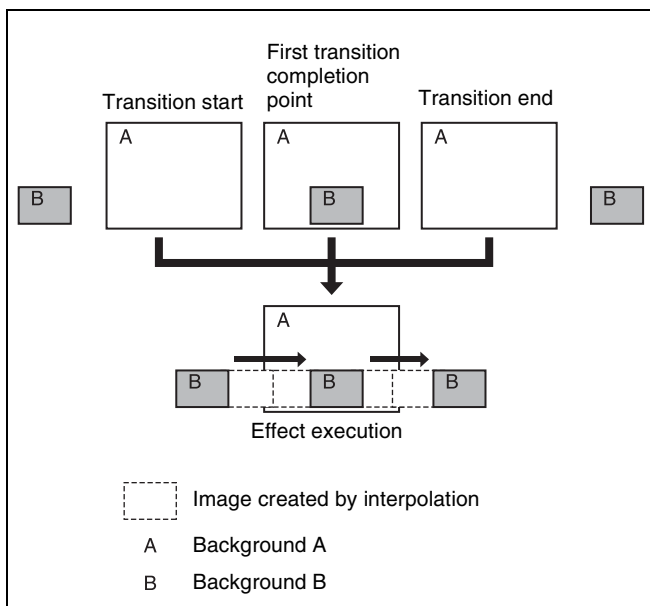


### Transition mode “Frame in-out H”

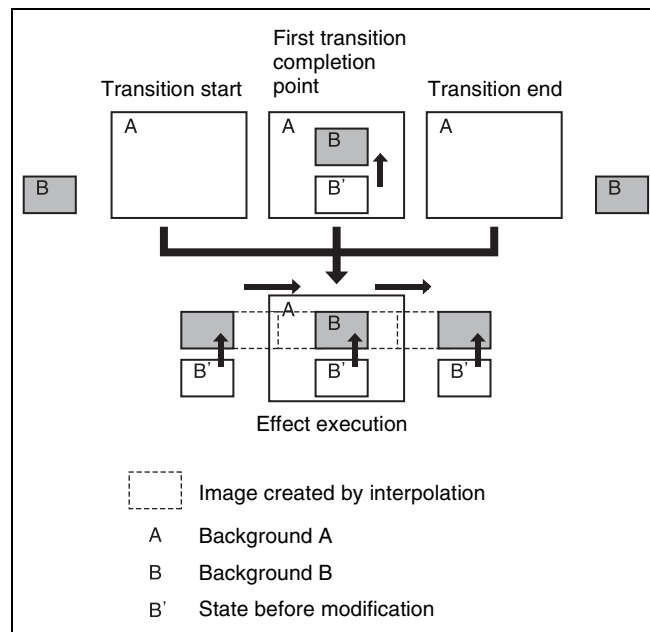
This mode is specified when creating a transition effect in the horizontal direction.

In this mode, when the first transition has completed, you can move the image with the positioner in both horizontal and vertical directions. The image at the transition start point and end point also moves.

The description is of an example of creating an effect such as the following.



At the first transition completion point, if you move the image with the positioner, the transition appears as in the following figure.

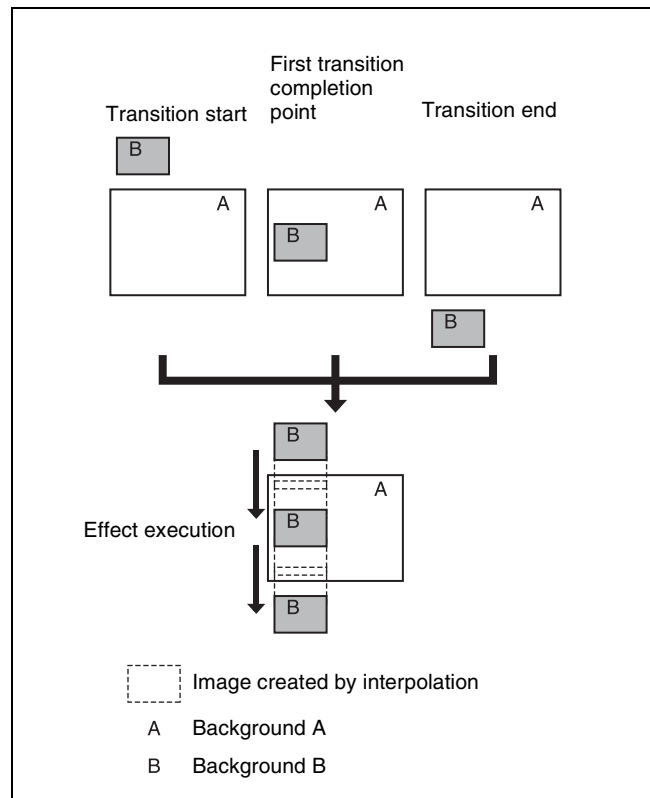


### Transition mode “Frame in-out V”

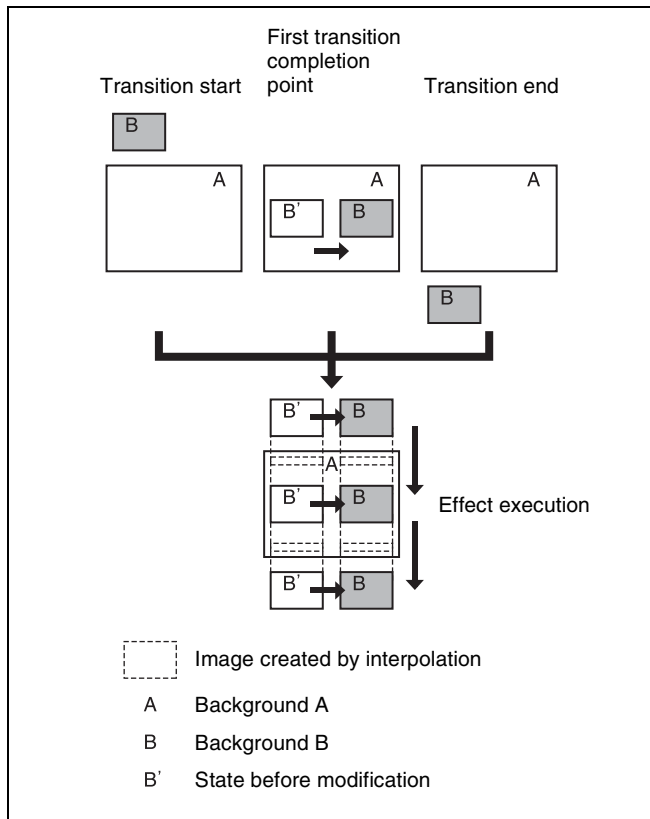
This mode is specified when creating a transition effect in the vertical direction.

In this mode, in the state at completion of the first transition, you can move the image with the positioner in both horizontal and vertical directions. The image at the transition start point and end point also moves.

The description is of an example of creating an effect such as the following.



At the first transition completion point, if you move the image with the positioner, the transition appears as in the following figure.



## Signals forming part of the background for a DME wipe

For a two-channel mode page turn, page roll, brick, frame in-out, and so on, the part of the pattern shown in gray is filled with the signal selected on the DME external video bus.

For three-channel mode brick, the part of the pattern shown in dark gray is filled with the DME external video signal, and the light gray portion with the signal selected as follows.

*For details on the pattern, see “DME Wipe Pattern List” in Appendix (Volume 1).*

### For a DME dedicated interface

- When the DME channel used is 3 or 4, the signal selected on the DME utility 1 bus.
- For channel 7 or 8, the signal selected on the DME utility 2 bus.

### For a DME SDI interface

Signal selected on the AUX bus assigned in the Engineering Setup >Switcher >Device Interface >DME Type Setting >DME SDI interface menu. The AUX bus is determined by which DME channel is being used.

## Notes

For the SDI interface on the DME, in some cases the AUX bus is used in place of the DME external bus (*see page 560*).

## Setting the transition mode

- 1 In the Key Frame menu, select HF4 ‘DME User PGM.’

The DME User PGM menu appears.

- 2 In the <Transition Mode> group, select the transition mode according to the DME wipe action.

**Single:** select single transition mode.

**Flip Tumble:** select the flip tumble transition mode.

**Dual:** select dual transition mode.

**P in P:** select picture-in-picture mode.

**Compress:** select compress mode.

**Frame I/O:** select frame in-out transition mode.

**Frame I/O H:** select frame in-out transition mode in the horizontal direction.

**Frame I/O V:** select frame in-out transition mode in the vertical direction.

*For details of creating an effect for user programmable DME, see “Creating User Programmable DME Patterns” in Chapter 6 (Volume 1).*

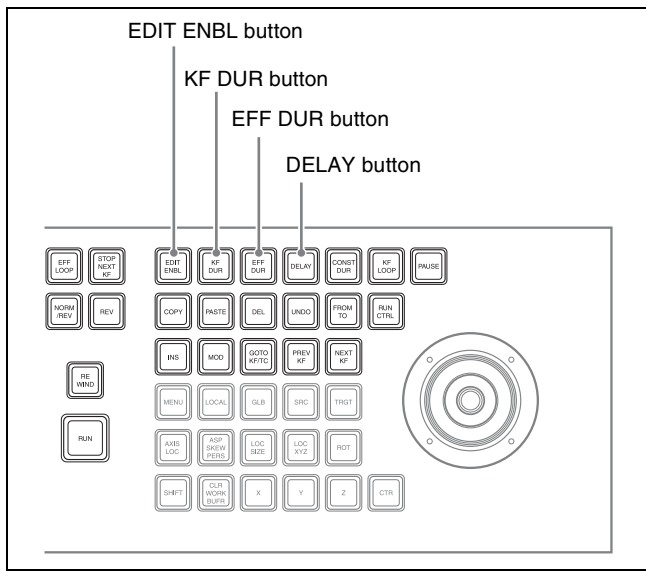
## Notes

The DME channel selected as the reference region (lit green) in the numeric keypad control block is reflected in the <Transition Mode> group display.

# Time Settings

You can determine the execution time of an effect by setting either the keyframe durations or the effect duration (*see page 389*).

## Setting the Keyframe Duration



Keyframe control block

## Setting the keyframe duration

You can set the value of the keyframe duration independently for each keyframe, by the following method.

- 1 Press the [EDIT ENBL] button, turning it on.
- 2 Stop the effect on the keyframe for which you want to set the duration.

The time from this keyframe to the following keyframe is what you set.

- 3 Press the [KF DUR] button, turning it on.

The display in the numeric keypad control block shows “KF DUR” followed by the duration of the current keyframe (seconds:frames).

- 4 Using the numeric keypad in the numeric keypad control block, enter the timecode value for the keyframe duration, as a maximum of four digits.

For example, to set 9 seconds and 20 frames, enter 920. You can also use the [TRIM] button to enter a difference value (*see page 399*).

- 5 Press the [ENTER] button to confirm the entry.

This changes the keyframe duration to the new setting.

### Notes

In addition to the above operation, the keyframe duration may also be automatically changed as a result of changing the effect duration (*see the next section*).

## Setting the Effect Duration

To set the effect duration, use the following procedure.

- 1 Press the [EDIT ENBL] button, turning it on.
- 2 Press the [EFF DUR] button, turning it on.

The display in the numeric keypad control block shows “DUR” followed by the effect duration (minutes:seconds:frames).

- 3 Using the numeric keypad in the numeric keypad control block, enter the timecode value for the effect duration, as a maximum of six digits.

For example, to set 3 minutes 7 seconds and 15 frames, enter 30715. You can also use the [TRIM] button to enter a difference value (*see page 399*).

- 4 Press the [ENTER] button.

### Notes

In addition to the above operation, the effect duration may also be changed as a result of inserting or deleting keyframes.

For details, see “Time Settings” (*page 389*).

## Setting the Delay

To set the delay (*see “Delay setting” (page 390)*), use the following procedure.

- 1 Press the [EDIT ENBL] button, turning it on.
- 2 Press the [DELAY] button, turning it on.

The display in the numeric keypad control block shows “DELAY” followed by the delay time (seconds:frames).

- 3 Using the numeric keypad in the numeric keypad control block, enter the timecode value for the delay, as a maximum of four digits.

You can also use the [TRIM] button to enter a difference value (*see page 399*).

4 Press the [ENTER] button to confirm the entry.

# Path Settings

The term “path” (*see page 390*) refers to the specification of how interpolation is carried out from one keyframe to the next.

Set keyframe paths in the Key Frame >Path menu.

## To access the Key Frame >Path menu

In the menu control block, press the top menu selection button [KEY FRAME], then select HF3 ‘Path.’

## Basic Procedure for Path Settings

### Selecting the category

From the buttons in the function button area, select the category for which you want to make the setting.

**First row:** path settings for the switcher M/E-1 and PGM/PST banks

**Second and third rows:** path settings for User1 to User8

**Fourth row:** path settings for DME local channel and global channel 3D transforms and effects

### Making switcher path settings

This section describes settings for M/E-1 Key1 as an example.

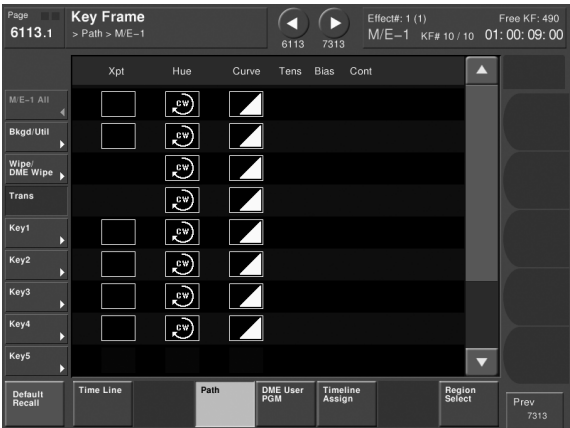
The area for the VF buttons shows the names of items.

A ► sign by a button indicates that pressing it opens a more detailed setting menu.

The status area shows the settings for Xpt, Hue, and Curve. However, depending on the item, these parameters may or may not be present.

### Notes

Whenever you set a path or modify its setting, be sure to press the [MOD] button in the keyframe control block. The setting does not become effective unless the [MOD] button is pressed.



## Changing the path type for Curve

- 1 In the Path menu, press [M/E-1].  
The M/E-1 menu appears.
- 2 Press the Curve path type indication for the Key1 item that you want to change.  
A path selection window appears.
- 3 Press the indication for the desired path type, to select it.



**OFF:** Executing the effect causes no change.



**Step:** There is no interpolation between keyframes, so that the effect parameters are updated each time a keyframe is passed.



**Linear:** Linear interpolation between keyframes, resulting in constant speed movement.



**S-Curve:** The rate of change accelerates and decelerates before and after a keyframe, so that the rate of change is maximum midway between two keyframes.



**Spline:** The effect follows a smooth curved path from each keyframe to the next.

The status area reflects the selected path type. At this point, depending on the setting for Curve, the effect for Hue and Xpt is also affected as shown in the following table. In the menu, the Hue and Xpt settings do not change, but the path type indication is dimmed out.

| Curve setting | Hue change                       | Xpt change      |
|---------------|----------------------------------|-----------------|
| OFF           | Does not change                  | Hold            |
| Step          | Changes as with the Step setting | Is not affected |

- 4 If you selected Spline as the path type, set the following parameters, using the knobs.

| Knob | Parameter | Adjustment                      | Setting values |
|------|-----------|---------------------------------|----------------|
| 1    | Tens      | Spline interpolation tension    | −4.00 to +4.00 |
| 2    | Bias      | Spline interpolation bias       | −4.00 to +4.00 |
| 3    | Cont      | Spline interpolation continuity | −4.00 to +4.00 |

## Changing the path type for Hue

- 1 Press the Hue path type indication for the item that you want to change.

A path selection window appears.

- 2 Press the indication for the desired path type, to select it.



**CW:** Rotate clockwise.



**CCW:** Rotate counterclockwise.



**Short:** The hue changes in whichever of the clockwise and counterclockwise directions is shorter.



**Long:** The hue changes in whichever of the clockwise and counterclockwise directions is longer.

## Changing the path type for Xpt

- 1 Press the Xpt path type indication for the item that you want to change.  
A path selection window appears.

- 2 Press the indication for the desired path type, to select it.



**Xpt Hold off:** When replaying a keyframe, change the inputs to the settings saved in memory.



**Xpt Hold on:** When replaying a keyframe, do not change the inputs.

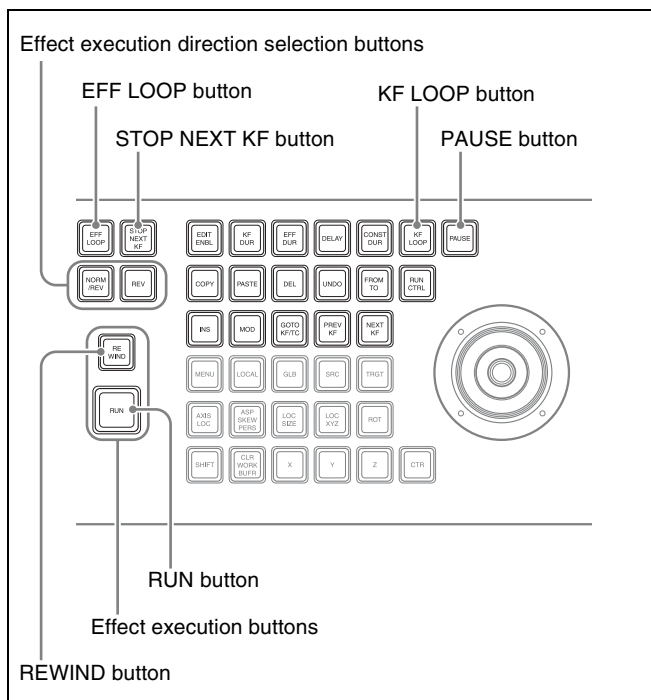
# Executing Effects

By means of the [RUN] button in the keyframe control block, you can play an effect as a continuously varying image. This is referred to as effect execution (*see page 392*).

It is also possible to execute an effect from the device control block.

For details, see “Names and Functions of Parts of the Control Panel” in Chapter 2 (Volume 1).

## Executing Effects in the Keyframe Control Block



Keyframe control block

### Executing an effect automatically

- 1 Select the region in which you want to execute the effect, using the region selection buttons in the numeric keypad control block (*see page 396*).
- 2 With the numeric keypad, enter the number of the register in which the effect you want to execute is saved, and press the [ENTER] button to confirm.  
This recalls the effect saved in the register.
- 3 In the keyframe control block, press the [RUN] button.

The [RUN] button lights amber and the effect is executed automatically.

### Executing an effect manually

In step 3 above, operate the fader lever.

#### To use the transition control block fader lever as a keyframe fader

Press the [KF] button in the transition control block, turning it on, to execute a keyframe effect with the fader lever in the same control block.

You can also assign the [KF] button to a transition type selection button in the transition control block (*see page 501*).

#### Notes

- It is not possible for the [KF] button to be on for multiple banks (M/E or PGM/PST) at the same time. If you press the [KF] button in more than one bank, only the last button pressed remains on.
- If a macro is assigned to the transition control block fader lever, then while in use as a keyframe fader the macro is not executed.

### Moving to the first keyframe of the effect

To move to the first keyframe of the effect, press the [REWIND] button.

### Setting the Run Mode

You can set the run mode in which an effect is executed when you press the [RUN] button.

### Specifying the effect execution direction

To specify the effect execution direction, press the [REV] button, turning it on (for reverse direction) or off (for normal direction).

To execute the effect so as to alternate the normal and reverse directions, press the [NORM/REV] button, turning it on.

**When the [REV] button is off:** The effect is executed in the direction from the first keyframe to the last keyframe.

**When the [REV] button is on:** The effect is executed in the direction from the last keyframe to the first keyframe.

**When the [NORM/REV] button is on:** Each time the effect is executed, the direction reverses.

### Executing an effect up to the next keyframe

- 1 Press the [STOP NEXT KF] button, turning it on.



- 2 Press the [RUN] button.

This executes the effect as far as the next keyframe.  
When the [REV] button is lit, it is executed as far as the previous keyframe.

## Repeating an effect

- 1 Press the [EFF LOOP] button, turning it on.

- 2 Press the [RUN] button.

This executes the effect repeatedly, from the first keyframe to the last keyframe.  
When the [REV] button is lit, the effect is executed in the reverse direction.

- 3 To stop the repeating effect, press the [EFF LOOP] button, turning it off, or press the [REWIND] button.

# Saving Effects

When you recall an effect, the currently recalled effect is automatically saved in a register. This is referred to as the auto save function.

You can disable the auto save function in the Setup menu. By means of the following operation, you can also specify a register and save an effect in it.

## Saving an effect in a specified register

Specify the register using the numeric keypad control block.

- 1 Press the [EFF] button, turning it on.

This assigns the numeric keypad control block to keyframe operations.

- 2 Press the region selection button corresponding to the region for which you want to save the register, turning it on (*see page 396*).

- 3 Press the [STORE] button, turning it on.

- 4 With the numeric keypad, enter the number of the register in which you want to save the effect.

To find an empty register, instead of entering a number, press the [.] (period) button. To search for an empty register common to all currently selectable regions, press the [.] button again.

To search for an empty register in the 100 range, press [1], [0], [0], [.] (period) in that order. Similarly, to search for an empty register in the 200 range, press [2], [0], [0], [.] (period), and to search for an empty register in the 300 range, press [3], [0], [0], [.] (period).

The register number appears in the display. If the number is followed by a letter “e” or “E,” this indicates the following.

**e:** The selected register is empty for the regions selected in step 2.

**E:** The selected register is empty for all selectable regions.

- 5 To add an attribute (effect dissolve) (*see page 388*), press the [+/-/EFF DISS] button, turning it on.

- 6 Press the [ENTER] button.

This saves the current effect in the specified register, and turns off the [STORE] button. The [RCALL] button and [STORE STATS] button both light.

## To undo the saving of an effect

Hold down the [STORE STATS] button and press the [UNDO] button.

# Creating and Saving a Master Timeline

## Creating and Saving a Master Timeline Using the Buttons in the Numeric Keypad Control Block

### Creating and saving a master timeline

You can save region information (information on any regions, including the register numbers associated with the regions) referred to as a master timeline in a dedicated register. By recalling that register, you can manipulate the regions and registers together.

- 1

Press the [EFF] button, turning it on.

This assigns the numeric keypad control block to keyframe effect operations.
- 2

Recall the register number of the effect you want to save on the master timeline for each region (*see page 396*).
- 3

Of the region selection buttons, press those buttons for the regions you want to save on the master timeline, turning them on.
- 4

Press the region selection button [MASTR], turning it on.

The display shows the number of the register last used for master timeline register operation.
- 5

Press the [STORE] button, turning it on.
- 6

With the numeric keypad buttons, enter the number of the register in which you want to save the master timeline.

To find an empty register, instead of entering a number, press the [.] (period) button. The display shows the register number. If the number is followed by a letter “E,” the register is empty.
- 7

Press the [ENTER] button.

The regions selected in step 3 and the register numbers recalled in those regions are saved in the master timeline register, and the [STORE] button goes off. At the same time, the [RCALL] button lights.

### Notes

- It is not possible to undo a master timeline save.
- Saving the master timeline does not carry out a save of effects. Save the effects for each region first, then carry out the master timeline save.

### Changing a master timeline

You can change information already saved in a master timeline.

As an example, to change the M/E-1 register from Effect 5 to Effect 10, use the following procedure.

Information in master timeline register 1 before change

| Region | Register |
|--------|----------|
| M/E-1  | Effect 5 |
| P/P    | Effect 5 |



Information in master timeline register 1 after change

| Region | Register  |
|--------|-----------|
| M/E-1  | Effect 10 |
| P/P    | Effect 5  |

- 1

Recall the master timeline register you want to change (*see page 396*).

This simultaneously recalls M/E-1 register 5 and P/P register 5, and the [M/E 1] and [P/P] region selection buttons light.
- 2

Press the region selection button [MASTR], turning it off.
- 3

Turn on only the button for the region you want to change (here, [M/E 1]), and recall the desired register (here, Effect 10).

This recalls M/E-1 register 10, while on P/P register 5 remains selected.
- 4

Press the buttons for the regions you want to save on the master timeline (here, [M/E 1] and [P/P]), turning them on.
- 5

Press the region selection button [MASTR], turning it on.

The display shows the register number last used for master timeline operation.
- 6

Press the [STORE] button, turning it on.
- 7

With the numeric keypad buttons, enter the number of the register (here “1”) in which you want to save the master timeline, and press the [ENTER] button.

This saves M/E-1 register 10 and P/P register 5 in master timeline register 1.

### Checking the regions saved on a master timeline

For example in the course of changing a master timeline, you can check which regions are saved in the register. With the [MASTR] button in the numeric keypad control block lit, hold down the [STORE] button. While it is held down, the buttons for the saved regions light. When the button is released, the state before it was held down is restored.

### Creating and Saving a Master Timeline With the Menu

You can save a master timeline using the Effect >Master Timeline >Store menu.

### Recalling the Store menu

- 1 Do either of the following.
    - In the menu control block, press the top menu selection button [EFF].
    - In the numeric keypad control block, press the [EFF] button twice in rapid succession.

The Effect menu appears.
  - 2 Press VF1 ‘Master Timeline’ and HF1 ‘Store.’
- The Master Timeline >Store menu appears. The status area shows the master timeline register names, register lock status, register number for each region, and so on.
- 3 If required, press the following buttons in the status area to change the region display.
 

**M/E, P/P:** indicate assignment of M/E-1 (“M/E1”) and P/P (“P/P”).

**User:** indicate assignment of User1 (“USR1”), User2 (“USR2”), User3 (“USR3”), User4 (“USR4”), User5 (“USR5”), User6 (“USR6”), User7 (“USR7”), and User8 (“USR8”).

**DME:** indicate assignment of DME ch1 (“DME1”), ch2 (“DME2”), ch3 (“DME3”), ch4 (“DME4”), ch5 (“DME5”), ch6 (“DME6”), ch7 (“DME7”), and ch8 (“DME8”).

**DEV1-8:** indicate assignment of Device1 (“DEV1”), Device2 (“DEV2”), Device3 (“DEV3”), Device4 (“DEV4”), Device5 (“DEV5”), Device6 (“DEV6”), Device7 (“DEV7”), and Device8 (“DEV8”).

**DEV9-12:** indicate assignment of Device9 (“DEV9”), Device10 (“DEV10”), Device11 (“DEV11”), and Device12 (“DEV12”).

**Misc:** indicate assignment of P-Bus (“PBUS”), GPI (“GPI”), and Macro (“MCRO”).

### Creating and saving a master timeline

To save a master timeline register with the menu, use the following procedure.

- 1 In the Store menu, using any of the following methods, select the register in which you want to save the master timeline.
  - Press directly on the list in the status area.
  - Press the arrow keys to scroll the reverse video cursor.
  - Turn the knob.

| Knob | Parameter  | Adjustment                      | Setting values        |
|------|------------|---------------------------------|-----------------------|
| 1    | Master Reg | Master timeline register number | 1 to 99 <sup>a)</sup> |

a) For P-Bus and Device1 to Device12, register numbers 1 to 250 can be set.

- 2 Press [Edit].
- The Edit menu appears, and you can now save the master timeline in the specified register. In this menu again, you can turn the knob to select the master timeline register. The status area shows the status of each region in this master timeline.
- 3 Using any of the following methods, select the region. Multiple selections are also possible.
    - Press directly on the display in the status area.
    - To cancel the selection, press once more to return to the normal display.
    - To select all regions, press [ALL]. To select all switcher-related regions (M/E, P/P, User), press [SWR ALL].
  - 4 Press [Assign], turning it on.
    - If the selected register is locked, a confirmation message appears asking whether or not to cancel the operation. Press [OK] to return to the previous menu display without carrying out the registration.
    - If the operation is carried out, the region selected in step 3 is registered on the master timeline, and the parameters are now valid.
  - 5 Turn the knob to select the number of the effect register.

| Knob | Parameter  | Adjustment             | Setting values |
|------|------------|------------------------|----------------|
| 3    | Effect Reg | Effect register number | 1 to 399       |

**6** Repeat steps **3** to **5** as required to set all regions and register numbers to be saved on the master timeline.

**7** In the <Store> group, press [Store].

### To return to the state before saving the master timeline content

In the <Store> group, press [Undo].

## Register Operations in the Menus

Using the Effect menu, you can carry out the following effect register operations.

- Effect Attribute Settings (*page 414*)
- Effect Status Display (*page 415*)
- Effect Register Editing (*page 415*)

### To display the Effect menu

Press the top menu selection button [EFF] in the menu control block.

The menus for editing registers are divided up by registers. Here the menu for registers 1 to 99 is described as an example, but you can carry out operations in the same way on registers 101 to 199, 201 to 299, and 301 to 399, using VF3 to VF5.

Also for registers for P-Bus and Device1 to Device12, carry out similar operations using VF6 'DEV/PBUS Effect 1-250.'

## Effect Attribute Settings

### Applying effect dissolve

To apply the "effect dissolve" attribute to a keyframe effect, use the following procedure.

**1** In the Effect menu, press VF2 'Effect 1-99' and HF1 'Attribute.'

The Attribute menu appears.

The status area shows the region names, register numbers and status, and attribute settings.

**2** Press the region display in the upper part of the list, and in the selection window select the region. Selecting multiple regions is also possible. To select all regions, press [ALL].

**3** Press [OK].

The selected region name appears in the upper part of the list.

**4** Using any of the following methods, select the register.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knobs.

| Knob | Parameter | Adjustment                 | Setting values |
|------|-----------|----------------------------|----------------|
| 1    | Register  | Register number            | 1 to 99        |
| 3    | Num       | Select number of registers | 1 to 99        |

- To select all registers, press [ALL].

**5** Press [Effect Dissolve], turning it on.

**6** Turn the knob to set the duration.

| Knob | Parameter         | Adjustment        | Setting values    |
|------|-------------------|-------------------|-------------------|
| 4    | Eff Diss Duration | Dissolve duration | 1 to 999 (frames) |

## Setting the duration for a temporary attribute

To set the duration for a temporary attribute set in the numeric keypad control block, turn knob 5.

| Knob | Parameter | Adjustment                            | Setting values    |
|------|-----------|---------------------------------------|-------------------|
| 5    | Temp Dur  | Temporary attribute dissolve duration | 0 to 999 (frames) |

## Effect Status Display

The Effect >Effect 1-99 menu displays the following information.

**Region name:** The selected region name appears in the upper part of the list.

**Register number**

**Register name**

**Write-protected status:** When the register is write-protected, a letter “L” appears.

**Empty status:** When the register is empty, a letter “E” appears.

## Effect Register Editing

You can carry out the following editing on effect registers and master timeline registers.

- **Lock:** Write-protect the contents of the register.
- **Copy:** Copy the contents of one register to another register.
- **Merge:** Merge the data of two registers. It is not possible to merge master timeline registers.
- **Move:** Move the contents of one register to another register.
- **Swap:** Swap the contents of two registers.
- **Delete:** Delete the contents of a register.
- **Name:** Attach a name to a register.

## Write-protecting the contents of the effect register

### Notes

It is not possible to write-protect an empty register.

**1** In the Effect menu, press VF2 ‘Effect 1-99’ and HF2 ‘Lock.’

The Lock menu appears.

**2** Press the region display in the upper part of the list to display a selection window, then select the region in the selection window. Selecting multiple regions is also possible.

To select all regions, press [ALL].

**3** Press [OK].

The selected region name appears in the upper part of the list.

**4** Using any of the following methods, select the register.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knobs.

| Knob | Parameter | Adjustment                 | Setting values |
|------|-----------|----------------------------|----------------|
| 1    | Register  | Register number            | 1 to 99        |
| 3    | Num       | Select number of registers | 1 to 99        |

- To select all registers, press [ALL].

**5** Press [Lock], turning it on.

### To unlock the register

Select the register you want to unlock, and press [Lock], turning it off.

## Copying, moving, and swapping effect register data

This section describes the procedure for copying. You can move or swap registers using a similar procedure.

**1** In the Effect menu, press VF2 ‘Effect 1-99’ and HF3 ‘Copy/Merge.’

The Copy/Merge menu appears.

The left side of the status area shows the register number of the copy source, and the right side shows the register number of the copy destination.

- 2** Press the region display in the upper part of the list to display a selection window, then select the region in the selection window. Selecting multiple regions is also possible.  
To select all regions, press [ALL].

### Operation between regions

Operation between regions is possible in the following cases.

- M/E-1 and P/P regions
- Two of the User1 to 8 regions of the same configuration
- Two of the DME ch1 to 8 (including Global) regions

- 3** Press [OK].

The selected region name appears in the upper part of the list.

- 4** Using any of the following methods, select the desired registers.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knobs.

| Knob | Parameter | Adjustment                       | Setting values |
|------|-----------|----------------------------------|----------------|
| 1    | From Reg  | Copy source register number      | 1 to 99        |
| 2    | To Reg    | Copy destination register number | 1 to 99        |
| 3    | Num       | Select number of registers       | 1 to 99        |

- To select all registers, press [ALL].

- 5** To copy without transferring the name, in the <Copy> group, press [W/o Name], turning it on.

- 6** In the <Copy> group, press [Copy].

This carries out the copy.

### Merging effect registers

- 1** In the Effect menu, select VF2 'Effect 1-99' and HF3 'Copy/Merge.'

The Copy/Merge menu appears.

The left side of the status area shows a list for the register coming afterward when merged. The right side shows a list for the register coming before when merged.

- 2** Press the region display in the upper part of the list, and in the selection window select the region. Selecting multiple regions is also possible.  
To select all regions, press [ALL].

- 3** Press [OK].

The selected region name appears in the upper part of the list.

- 4** Using any of the following methods, select the register.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knobs.

| Knob | Parameter | Adjustment                                 | Setting values |
|------|-----------|--|----------------|
| 1    | From Reg  | The register coming afterwards when merged | 1 to 99        |
| 2    | To Reg    | The register coming before when merged     | 1 to 99        |

- 5** Press [Merge].

### Deleting data from effect registers

- 1** In the Effect menu, press VF2 'Effect 1-99' and HF6 'Delete.'

The Delete menu appears.

- 2** Press the region display in the upper part of the list to display a selection window, then select the region in the selection window. Selecting multiple regions is also possible.  
To select all regions, press [ALL].

- 3** Press [OK].

The selected region name appears in the upper part of the list.

- 4** Using any of the following methods, select the desired registers.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knobs.

| Knob | Parameter | Adjustment                 | Setting values |
|------|-----------|----------------------------|----------------|
| 1    | Register  | Register number            | 1 to 99        |
| 3    | Num       | Select number of registers | 1 to 99        |

- To select all registers, press [ALL].

- 5** Press [Delete].

## Attaching a name to an effect register

- 1 In the Effect menu, press VF2 'Effect 1-99' and HF7 'Rename.'

The Rename menu appears.

- 2 Press the region display in the upper part of the list to display a selection window, then select the region in the selection window. Selecting multiple regions is also possible.

To select all regions, press [ALL].

- 3 Press [OK].

The selected region name appears in the upper part of the list.

- 4 Using any of the following methods, select the register you want to name.

- Press directly on the list in status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment      | Setting values |
|------|-----------|-----------------|----------------|
| 1    | Register  | Register number | 1 to 99        |

The selected register appears in reverse video.

- 5 Press [Rename].

A keyboard window appears.

- 6 Enter the name, of not more than eight characters, and press [Enter].

The set name is reflected in the status area.

### Notes

The following names cannot be used.

CON, PRN, AUX, CLOCK\$, NUL, COM0, COM1, COM2, COM3, COM4, COM5, COM6, COM7, COM8, COM9  
LPT0, LPT1, LPT2, LPT3, LPT4, LPT5, LPT6, LPT7, LPT8, LPT9

## Displaying a List of Effect Registers for Editing

You can display a list of effect registers including status information (whether data is present and so on), then carry out lock, copy, delete, and rename operations.

## Displaying the list of effect registers with status information

Press the menu title button at the top left of the Effect menu.

The Effect >Status menu appears. The status area shows a list of effect registers (1 to 99).

### Register name displays

For the same number, the register name for the M/E-1 region takes precedence.

If there is no data for the M/E-1 region, then the register name appears in the sequence P/P >User1 to User8 >DME ch1 to DME ch8 >Device1 to Device12 >P-Bus >GPI >Macro.

### Indication colors

Each register has a color-coded border, indicating its status.

**Selected register:** pale blue border

**Register containing data:** shown amber within the border. If, however, there are one or more locked regions, the display is in red.

## Write-protecting the contents of the register (lock function)

(This applies to all regions.)

In the Effect >Status menu, use the following procedure.

- 1 Using any of the following methods, select the register you want to lock.

- Press directly on the corresponding register indication in the status area.
- Turn the knob.

| Knob | Parameter | Adjustment         | Setting values |
|------|-----------|--------------------|----------------|
| 1    | Register  | Register selection | 1 to 99        |

- 2 Press [Lock].

The register is locked, and the background of the register indication appears in red.

### To release the lock

Press [Lock] once more, turning the contents of the frame to amber.

## Copying the contents of a register

(This applies to all regions.)

In the Effect >Status menu, use the following procedure.

- 1 Using any of the following methods, select the copy source register.

- Press directly on the corresponding register indication in the status area.
- Turn the knob.

| Knob | Parameter | Adjustment         | Setting values |
|------|-----------|--------------------|----------------|
| 1    | Register  | Register selection | 1 to 99        |

- 2** In the <Copy> group, press [From \_\_\_\_].
- 3** Select the copy destination register.
- 4** In the <Copy> group, press [To \_\_\_\_].

## Deleting the contents of a register

(This applies to all regions.)

In the Effect >Status menu, use the following procedure.

- 1** Using any of the following methods, select the register you want to delete.
  - Press directly on the corresponding register indication in the status area.
  - Turn the knob.

| Knob | Parameter | Adjustment         | Setting values |
|------|-----------|--------------------|----------------|
| 1    | Register  | Register selection | 1 to 99        |

- 2** Press [Delete].

## Renaming a register

(This applies to all regions.)

In the Effect >Status menu, use the following procedure.

- 1** Using any of the following methods, select the register you want to rename.
  - Press directly on the corresponding register indication in the status area.
  - Turn the knob.

| Knob | Parameter | Adjustment         | Setting values |
|------|-----------|--------------------|----------------|
| 1    | Register  | Register selection | 1 to 99        |

- 2** Press [Rename].

A keyboard window appears.

- 3** Enter a name of up to eight characters, and press [Enter].



## Overview

The term “snapshot” refers to a function whereby the various settings required to apply a particular effect to an image are saved in memory as a set of data, for recall as required, to recover the original state.

Use the following to operate the snapshot.

- Numeric keypad block (*see page 421*)
- Snapshot menu (*see page 423*)

### Notes

If the M/E bank has the Inhibit setting (*see page 496*), it is not possible to recall a snapshot on that M/E bank.

## Snapshot Types

Snapshots are divided as follows.

### Snapshots applying to a particular region (functional block of the switcher or DME)

The term “snapshot” alone usually refers to this type of snapshot. This only applies to regions assigned to region selection buttons in the numeric keypad control block.

*For details about a region, see “Regions” (page 386).*

**Master snapshot:** This applies to the selected regions and the register numbers saved in the regions.

A master snapshot can be saved and recalled using the numeric keypad control block.

### Snapshots applying only to particular functions

This type of snapshot includes the following.

**Key snapshot:** This includes the key on/off state and all key settings other than key priority for each keyer.

*For details, see “Key Snapshots” in Chapter 4 (Volume 1).*

To use this function requires the optional MKS-8032 DSK Fader Module.

**Wipe snapshot:** This includes the wipe settings of each of the M/E and PGM/PST banks.

*For details, see “Wipe Snapshots” in Chapter 5 (Volume 1).*

**DME wipe snapshot:** This includes the DME wipe settings of each of the M/E and PGM/PST banks.

The rest of this section describes the snapshots that apply to a particular region or regions.

## Snapshot Attributes

An individual snapshot may also have attached special conditions relating to switcher or DME operation when the snapshot is recalled.

These conditions are called “attributes” of the snapshot, and can be added when the snapshot is saved or recalled.

### Types of attribute

There are seven snapshot attributes, as follows.

**Cross-point hold:** When the snapshot is recalled, the cross-point button selection remains unchanged. This can be set independently for each bus.

**Key disable:** When the snapshot is recalled, the key settings remain unchanged. This can be set independently for each keyer. A Setup menu allows you to select whether or not the key on/off state should also remain unchanged.

*For details of the setting operation, see “Setting the operation mode of the key bus [XPT HOLD] button” (page 551).*

**Effect dissolve:** The transition from the state before the snapshot recall to the snapshot settings is carried out smoothly, by a dissolve. The dissolve duration can be set in the Snapshot menu.

**Auto transition:** An auto transition starts the instant the snapshot is recalled. The auto transition setting is valid only for M/E-1 and PGM/PST.

## Notes

If both effect dissolve and auto transition are selected as attributes, the auto transition takes precedence.

**GPI output:** A GPI output is sent to the allocated GPI port the instant the snapshot is recalled.

The trigger type depends on the switcher GPI output settings made in the Setup menu.

*For details, see “Interfacing With External Devices (Device Interface Menu)” (page 556).*

**Clip event:** Recall a frame memory clip immediately after the snapshot is recalled.

**Auto play:** Play a frame memory clip immediately after the snapshot is recalled.

## Table of available attributes

The attributes that can be used depend on the region, as follows.

Yes: Can be used   No: Cannot be used

| Attribute        | Region            |                  |                      |
|------------------|-------------------|------------------|----------------------|
|                  | M/E-1 and PGM/PST | User 1 to User 8 | DME ch 1 to DME ch 8 |
| Cross-point hold | Yes               | Yes              | Yes                  |
| Key disable      | Yes               | No               | No                   |
| Effect dissolve  | Yes               | Yes              | Yes                  |
| Auto transition  | Yes               | No               | No                   |
| GPI outputs      | Yes               | Yes              | No                   |
| Clip event       | No                | Yes              | No                   |
| Auto play        | No                | Yes              | No                   |

## Attribute display

You can view the attributes of a snapshot in the Snapshot menu (*see page 423*).

## Temporary attributes

When recalling a snapshot, you can temporarily apply attributes distinct from the attributes set for each register. These are called “temporary attributes.”

You can set temporary attributes when recalling a snapshot.

## Bus override

If you recall a snapshot while holding down an A or B bus button, the selection of the signal on the A or B bus does not change when the snapshot is recalled. This function is called “bus override.”

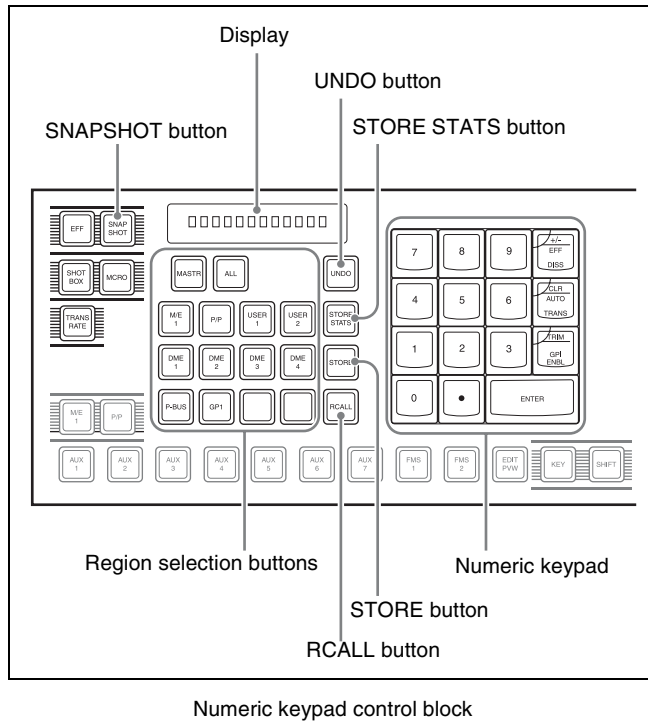
This function is effective when cross-point hold is off, and you want to temporarily maintain the cross-point setting.

When cross-point hold is on, the above operation is not necessary.

# Snapshot Operations From the Numeric Keypad Control Block

## Saving and Recalling Snapshots

Snapshot operations with the numeric keypad control block use the following buttons.



Numeric keypad control block

## Saving a snapshot from the numeric keypad control block

- 1 Make the settings for the state you want to save as a snapshot.
- 2 In the numeric keypad control block, press the [SNAPSHOT] button, turning it on.

This allocates the numeric keypad control block to snapshot operations, and the [RCALL] button lights.

- 3 Press the region selection button corresponding to the region for which you want to save, turning it on. You can select more than one region.

**[M/E 1], [P/P]:** These select the corresponding M/E-1 and PGM/PST regions.

**[USER 1] to [USER 8]:** These select the User regions.

**[DME 1] to [DME 8]:** These select the DME channels.

**[RTR]:** This selects the Router region.

**[ALL]:** This selects all regions.

### Notes

The regions that can be selected simultaneously are those assigned to the region selection buttons in the numeric keypad control block (*see page 500*).

The first button pressed lights green as the reference region, and any subsequently pressed buttons light amber.

Pressing one of the amber-lit buttons, while holding down [SNAPSHOT], turns the button green to indicate its corresponding region as the new reference region.

*For details of the precedence order for becoming the reference region, see “Reference region” (page 386).*

The display shows the name of the reference region and the number of the register previously recalled for that region.

- 4 Press the [STORE] button, turning it on.
- 5 Enter the desired register number from the numeric keypad.

To find an empty register, instead of entering a number, press the [.] (period) button. To search for an empty register common to all currently selectable regions, press the period button again.

### Notes

If you choose a register which already contains a snapshot, and save a snapshot, then the existing register contents are overwritten.

The register number appears in the display. If the number is followed by a letter “e” or “E,” this indicates the following.

**e:** The selected register is empty for the regions selected in step 3.

**E:** The selected register is empty for all currently selectable regions.

- 6 To apply attributes (*see page 419*), press the following buttons, turning them on.

| Attribute to apply       | Button                  |
|--------------------------|-------------------------|
| Effect dissolve          | [+/-/EFF DISS] button   |
| Auto transition          | [CLR/AUTO TRANS] button |
| GPI output <sup>a)</sup> | [TRIM/GPI ENBL] button  |

a) The GPI port that can be set is 1 (fixed).

**Notes**

In the numeric keypad control block, it is not possible to apply the cross-point hold.

For details, see “Applying snapshot attributes” (page 423).

**7** Press the [ENTER] button.

This saves the snapshot, and the [STORE] button goes off. The [RCALL] and [STORE STATS] buttons light.

**To cancel a snapshot save operation**

Hold down the [STORE STATS] button and press the [UNDO] button.

**Recalling a snapshot from the numeric keypad control block****1** In the numeric keypad control block, press the [SNAPSHOT] button, turning it on.

This allocates the numeric keypad control block to snapshot operations, and the [RCALL] button lights.

**2** Press the region selection button corresponding to the region you want to recall, turning it on. Multiple selections are also possible.

**[M/E 1], [P/P]:** These select the M/E-1 and PGM/PST regions.

**[USER 1] to [USER 8]:** These select the User regions.

**[DME 1] to [DME 8]:** These select the DME channels.

**[RTR]:** This selects the Router region.

**[ALL]:** This selects all regions.

**[MASTR]:** This selects a master snapshot.

**Notes**

The regions that can be selected simultaneously are those assigned to the region selection buttons in the numeric keypad control block (see page 500).

It is not possible to select [MASTR] and other regions simultaneously. If selected simultaneously, the master snapshot takes precedence.

The first pressed button lights green as the reference region, and subsequently pressed buttons light amber. Pressing one of the amber-lit buttons, while holding down [SNAPSHOT], turns the button green to indicate its corresponding region as the new reference region.

For details of the precedence order for becoming the reference region, see “Reference region” (page 386).

The display shows the name of the reference region and the number of the register previously recalled for that region.

**3** Enter the desired register number from the numeric keypad.

The entered register number appears in the display.

**4** To apply temporary attributes (see page 421), press the following buttons, turning them on.

| Control block                | Temporary attribute to apply | Button                                      |
|------------------------------|------------------------------|---|
| Cross-point control block    | A/B bus cross-point hold     | [XPT HOLD] button in the background A/B bus |
|                              | Key cross-point hold         | [XPT HOLD] button <sup>a)</sup>             |
| Numeric keypad control block | Effect dissolve              | [+/-/EFF DISS] button                       |
|                              | Auto transition              | [CLR/AUTO TRANS] button                     |

a) Enabled by a setup setting.

For the setup setting, see “Setting the operation mode of the key bus [XPT HOLD] button” (page 551).

**Notes**

- The cross-point hold and key disable settings are maintained until you next press the [XPT HOLD] button.
- Applying temporary attributes does not affect the contents of the register.
- It is not possible to apply temporary attributes to a master snapshot.

**5** Press the [ENTER] button.

This recalls the specified snapshot, and the reference region name and recalled register number appear in the display.

If you applied the effect dissolve or auto transition temporary attributes in step 4, the corresponding buttons go off.

When a master snapshot is recalled, the region selection buttons light according to the saved region information.

**To cancel a snapshot recall operation**

To cancel the recall, press the [UNDO] button.

**Notes**

It is not possible to cancel recalling a master snapshot.

**Creating and saving a master snapshot with the numeric keypad control block**

To create and save a master snapshot with the numeric keypad control block, refer to the operations in “Creating and Saving a Master Timeline Using the Buttons in the

## Chapter 14 Snapshots

- 4** Using any of the following methods, select the register.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knobs.

| Knob | Parameter | Adjustment                 | Setting values |
|------|-----------|----------------------------|----------------|
| 1    | Register  | Register number            | 1 to 99        |
| 2    | Num       | Select number of registers | 1 to 99        |

- To select all registers, press [ALL].

- 5** In the <Attribute> group, press the buttons for the attributes you want to apply, turning them on.

Carry out the following procedures for each of the attributes.

*For details of attributes and available attributes, see “Snapshot Attributes” (page 419).*

### To apply the cross-point hold attributes

#### Notes

Applying the key disable attribute (so the key state is not reflected) to cross-point hold requires a setting in setup.

*For details, see “Snapshot Attributes” (page 419).*

- 1** Press [Xpt Hold].

The Snapshot >Attribute >Xpt Hold menu appears. The status area shows a list of the currently selected regions and bus names.

- 2** Using any of the following methods, select the register.

- Press directly on the list in the status area. To select one or more buses, press [Plural] and then select buses.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knobs.

| Knob | Parameter                 | Adjustment            | Setting values     |
|------|---------------------------|-----------------------|--------------------|
| 2    | Destination <sup>a)</sup> | Destination selection | 1 to 128           |
| 3    | Bus <sup>b)</sup>         | Bus name selection    | 1 to maximum value |

a) Appears when the region is RTR.

b) Appears when the region is other than RTR.

- To select all registers, press [ALL].

- 3** When the region is set to RTR (Router) only, press [RTR Level].

A window appears for selecting the router level.

- 4** Press the level for which you want to set the cross-point hold, turning it on, and press [OK]. To select all levels, press [ALL].

- 5** Press [On].

This enables cross-point hold on the selected bus or buses.

To switch cross-point hold off, press [Off].

### To apply the effect dissolve attribute

- 1** Press [Effect Dissolve], turning it on.

- 2** Turn the knob to set the effect dissolve duration.

| Knob | Parameter         | Adjustment        | Setting values    |
|------|-------------------|-------------------|-------------------|
| 3    | Eff Diss Duration | Dissolve duration | 0 to 999 (frames) |

### To set the duration for a dissolve set as a temporary attribute effect

To set the duration for a dissolve set as a temporary attribute effect in the numeric keypad control block, turn the knob.

| Knob | Parameter | Adjustment                            | Setting values    |
|------|-----------|---------------------------------------|-------------------|
| 5    | Temp Dur  | Temporary attribute dissolve duration | 0 to 999 (frames) |

### To apply the auto transition attribute

Press [Auto Transition], turning it on.

### To apply the GPI output attribute

- 1** Press [GPI Output], turning it on.

- 2** Turn the knob to set the port number.

| Knob | Parameter    | Adjustment             | Setting values |
|------|--------------|------------------------|----------------|
| 4    | GPI Out Port | GPI output port number | 1 to 8         |

### To apply the clip event attribute

#### Notes

The following operating procedure can be used only for the frame memory channels assigned to a user region.

*For details of frame memory assignment, see “Setting User Regions” (page 537).*

- 1 Press [Clip Event].  
The Snapshot >Attribute >Clip Event menu appears.
- 2 In the <Frame Memory Select> group, press the desired button.  
On the left of the status area, the name and content of the selected region (for example, USER1) are shown. On the right, the content of the clip of the current frame memory is shown.
- 3 Press [Clip Event], turning it on.  
The clip event attribute is applied.
- 4 To select the clip of the current frame memory, press [Set].
- 5 To play the clip as soon as it is recalled, press [Auto Play], turning it on.

## Snapshot Status Display

The Snapshot >Attribute menu displays the following information.

**Region name:** The selected region name appears in the upper part of the list.

**Register number**

**Register name**

**Write-protected status:** When the register is write-protected, an “L” (for “lock”) appears.

**Empty status:** When the register is empty, an “E” (for “empty”) appears.

**Attribute settings:** The attributes set for a register are shown by the following character codes.

### • When the cross-point hold is set

| Displayed character codes | Attributes set   |
|---------------------------|--|
| A, B                      | Cross-point hold is set for the A or B background bus.   |
| 1, 2, 3, 4, 5, 6, 7, 8    | Cross-point hold is set for key bus 1, 2, 3, 4, 5, 6, 7 or 8.  |
| U1, U2                    | Cross-point hold is set for the utility 1 or utility 2 bus.  |
| D2                        | Cross-point hold is set for video bus selected for 2nd DME channel.  |
| FvFkBvBk                  | Cross-point hold is set for all of the DME front video bus, DME front key bus, DME back video bus, and DME back key bus. |
| Aux                       | Cross-point hold is set for one of the AUX buses.  |
| Fm1, Fm2                  | Cross-point hold is set for one of the frame memory 1 and 2 buses.   |

| Displayed character codes | Attributes set  |
|---------------------------|---|
| Ccr1, Ccr2                | Cross-point hold is set for one of the CCR 1 and 2 buses. |
| RTR                       | Cross-point hold is set for the Router region.            |

### • When an effect dissolve is set

| Displayed character codes | Attributes set   |
|---------------------------|--|
| Duration value            | The effect dissolve attribute is set, with the displayed duration. |

### • When an auto transition is set

| Displayed character codes | Attributes set          |
|---------------------------|-------------------------|
| T                         | Auto transition is set. |

### • When a GPI output is set

| Displayed character codes | Attributes set  |
|---------------------------|---|
| Port number               | GPI output is set for the port of the displayed number. |

### • When a clip event is set

| Displayed character codes | Attributes set     |
|---------------------------|--------------------|
| On                        | Clip event is set. |

## Setting Key Snapshot Attributes

### Applying key snapshot attributes

- 1 In the Snapshot menu, press VF5 ‘Key Snapshot’ and HF1 ‘Attribute.’  
The Snapshot >Key Snapshot >Attribute menu appears.  
The status area shows the region names, register numbers, and whether the registers are locked or not.
- 2 Press the region display in the upper part of the list to display a selection window, then select the region in the selection window. Selecting multiple regions is also possible.
- 3 Press [OK].  
The selected region name appears in the upper part of the list.
- 4 Using any of the following methods, select the register.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knobs.

| Knob | Parameter | Adjustment      | Setting values |
|------|-----------|-----------------|----------------|
| 1    | Register  | Register number | 1 to 4         |

**5** In the <Recall Mode> group, select one of the following modes for save and recall operations.

**XPT:** Only the key material selection data is saved or recalled.

**Modifier:** Only the key modifier settings are saved or recalled.

**Transition:** Only the independent key transition settings are saved or recalled.

## Creating and Saving a Master Snapshot

To save a master snapshot in the Snapshot menu, after recalling the Snapshot >Master Snapshot >Store menu, refer to the operations in “*Creating and Saving a Master Timeline With the Menu*” (page 413).

### Recalling the Store menu

**1** Do either of the following.

- In the menu control block, press the top menu selection button [SNAPSHOT].
- In the numeric keypad control block, press the [SNAPSHOT] button twice in rapid succession. The Snapshot menu appears.

**2** Press VF1 ‘Master Snapshot’ and HF1 ‘Store.’

The Master Snapshot >Store menu appears.

The status area shows the master snapshot register names, register lock status, register number for each region, and so on.

**3** If required, press the following buttons in the status area to change the region display.

**M/E, P/P:** indicate assignment of M/E-1 (“M/E1”) and P/P (“P/P”).

**User:** User1 (“USR1”) to User8 (“USR8”)

**DME:** indicate assignment of DME ch1 (“DME1”), ch2 (“DME2”), ch3 (“DME3”), ch4 (“DME4”), ch5 (“DME5”), ch6 (“DME6”), ch7 (“DME7”), and ch8 (“DME8”).

## Snapshot Register Editing

You can carry out the following editing on snapshot registers.

You can use similar procedures also on master snapshot, wipe snapshot, DME wipe snapshot and key snapshot registers.

- **Lock:** Write-protect the contents of the register.
- **Copy:** Copy the contents of one register to another register.
- **Move:** Move the contents of one register to another register.
- **Swap:** Swap the contents of two registers.
- **Delete:** Delete the contents of a register.
- **Name:** Attach a name to a register.

*For details of snapshot register operations, see “Effect Register Editing” (page 415).*

## Displaying a List of Snapshot Registers for Editing

You can display a list of snapshot registers including status information (whether data is present and so on), then carry out lock, copy, delete, and rename operations.

### Displaying the list of snapshot registers with status information

Press the menu title button at the top left of the Snapshot menu.

The Snapshot >Status menu appears. The status area shows a list of snapshot registers (1 to 99).

*For details of lock, copy, delete, and rename operations, see “Displaying a List of Effect Registers for Editing” (page 417).*

### Register name displays

For the same number, the register name for the M/E-1 region takes precedence.

If there is no data for the M/E-1 region, then the register name appears in the sequence P/P >User1 to User8 >DME ch1 to DME ch8 >RTR.

## Operations in the Misc >Snapshot Menu

To limit snapshot settings to the M/E or PGM/PST banks, use the Misc menu on each bank.

This section describes the operation on the M/E-1 bank as an example.



## Recalling a snapshot

- 1 In the M/E-1 >Misc menu, press [Snapshot].

The Snapshot menu appears.



- 2 As required, change the bank (*see page 427*).
- 3 Press the button for the number or name you want to recall.

This recalls the snapshot, and the button you pressed lights green.

## Saving a snapshot

- 1 Display the M/E-1 >Misc >Snapshot menu.
  - 2 Set the state you want to save as a snapshot.
  - 3 Press [Store].
- The button lights amber.
- 4 As required, change the bank (*see page 427*).
  - 5 Press the button for the number or name you want to save.

This saves the snapshot, and the button goes off.

## Changing the bank

Change the combination shown on the memory recall buttons (the bank).

- 1 Press [Bank Sel].
- 2 Select the bank in the numeric keypad window. For example, to show the numbers or names corresponding to registers 11 to 20, select “1” in the numeric keypad window.

## Applying attributes

To apply an attribute to the snapshot represented by a lit-green memory recall button, use the following procedure.

- 1 To apply the cross-point hold attribute, in the <Attribute Xpt Hold> group select the appropriate bus.

### Notes

A setting in the Setup menu determines whether key disable is applied to cross-point hold or not.

*For details, see “Selecting the Bank to Make the Settings” (page 548).*

- 2 Select the following attributes in the <Attribute> group as required.

**Effect Dissolve:** Apply effect dissolve.

**Auto Transition:** Apply auto transition.

**GPI Output:** Apply GPI output. When this is selected, select the GPI number with the knob.

## Deleting a snapshot

- 1 In the M/E-1 >Misc >Snapshot menu, press [Delete].

The button lights amber.

- 2 As required, change the bank.
- 3 Press the button for the number or name you want to delete.

This deletes the snapshot, and the button you pressed goes off.

## Renaming a snapshot register

- 1 In the M/E-1 >Misc >Snapshot menu, press [Rename].
- The button lights amber.

- 2 As required, change the bank.
  - 3 Press the button for the number you want to rename.
- A keyboard window appears.

- 4 Enter the register name, and press [Enter].
- The new name appears on the memory recall button.

## Utility Execution

The utility function refers to a function whereby you can assign an arbitrary action or a shortcut for frequently used menu to a particular button, then instantly recall the action or menu by pressing the button.

The functions you can assign include menu shortcuts, enabling/disabling functions (recalling utility commands), and recalling (shotbox registers or macro registers). Carry out the button assignment in the Setup menu.

*For details of the operation, see “Setting Button Assignments (Prefs/Utility Menu)” (page 515).*

You can execute the utility functions from the following blocks.

- Utility/Shotbox Control Block (MKS-8033 Utility/Shotbox Module, Option) (page 428)
- User preference buttons in the menu control block (page 428)

*For details of the settings for assigning functions to buttons, see “Setting Button Assignments (Prefs/Utility Menu)” (page 515).*

## Executing a Utility With the User Preference Buttons (Menu Control Block)

In the setup menu, you can assign any 16 actions to the user preference buttons in the menu control block.

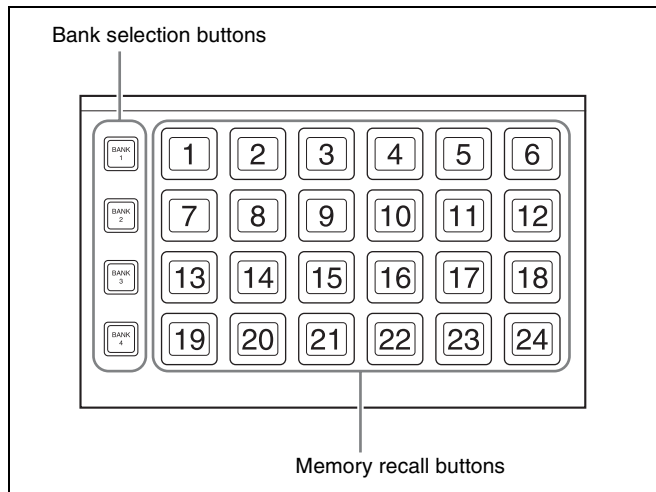
### To execute an assigned action

Press the corresponding user preference button ([PREFS 1] to [PREFS 16]).

- In the case of a function on/off action, the button you pressed lights amber, and this enables the function. To disable the function, press the button once more.

- For other actions, the button you pressed momentarily lights amber, and then the function is executed.

## Executing a Utility in the Utility/Shotbox Control Block (MKS-8033 Utility/Shotbox Module, Option)



Utility/shotbox control block (MKS-8033)

By default, the memory recall buttons in the utility/shotbox control block are assigned to shotbox registers 1 to 96, in banks 1 to 4 (see page 433), but in the setup menu, you can assign these to any 96 actions.

### To execute an assigned action

*When the action is to execute a shotbox register, follow the procedure in “Shotbox Execution in the Utility/Shotbox Control Block (MKS-8033 Utility/Shotbox Module, Option)” (page 433).*

- 1 Press one of the bank selection buttons [BANK1] to [BANK4] to select a bank.
  - The bank selection button you pressed lights amber.

- For the selected bank, the memory recall buttons show the button numbers and corresponding button states. If a button has been given a name in the setup menu, this name appears.

**Not lighted:** buttons with nothing saved

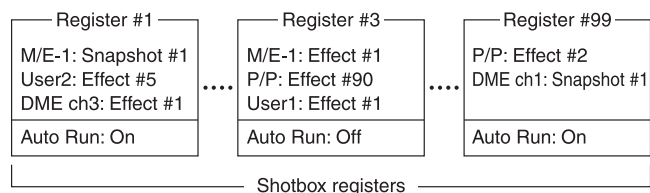
**Lit orange:** buttons saving a utility command or menu shortcut

- Press the memory recall button for which the action you want to execute has been registered.
  - In the case of a function on/off action, the button you pressed lights green, and this enables the function. To disable the function, press the button once more.
  - For other actions, the button you pressed momentarily lights green, and then the function is executed.

## Shotbox

The term “shotbox” refers to a function whereby for each specified region any snapshot or keyframe effect can be recalled simultaneously.

The simultaneous recall setting data such as region names, snapshot numbers and keyframe effect numbers are stored in “registers.” There are 99 registers for each control panel.



The previous figure shows schematically the settings in the 99 shotbox registers.

Each register may contain any combination of the regions to which the register applies, with the snapshots or effects to be recalled.

The Auto Run function is an attribute which can be set for each register. When this is set to On, an effect recalled by a shotbox operation is automatically run.

- When register 1 is executed, this recalls M/E-1 snapshot 1, User2 effect 5, and DME ch3 effect 1. For register 1, auto run is On, and therefore the User2 and DME ch3 effects are run as soon as they have been recalled.
- When register 3 is executed, M/E-1 effect 1, P/P effect 90, and User1 effect 1 are recalled. For register 3, auto run is off, and therefore to run the recalled effects, press the [RUN] button in the keyframe control block.

# Shotbox Register Creation

You can create (save) shotbox registers in the following control blocks.

- Numeric keypad control block (see “Numeric Keypad Control Block” in Chapter 2 (Volume 1).)
- Menu control block (see “Menu Control Block” in Chapter 2 (Volume 1).)

## Creating a Shotbox Register in the Numeric Keypad Control Block

When you create a shotbox register in the numeric keypad control block, you carry out separate operations in respect of the snapshot setting data and the effect setting data, and save in the register. The procedure described here makes the snapshot settings first, followed by the effect settings.

### Creating a shotbox register

- 1 In the numeric keypad control block, press the [SNAPSHOT] button, turning it on.  
  
This assigns the numeric keypad control block to snapshot operations.
- 2 Specify the register number of the snapshot you want to save in a shotbox register, and then recall it for each region.  
  
*For details of the procedure for recalling a register, see “Recalling a snapshot from the numeric keypad control block” (page 422).*
- 3 Press the [SHOTBOX] button, turning it on.  
  
This assigns the numeric keypad control block to shotbox operations.
- 4 Press the [STORE] button, turning it on.  
  
The [SNAPSHOT] button lights green.  
If not lighted, press the [SNAPSHOT] button to turn it on.

#### Notes

Only in [SHOTBOX] operation mode with the [STORE] button lit, the [SNAPSHOT] button or [EFF] button lights green to indicate that a setting operation is in progress for the purpose of saving snapshot data or effect data in a shotbox register.

- 5 Press the region button for the snapshot you want to save, turning it on.
- 6 Enter the desired shotbox register number with the numeric keypad buttons.  
To find an empty register, instead of entering a number, press the [.] (period) button.  
  
The display shows the relevant register numbers.  
When a register number is postfixed with an “E,” the register is empty.
- 7 Press [ENTER].  
  
This saves the region you turned on in step 5, and the register number you recalled for that region as a snapshot setting in a shotbox register, and the [STORE] button goes off. At the same time, the [RCALL] button lights.
- 8 In the numeric keypad control block, press the [EFF] button, turning it on.
- 9 Specify the register number of the keyframe effect you want to save in a shotbox register, and then recall it for each region.  
  
*For details of the procedure for recalling a register, see “Recalling a Register” (page 396).*
- 10 Referring to steps 3 to 5, carry out the setting operation for effect register saving. In step 4, however, press the [EFF] button, lighting it green.
- 11 Enter the shotbox register number specified in step 6 using the numeric keypad buttons.
- 12 Press the [ENTER] button.  
  
This saves the effect setting in a shotbox register, and the [STORE] button goes off. At the same time, the [RCALL] button lights.

### To change the contents of a shotbox register

After recalling the shotbox register you want to change, referring to the previous item “Creating a shotbox register,” change the contents of the shotbox register, and save.

### To check the region saved in a shotbox register

During operations to change the contents of a shotbox register, to check which region is saved in the register, use the following procedure.

- 1 With the [SHOTBOX] button lit, press the [STORE] button, turning it on.
- 2 Press the required button, as follows, turning it on.

**To check the snapshot region:** [SNAPSHOT] button

**To check the effect region:** [EFF] button

### 3 Hold down the [STORE] button.

While this button is held down, the button for the saved region lights.

Releasing the button returns you to the state before holding down the [STORE] button.

#### Notes

While the [STORE] button is lit, the mode selection buttons ([TRANS RATE] button and so on) in the numeric keypad control block do not operate. To change the mode, press the [RCALL] button or [SHOTBOX] button so that the [STORE] button goes off.

## Creating a Shotbox Register Using the Menus

### Accessing the Shotbox menu

Carry out creation and editing of shotbox registers in the Shotbox menu.

To access the Shotbox menu, use either of the following methods.

- In the menu control block, press the top menu selection button [SHOTBOX].
- In the numeric keypad control block, press the [SHOTBOX] button twice in rapid succession.

### Creating a shotbox register

#### 1 In the Shotbox menu, press VF1 'Register' and HF1 'Store/Recall.'

The Store/Recall menu appears.

In the status area, the settings for each register appear as follows.

**Region settings:** Appear as "Sxxx" when a snapshot is allocated, and as "Exxx" when an effect is allocated (xxx is the register number). The register name also appears. If nothing is allocated, nothing appears in the display.

**Register lock setting:** When the register is write-protected, an "L" (for "lock") appears.

**Empty status:** When the register is empty, an "E" (for "empty") appears.

**Auto run setting:** When this is enabled, so that an effect is executed simultaneously with recall, "AR" appears.

**Shotbox register name:** This shows the shotbox register name.

#### 2 If necessary, switch the region display by pressing one of the following buttons in the status area.

**M/E, P/P:** Shows the allocations for M/E-1 ("M/E1") and P/P ("P/P").

**User:** Shows the allocations for User1 ("USR1") to User8 ("USR8").

**DME:** Shows the allocations for DME ch1 ("DME1") to ch8 ("DME8").

**DEV1-8:** Shows the allocations for Device1 ("DEV1") to Device8 ("DEV8").

**DEV9-12:** Shows the allocations for Device9 ("DEV9") to Device12 ("DEV12").

**Misc:** Shows the allocations for P-Bus ("PBUS"), GPI ("GPI"), Router ("RTR"), and Macro ("MCRO").

#### 3 Using any of the following methods, select the register you want to create (or edit).

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter   | Adjustment              | Setting values |
|------|-------------|-------------------------|----------------|
| 1    | Shotbox Reg | Shotbox register number | 1 to 99        |

#### 4 Press [Edit].

The Edit menu appears, and it is now possible to make the settings for the specified register.

You can also use knob 1 to select the register in this menu.

In the status area, the shotbox register status for each region appears.

#### 5 Using any of the following methods, select the desired region. You may select more than one region.

- Press directly on the region display in the status area, turning it to reverse video.
- Press [ALL] to select all regions.
- To select all switcher-related regions (M/E, P/P, User), press [SWR ALL].
- To cancel a selection, press once more to return to the normal display.

#### 6 In the <Assign> group, select the snapshot or effect to be allocated to the region.

**Snapshot:** Allocate a snapshot register.

**Effect:** Allocate a keyframe effect.

- If the selected register is locked, a confirmation message appears asking whether or not to cancel the operation. Press [OK] to return to the previous menu display without carrying out the registration.
- If the operation is carried out, the region selected in step 5 is registered on the master timeline, and the parameters are now valid.

**7** Depending on the selection in step **6**, set the parameters as follows.

**When a snapshot is selected**

| Knob | Parameter | Adjustment               | Setting values |
|------|-----------|--------------------------|----------------|
| 3    | Snapshot  | Snapshot register number | 1 to 99        |

**When an effect is selected**

| Knob | Parameter | Adjustment             | Setting values        |
|------|-----------|------------------------|-----------------------|
| 3    | Effect    | Keyframe effect number | 1 to 99 <sup>a)</sup> |

a) For P-Bus and Device1 to Device12, you can also set register numbers 1 to 250.

- 8** To run the allocated effect as soon as it is recalled, press [Auto Run], turning it on.
- 9** Repeat steps **5** to **8** as required.
- 10** In the <Store> group, press [Store] to save the setting.

**To return to the state before saving the setting**  
In the <Store> group, press [Undo].

**To execute the settings to check them**  
Press [Recall] to execute the shotbox.

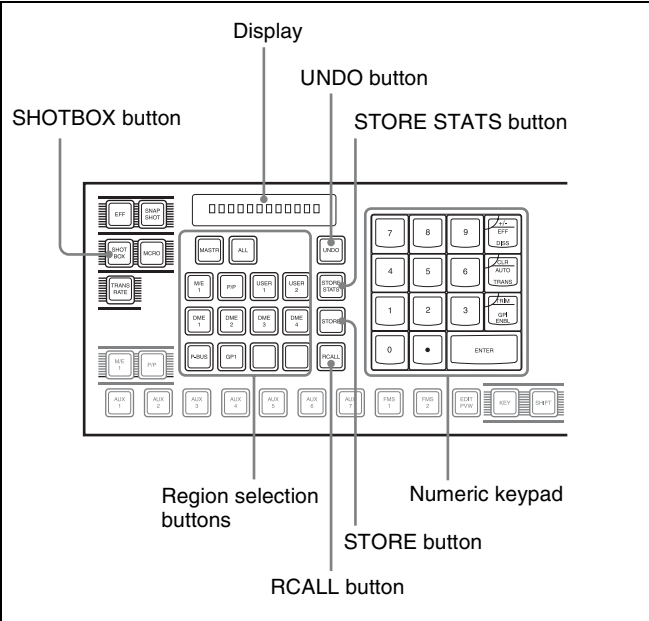
# Shotbox Execution

You can recall (and run) shotbox registers from the following control blocks.

This section describes the various methods of operation.

- Numeric keypad control block (*see page 432*)
- Utility/shotbox control block (*see page 433*)

## Shotbox Execution From the Numeric Keypad Control Block



Numeric keypad control block

- 1** In the numeric keypad control block, press the [SHOTBOX] button, turning it on.
- This allocates the numeric keypad control block to shotbox operations.
  - The [RCALL] button lights amber.
  - The display shows the last recalled register number.
- 2** With the numeric keypad buttons, enter the desired register number.
- The display now shows the entered register number.
  - If the specified register is empty, an “E” automatically appears after the register number.
- 3** Press the [ENTER] button.
- This runs the specified shotbox register.
  - The number of the recalled register appears in the display.

- The region selection buttons corresponding to the regions for which the effect is set light.
- If auto run is set for the specified shotbox register, on recall the effect is immediately executed.
- If you recall an empty register, then shotbox execution has no effect.

#### When auto run is not set for the recalled register

Simply recalling the register does not run the effect. To do this, in the keyframe control block, press the [RUN] button.

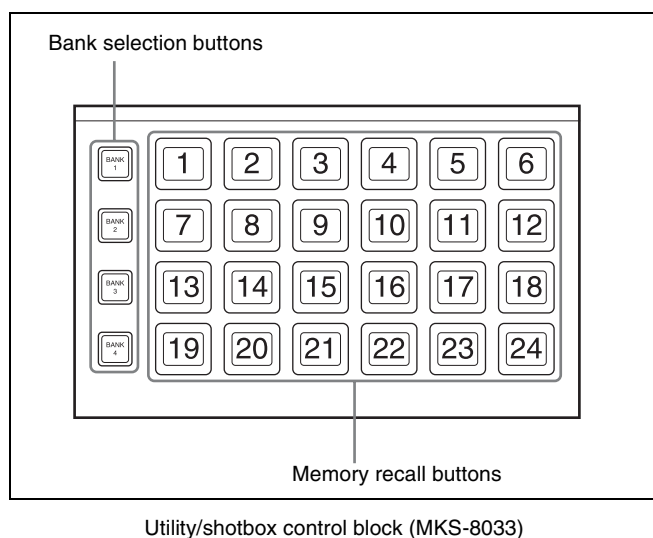
- 2 Press the memory recall button to which the shotbox register you want to run is allocated.

- The shotbox execution is carried out.
- The pressed button lights yellow.
- The numeric keypad control block [SHOTBOX] button lights, and the region selection button corresponding to the region for which the effect is set also lights.
- If the selected shotbox register has auto run set, on recall the effect is immediately executed.

#### When auto run is not set for the recalled register

Simply recalling the register does not run the effect. To do this, press the [RUN] button in the keyframe control block.

## Shotbox Execution in the Utility/ Shotbox Control Block (MKS-8033 Utility/Shotbox Module, Option)



In the utility/shotbox control block, as the default setting the memory recall buttons have registers 1 to 96 allocated to banks 1 to 4.

| Bank | Register allocation to memory recall buttons |
|------|--|
| 1    | 1 to 24                                      |
| 2    | 25 to 48                                     |
| 3    | 49 to 72                                     |
| 4    | 73 to 96                                     |

- 1 Press one of the bank selection buttons [BANK1] to [BANK4] to select the bank.

- The pressed bank selection button lights amber.
- The memory recall buttons show the names and states of the registers corresponding to the selected bank.
  - **Off:** register in which nothing is saved
  - **Lit orange:** register holding shotbox settings
  - **Lit yellow:** last recalled register

---

# Shotbox Register Editing

You can carry out the following editing on shotbox registers.

- **Lock:** Write-protect the contents of the register.
- **Copy:** Copy data from one register to another.
- **Move:** Move data from one register to another.
- **Swap:** Swap the contents of two registers.
- **Delete:** Delete the contents of a register.
- **Name:** Attach a name to a register.

The procedures for shotbox register editing are similar to the procedures described in “*Effect Register Editing*” (page 415).

Unlike in effect register editing, however, it is not necessary to specify a region in shotbox register editing.



## Macros

### Overview

The term “macro” refers to the function whereby a sequence of signal selections and other operations on the control panel is saved as data in memory, so that it can be recalled as required to automatically execute the same sequence of operations.

To record menu operations in memory, use a menu macro (*see page 452*).

### Macro registers

The area of memory that holds a macro is termed a “macro register.” For each control panel there are 250 macro registers, numbered 1 to 250.

### Events

The individual control panel operations constituting a macro are termed “events.” One macro can contain a maximum of 99 events.

The following table shows the operations for each control block of the control panel that can be saved as events in a macro.

| Control block               | Event                 |
|-----------------------------|-----------------------|
| Auxiliary bus control block | Bus selection         |
| Cross-point control block   | Cross-point selection |

| Control block  | Event  |
|--|--|
| Transition control block                                     | <ul style="list-style-type: none"> <li>• Auto transition and cut for the transition execution section</li> <li>• Auto transition for the independent key transition execution section <sup>a)</sup></li> <li>• Next transition setting</li> <li>• Transition type selection</li> <li>• Pattern limit on/off</li> <li>• VTR/disk recorder/Extended VTR/frame memory clips playback <sup>b)</sup></li> <li>• VTR/disk recorder/Extended VTR/frame memory clips stop <sup>b)</sup></li> <li>• VTR/disk recorder/Extended VTR/frame memory clips cue-up <sup>b)</sup></li> </ul> |
| Numeric keypad control block                                 | Recalling the following data <ul style="list-style-type: none"> <li>• Effects</li> <li>• Snapshots</li> <li>• Shotbox</li> <li>• Master snapshots</li> <li>• Master timeline</li> </ul>  |
| Keyframe control block                                       | <ul style="list-style-type: none"> <li>• Effect rewind</li> <li>• Effect execution</li> <li>• Effect fast forward</li> <li>• Selection of effect execution direction</li> </ul>  |
| Device control block (trackball) (search dial) <sup>c)</sup> | <ul style="list-style-type: none"> <li>• VTR/disk recorder/Extended VTR/frame memory clips start point setting</li> <li>• VTR/disk recorder/Extended VTR/frame memory clips playback</li> <li>• VTR/disk recorder/Extended VTR/frame memory clips stop</li> <li>• VTR/disk recorder/Extended VTR/frame memory clips cue-up</li> <li>• VTR/disk recorder/Extended VTR/frame memory clips fast forward</li> <li>• VTR/disk recorder/Extended VTR/frame memory clips rewind</li> <li>• VTR/disk recorder record</li> <li>• Frame memory clip loop setting</li> </ul>            |
| Downstream key control block                                 | <ul style="list-style-type: none"> <li>• Auto transition and cut for the independent key transition execution section <sup>a)</sup></li> <li>• Key snapshot recall</li> </ul>  |

| Control block                 | Event   |
|-------------------------------|---|
| Menu control block            | <ul style="list-style-type: none"> <li>• Disk recorder/Extended VTR file recalling</li> <li>• Recalling the functions assigned to [PREFS 1] to [PREFS 16] buttons</li> <li>• Execution of a menu macro</li> <li>• Recalling frame memory clips</li> </ul> |
| Utility/Shotbox control block | Recalling the functions assigned to memory recall buttons   |

- a) In the case of an event that inserts or deletes a key, the key state at the time of event registration (inserted or not inserted) is also saved in the macro. When the macro is executed, the event is only replayed if the key state matches the saved state. (Example: For a macro with an event that deletes a key, when the macro is executed, if the key is inserted it is deleted, but otherwise nothing occurs as concerns keying.)
- b) Function valid only when [PLAY], [STOP], and [CUE] have been set in the Setup menu.
- c) When a search dial module is connected, this operates as the reference module. When not connected, this operates on the module selected in the Engineering Setup >Panel >Config menu.  
*For details of reference module selection, see "Overall Control Panel Settings (Config Menu)" (page 496).*

## Macro Creation and Editing

You can create or edit a macro by recalling a macro register.

To create a new macro, recall an empty macro register, and create the desired sequence of events (by executing the sequence of operations on the control panel that you want to save as events in the macro).

To add an event to an existing macro, recall the register holding the macro, and create the event you want to add.

### Notes

While editing a macro, it is not possible to execute another macro.

## Creating a macro

### To include all information associated with an operation when registering a macro event

When registering an auto transition operation as an event, you can register the auto transition event to include the transition rate and background A/B bus selection status. When registering an effect execution, rewind, or fast forward as an event, you can also save the region to which this applies.

To use this capability, assign the following functions to user preference buttons in the menu control block or buttons in the utility/shotbox control block (*see page 515*), and turn the relevant button on before you start an event to register.

**Macro AT with Rate (Macro Auto Trans Event with/without Rate):** When registering an auto transition macro event in the transition control block or independent key transition control block, include the transition rate.

**Macro AT with A/B Bus (Macro Auto Trans Event with/without A/B Bus):** When registering an auto transition macro event in the transition control block, include the background A/B bus cross-point.

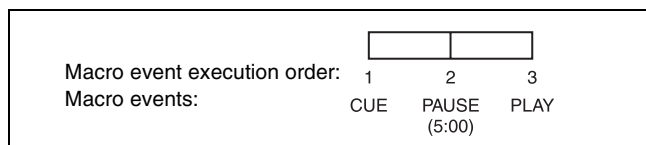
**Macro TL with Region (Macro Timeline with Region):** When registering an effect execution, rewind, or fast forward as a macro event, save the affected region together in the macro.

### Events requiring adjustment when creating a macro

The following events require time for execution to complete, and therefore when executed within a macro sequence, a pause event must be inserted to adjust the timing.

- Rewinding effects involving external device control
- VTR/disk recorder/Extended VTR cue-up

For example, create a macro to cue up a VTR and then play back as follows.



### Auto insert mode on/off setting

You can switch on or off the mode (auto insert mode) in which at the same time that a control panel operation is carried out, the event is automatically saved in a macro. To switch this on or off, assign this function to a utility/shotbox control block button or user preference button, then use that button.

## Editing a macro

You can carry out the following macro editing operations.

### Event insertion

Insert the control panel operation as an event in a macro.

### Event modification

Modify any event. You can modify all events within a macro, or events within a specified range in a single operation.

### Event deletion

Delete any one event. You can delete all events within a macro, or events within a specified range in a single operation. You can then paste the deleted event using the paste function.

### Event copy

Copy any one event. You can copy all events within a macro, or events within a specified range in a single operation.

### Event paste

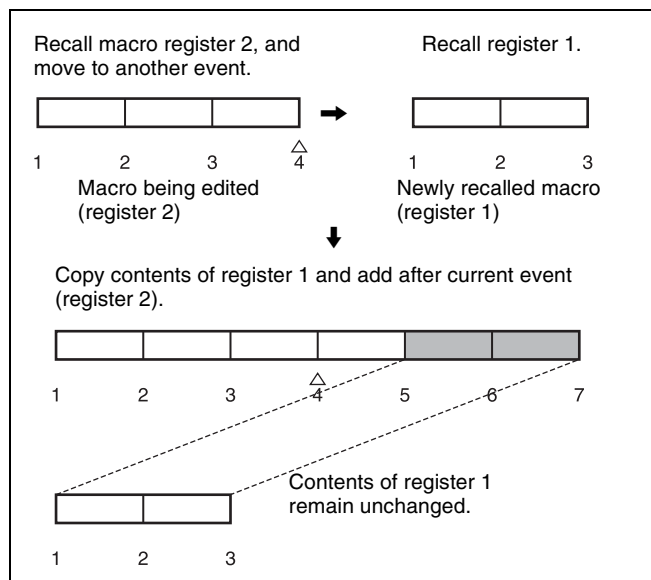
Paste a copied or deleted event at a desired position within a macro.

## Undoing an editing operation

You can undo the last event insertion, modification, deletion, or paste operation.

## Macro merging

During macro editing, you can recall and copy another register to merge it with the macro being edited. For example, while editing macro register 2 you can recall and copy register 1 to merge it as shown in the following figure.



## Macro Execution

To execute a macro, recall the register in which the macro is held. Simultaneous with the register recall, all events stored in the macro are played back (executed) in sequence without pause.

## Pausing and restarting macro execution

It is also possible to execute a macro in the following ways.

### Pause event

To adjust the execution timing of a particular event (to delay the start of execution of the event by a particular time interval), you can store a special event which pauses macro execution. This event is called a “pause event.” When you store a pause event, you can set the interval for which the macro is paused (the pause length) to any value in the range 1 to 999 frames. When the set time has elapsed, the macro is automatically executed.

### Pause zero event

By including a pause event with the time set to zero, you can make macro execution pause at the pause event.

## Step execution (requires a Setup menu setting)

By selecting step execution mode in the Setup menu, you can make macro execution pause every time an event is executed.

## Take operation

When a paused macro is restarted, this is referred to as a “Take” operation.

## Macro take operation using a GPI input

You can carry out a macro take operation using a GPI input on the control panel and DCU.

For GPI input settings, see “Making Control Panel GPI Input Settings” (page 524) and “Making DCU GPI Input Settings” (page 567).

# Macro Operations in the Numeric Keypad Control Block and the Keyframe Control Block

This section describes macro operations carried out in the numeric keypad control block and the keyframe control block.

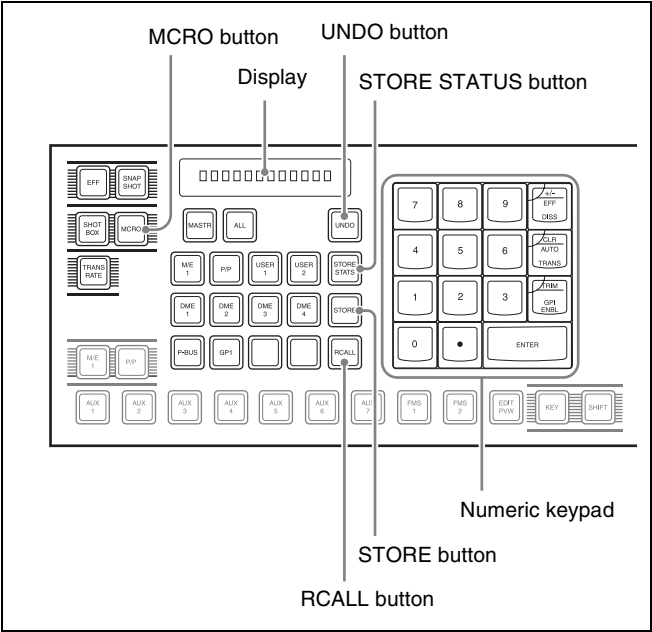
## Notes

For a macro take operation (see “Macro Execution” (page 437)), do not use the numeric keypad control block or keyframe control block. Operate with the take assigned to a utility/shotbox control block or user preference button.

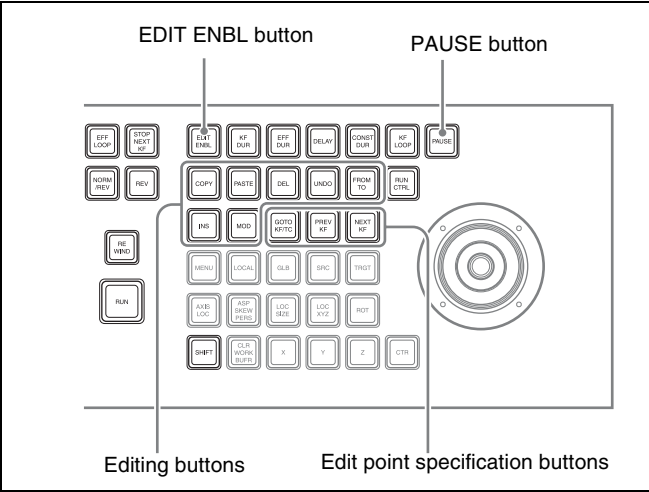
For details, see “Setting Button Assignments (Prefs/Utility Menu)” (page 515).

For an overview of macros, see “Macros” (page 435).

For macro operations in the numeric keypad control block, use the following buttons (see the following figure).



For macro operations in the keyframe control block, use the following buttons (see the following figure).



## Recalling a Macro Register and Executing a Macro

To carry out a macro operation, recall a macro register. Recalling an empty register allows you to carry out macro editing operations. Recalling a register holding a macro executes the macro immediately. To recall a macro register, use the following procedure.

- 1 In the numeric keypad control block, press the [MCRO] button, turning it on.  
  
This assigns the numeric keypad control block to macro operations, and the [RCALL] button lights.
- 2 Enter the number of the register (1 to 250) to be recalled with the numeric keypad buttons.  
To search for an empty register, instead of entering a number, press the [.] (period) button.  
  
The display shows the corresponding register number. A letter “E” after the number indicates that the corresponding register is empty.
- 3 Press the [ENTER] button.

### When you recall an empty register

This assigns the numeric keypad control block and keyframe control block to macro editing.

For details of macro editing, see “Creating and Editing a Macro” (see below).

### When you recall a register holding a macro

This immediately executes the macro. While the macro is executed, the [RCALL] button flashes.

## Notes

- It is not possible to execute more than one macro at a time.

- If the same register is recalled again during macro execution or when the macro is paused, the following operation depends on a setting in setup.  
*For details of the settings, see “Setting the Macro Execution Mode” (page 532).*
- Individual events stored in a macro are executed according to the settings in setup. If you change the settings in setup, a saved macro may not have the expected effect.
- During macro execution, if you switch the control panel to macro editing mode, the macro being executed stops.
- During macro editing it is not possible to execute a macro.
- While executing a macro with a button with a macro attachment set, if you recall another macro with the numeric keypad control block, the following operation depends on a setting in setup.  
*For details of the settings, see “Setting the Macro Execution Mode” (page 532).*

## Creating and Editing a Macro

Use the numeric keypad control block and keyframe control block to create and edit a macro.

After carrying out creation and editing, be sure to carry out a save operation (*see page 442*), using the numeric keypad control block.

### Switching auto insert mode on or off for macro creation/editing

In the auto insert mode, when creating or editing a macro, an operation carried out on the control panel is automatically registered as an event.

When this mode is off, it is necessary to press the [INS] button in the keyframe control block for each operation to register the event.

To switch the auto insert mode on or off, press the [AUTO INS] button assigned to a utility/shotbox control block button or user preference button.

#### Notes

When you start macro editing using the numeric keypad control block with the macro execution mode set to “Normal” (*page 532*), the auto insert mode is automatically on. When “Step” is selected as the macro execution mode, the auto insert mode is automatically off.

### Creating a new macro

- 1 Recall an empty register (1 to 250) (*see page 438*).

This assigns the numeric keypad control block and keyframe control block to macro editing, and the [MCRO] button in the numeric keypad control block

and the [EDIT ENBL] button in the keyframe control block light red. The [STORE] button in the numeric keypad control block flashes red.

- 2 If required, press the [AUTO INS] button assigned to a utility/shotbox control block or user preference button, to toggle the auto insert mode on or off.

- 3 Create the events (carry out the control panel operations to be registered as events in the macro).

You can include pause events (*see page 441*).

*For details of events that can be registered, see “Events” (page 435).*

- When auto insert mode (*see page 439*) is on, execution of a control panel operation automatically registers an event in the macro.
- When auto insert mode is off, proceed to step 4.

#### Notes

- During macro editing, if you press any of the mode selection buttons in the numeric keypad control block other than the [MCRO] button ([TRANS RATE] button, and so on), the executed operation is also registered as an event. In this case, the [MCRO] button stays lit red.
- Even during macro editing, you can carry out keyframe operations using the fader lever in the keyframe control block and the following buttons: [EFF LOOP], [STOP NEXT KF], [REV], [NORM/REV], [REWIND], [RUN]
- During macro editing, if you press a button for which a macro attachment is set, the outcome is as described in the next item.

- 4 When auto insert mode is off, press the [INS] button in the keyframe control block to register the event.

- 5 Repeat steps 2 and 3 to register the required events in the macro.

This registers the events in the macro, in the order the operations were carried out on the control panel.

- 6 Press the [STORE] button.

Macro editing finishes, and the [MCRO] button and [STORE] button in the numeric keypad control block light amber. The keyframe control block returns to the state before starting macro editing.

### Merging a macro for which a macro attachment is set

While creating/editing a macro, if you press a button for which a macro attachment is set, the macro in the register assigned to the button is recalled, and the following occurs.

- When auto insert mode is on, it is merged with the macro being edited. However, the macro assigned to the button is not executed.
- When auto insert mode is off, it is copied to the paste buffer. Pressing the [PASTE] button in the keyframe control block merges it with the macro being edited.

## Specifying an edit point

To specify an edit point with the numeric keypad control block and keyframe control block, use the following procedure.

- 1 Recall the register of the macro (1 to 250) you want to edit (*see page 438*).
- 2 In the numeric keypad control block, hold down the [MCRO] button, and press the [STORE] button.

This assigns the numeric keypad control block and keyframe control block to macro editing, and the [MCRO] button in the numeric keypad control block and the [EDIT ENBL] button in the keyframe control block light red. The [STORE] button in the numeric keypad control block flashes red.

- 3 Using any of the following methods, specify the edit point.
  - To move the edit point to the event immediately following the current macro event, press the [NEXT KF] button in the keyframe control block.
  - To move the edit point to the event immediately preceding the current macro event, press the [PREV KF] button in the keyframe control block.
  - To move to an edit point by specifying an event number (the number showing the position of the event in the macro execution sequence), press the [GO TO KF] button in the keyframe control block, then in the numeric keypad control block, enter the target number and confirm with the [ENTER] button.

## Inserting an event

- 1 Specify the edit point (*see page 440*).
- 2 If required, press the [AUTO INS] button assigned to a utility/shotbox control block or user preference button, to toggle the auto insert mode on or off.
- 3 Create the event.
  - When auto insert mode (*see page 439*) is on, the event is automatically added to the macro.
  - When auto insert mode is off, proceed to step 4.

- 4 When auto insert mode is off, press the [INS] button in the keyframe control block.
- 5 Repeat steps 2 and 3 to insert the required events in the macro.

## Modifying a single event

- 1 Specify the edit point (*see page 440*).
- 2 When the [AUTO INS] button assigned to a utility/shotbox control block button or user preference button is lit, press this to turn the auto insert mode off.
- 3 Create the event.
- 4 Press the [MOD] button in the keyframe control block.

## Modifying a particular range of events

- 1 Carry out steps 1 to 3 of the procedure in “*Modifying a single event*” (*the previous item*).
- 2 Press the [FROM TO] button in the keyframe control block, turning it on.
 

The numeric display in the numeric keypad control block shows the current event number and the indication “TO.”
- 3 To set the start of the range to other than the current event number, press the [CLR/AUTO TRANS] button in the numeric keypad control block, then enter the desired event number with the numeric keypad and press the [ENTER] button (this operation is not required when using the current event number).
- 4 Enter the event number for the end of the range and press the [ENTER] button.
- 5 Press the [MOD] button in the keyframe control block.

## Deleting an event

- 1 Specify the edit point (*see page 440*).
- 2 To delete multiple events simultaneously, press the [FROM TO] button in the keyframe control block, then enter the event numbers from the numeric keypad control block to specify a range to be deleted (this operation is not required to delete the event at the edit point only).
- 3 Press the [DEL] button.

## Moving events

- 1** Specify the edit point for the start of the range to be moved (*see page 440*).
- 2** To move multiple events simultaneously, press the [FROM TO] button in the keyframe control block, then specify the range in the numeric keypad control block.
- 3** Press the [DEL] button.  
This temporarily deletes the specified events from the macro, and copies them to the paste buffer.
- 4** Move to the edit point which is the destination within the macro to which you want to move the events.
- 5** To paste the contents of the paste buffer after the edit point, press the [PASTE] button in the keyframe control block.  
To paste before the edit point, hold down the [SHIFT] button in the keyframe control block and press the [PASTE] button.  
This pastes the events from the paste buffer.

## Copying events

- 1** Specify the edit point for the start of the range to be copied.
- 2** To copy multiple events simultaneously, press the [FROM TO] button in the keyframe control block, then specify the range in the numeric keypad control block.
- 3** Press the [COPY] button.  
This copies the specified events into the paste buffer.
- 4** Move to the edit point which is the destination within the macro to which you want to copy the events.
- 5** To paste the contents of the paste buffer after the edit point, press the [PASTE] button in the keyframe control block.  
To paste before the edit point, hold down the [SHIFT] button in the keyframe control block and press the [PASTE] button.  
This copies the events from the paste buffer.

## Inserting a pause event

- 1** Press the [PAUSE] button in the keyframe control block, lighting it green.

The indication “PAUSE” appears in the numeric keypad control block display.

- 2** If required, press the [AUTO INS] button assigned to a utility/shotbox control block or user preference button, to toggle the auto insert mode on or off.
- 3** Enter the pause duration with the numeric keypad control block (0 or 1 to 999 (frames)).
- 4** Press the [ENTER] button.
  - If auto insert mode is on, this sets the pause duration, and inserts the pause event.
  - When auto insert mode is off, continue to step **5**.
- 5** When auto insert mode is off, press the [INS] button in the keyframe control block to insert the pause event.

## Merging macro register data

- 1** Specify the edit point (*see page 440*).
- 2** Press the [RCALL] button in the numeric keypad control block, lighting it amber.
- 3** Enter the number of the macro register you want to copy using the numeric keypad buttons.  
The display shows the register number.
- 4** Press the [ENTER] button.  
The [RCALL] button goes off, and the specified register data is copied to the paste buffer.
  - When auto insert mode is on, the data from the specified register is included after the edit point.
  - When auto insert mode is off, continue to step **5**.
- 5** When auto insert mode is off, to include after the edit point, press the [PASTE] button in the keyframe control block.  
To include before the edit point, hold down the [SHIFT] button in the keyframe control block, and press the [PASTE] button.

The same effect is obtained if you use a button which has a macro attachment set. In this case, the data from the assigned macro register is copied into the paste buffer.

## Undoing a macro editing operation with the numeric keypad control block

Immediately after inserting, modifying, deleting, or pasting an event, you can undo the operation by pressing the [UNDO] button in the numeric keypad control block.

## Saving a Macro

Use the following procedure to save the register after creating or editing/modifying a macro.

- 1** In the numeric keypad control block, press the [MCRO] button, turning it on.  
  
This assigns the numeric keypad control block to macro operations.
- 2** Press the [STORE] button, turning it on.
- 3** Enter the number of the register (1 to 250) in which you want to save the macro with the numeric keypad buttons.  
  
To search for an empty register, instead of entering a number, press the [.] (period) button.  
The display shows the corresponding register number. A letter “E” after the number indicates that the corresponding register is empty.
- 4** Press the [ENTER] button.  
  
This saves the macro data in the specified register, and the [STORE] button goes off.  
The [RCALL] and [STORE STATS] buttons light.

### To cancel the saving of a macro

To cancel the saving of a macro immediately after performing it, hold down the [STORE STATS] button and press the [UNDO] button.

## Macro Editing Using Menus

Using any of the menus in the following table, you can edit macro registers and macro events.

| Menu   | Function   | Operations   |
|--|--|--|
| Register menu (macro register editing)               | Carry out macro register editing.  | <ul style="list-style-type: none"> <li>• Locking a register</li> <li>• Copying a register</li> <li>• Deleting a register</li> <li>• Naming a register</li> </ul> |
| On Line Edit menu (online editing of macro events)   | Edit events in a macro register, using the control panel and menus.                      | <ul style="list-style-type: none"> <li>• Inserting an event</li> <li>• Deleting an event</li> <li>• Modifying an event</li> </ul>                                |
| Off Line Edit menu (offline editing of macro events) | Edit events in a macro register, on the hard disk, or on a memory card, using the menus. | <ul style="list-style-type: none"> <li>• Inserting an event</li> <li>• Adding an event</li> <li>• Deleting an event</li> <li>• Creating a new macro</li> </ul>   |

## Macro Register Editing

You can display the current state of a macro register using the Macro >Register menu.

The items displayed are the same as under “*Effect Status Display*” (page 415), with the exception that the region name is not displayed and that the total number of macro events saved in the register is displayed.

In the Macro >Register menu, you can do the following editing operations on macro registers.

- **Lock:** Write-protect the contents of the register.
- **Copy:** Copy the contents of one register to another register.
- **Delete:** Delete the contents of a register.
- **Name:** Attach a name to a register.

The operations for macro register editing are the same as those for effect register editing (see page 415) except the region selection operation, which is not necessary for macro register editing.

## Online Editing of Macro Events

Using the On Line Edit menu, you carry out online editing of macro events.

In the On Line Edit menu, you can check the control panel operating sequence in the menu. You can also carry out editing using the control panel and menu.



## To display the On Line Edit menu

- 1** Recall the macro register (1 to 250) you want to edit with the control panel, and select the macro editing mode <sup>1)</sup>.
  - 1) With the numeric keypad control block or keyframe control block assigned to macro editing (see step 2 in “Specifying an edit point” (page 440))
- 2** In any of the following menus, select the same register as the register recalled in step 1, and press [On Line Edit] in the button area.

- Macro >Register >Lock menu
- Macro >Register >Delete menu
- Macro >Register >Rename menu
- File >Shotbox, Macro >Macro >File Edit menu

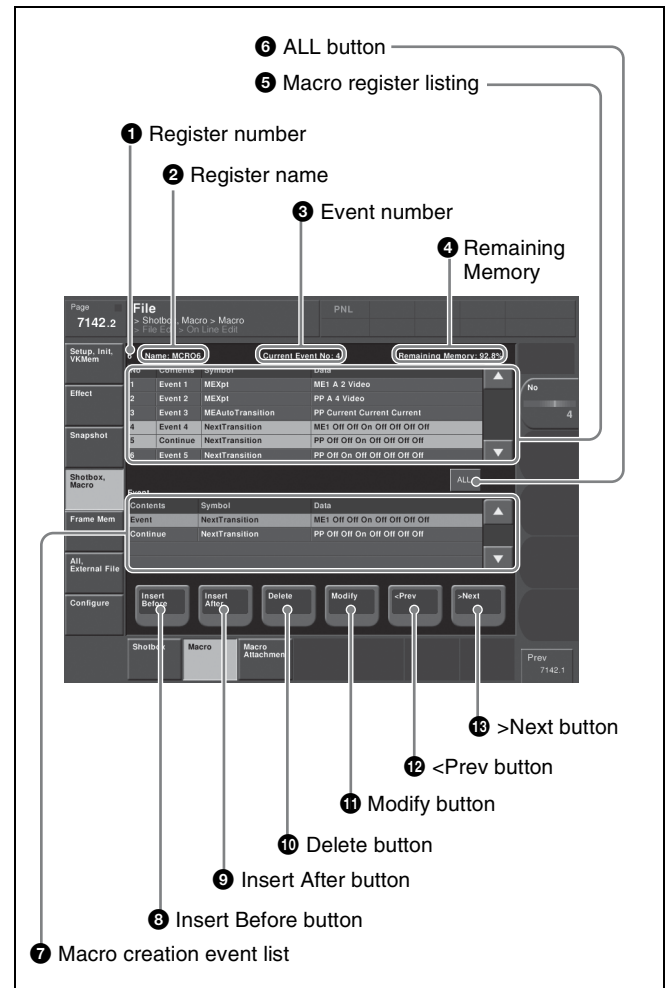
The On Line Edit menu appears, and you can now carry out online editing of the events held in the recalled register. Meanwhile, the control block of the control panel operated in step 1 is assigned to control editing operations.

### Notes

In the following cases, [On Line Edit] is disabled, and it is not possible to display the On Line Edit menu.

- When the recalled register and the register selected in the menu are different.
- When a device other than [Register] is selected ([HDD] or [Memory Card]) in the File >Shotbox, Macro >Macro >File Edit menu.
- If the recalled register is locked.

## On Line Edit menu



### 1 Register number

Shows the number of the register (1 to 250) being edited.

### 2 Register name

Shows the name of the register being edited.

### 3 Event number

Shows the current event number. When the [FROM TO] button in the keyframe control block is pressed to select a range of events, this appears as a range, “From X To Y.” The event number reflects the position of the cursor in the macro register listing.

### 4 Remaining Memory

Shows the percentage of memory still available for recording events.

### 5 Macro register listing

When a macro is stored in the register, this shows a list of the macro events. Each macro event consists of the following components, which you can check in the list.

- **Contents:** Identifies this as an Event statement, Continue statement, or event number
- **Symbol:** Type of event (ASCII character string)

- **Data:** Event details in the form of parameters and data

For details of the event components, see “Macro File Editing Rules” (page 591).

The cursor shows the current event in the list, in reverse video. You can turn knob 1 to scroll the list, but this does not change the cursor position. Depending on the switcher status, the cursor color changes as follows.

- **Yellow:** in macro editing mode
- **Gray:** when the editing mode is exited by a control panel operation
- **Blue:** during macro execution

## 6 ALL button

Selects all events in the macro register listing.

## 7 Macro creation event list

Shows the event being created or executed in the control panel.

## 8 Insert Before button

Inserts a created event immediately before the selected event in the macro register listing.

## 9 Insert After button

Inserts a created event immediately after the selected event in the macro register listing.

## 10 Delete button

Deletes the selected event in the macro register listing.

## 11 Modify button

Replaces the selected event in the macro register listing with a created event.

## 12 <Prev button

Moves the cursor to the event immediately before the selected event in the macro register listing.

## 13 >Next button

Moves the cursor to the event immediately after the selected event in the macro register listing.

## Carrying out online editing of macro events

In the On Line Edit menu, you can carry out the following editing operations on the events in the macro register.

- **Insert:** Insert a macro event.
- **Delete:** Delete a macro event.
- **Modify:** Modify a macro event.

### Notes

It is not possible to save editing results using this menu alone. Carry out the necessary control panel operations to save the edited register.

## To insert an event

- 1 On the control panel, if auto insert mode is on, switch it off.

- 2 On the control panel, create a macro event.

The created event appears in the macro creation event list.

For more details of the display, see “Macro File Editing Rules” (page 591).

- 3 In the macro register listing, press [<Prev] or [>Next] to select the position where you want to insert the created event.

- 4 Carry out either of the following.

**To insert before the event selected in the list:** Press [Insert Before].

**To insert after the event selected in the list:** Press [Insert After].

This inserts the created event either before or after the specified event.

### Notes

In the following cases, [Insert Before] and [Insert After] are disabled, and it is not possible to insert the event.

- If the memory or register is full.
- The size of the created macro event is larger than the memory or register space available.
- When multiple events are selected.
- When the number of events has reached 99.
- When not in macro editing mode.<sup>1)</sup>

1) While a macro is being executed on the control panel, or when macro saving has been executed

- 5 Operate the control panel to save the editing result.

## To delete an event

- 1 In the macro register listing, press [<Prev] or [>Next] to select the event you want to delete.  
To select all events in the register, press [All].

- 2 Press [Delete].

### Notes

If not in macro editing mode<sup>1)</sup>, [Delete] is disabled, and it is not possible to delete the selected event.

1) While a macro is being executed on the control panel, or when macro saving has been executed

- 3 Operate the control panel to save the editing result.

## To modify an event

- 1 On the control panel, if auto insert mode is on, switch it off.
- 2 In the macro register listing, press [<Prev] or [>Next] to select the event you want to modify.
- 3 On the control panel, modify the macro event.  
The modified event appears in the macro creation event list.  
*For more details of the display, see “Macro File Editing Rules” (page 591).*
- 4 Press [Modify].

### Notes

If not in macro editing mode <sup>1)</sup>, [Modify] is disabled, and it is not possible to modify the event.

1) While a macro is being executed on the control panel, or when macro saving has been executed

- 5 Operate the control panel to save the editing result.

## Offline Editing of Macro Events

Using the Off Line Edit menu, you carry out offline editing of macro events.

In the Off Line Edit menu, you can carry out editing in the menu only, unrelated to operation of the control panel.

### To display the Off Line Edit menu

In any of the following menus, select the register or device holding the macro you want to edit, and press [Off Line Edit] in the button area.

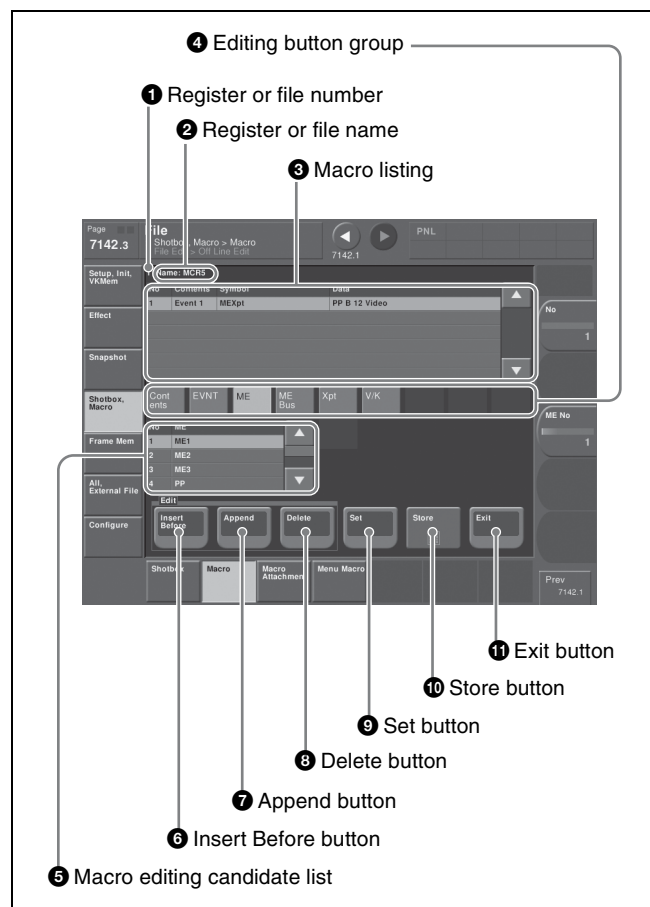
- Macro >Register >Lock menu
- Macro >Register >Delete menu
- Macro >Register >Rename menu
- File >Shotbox, Macro >Macro >File Edit menu

This recalls the selected macro register or macro file, and offline editing is now possible.

### Notes

If the selected register is locked, [Off Line Edit] is disabled, and it is not possible to display the Off Line Edit menu.

## Off Line Edit menu



### 1 Register or file number

Shows the number of the register or file being edited.

### 2 Register or file name

Shows the name of the register or file being edited.

### 3 Macro listing

Lists the macro events that are saved in the register or file. The cursor moves to the selected event. Each macro event consists of the following components, which you can check in the list.

- **Contents:** Event statement, Continue statement, comment (#), or event number, as selected in the editing button group [Contents]
- **Symbol:** Event type (ASCII character string), as selected in the editing button group [EVNT]
- **Data:** Parameters and data as set in the editing button group

*For more details of the event components, see “Macro File Editing Rules” (page 591).*

### 4 Editing button group

This row of buttons shows the components of an event. To carry out event editing: (1) press an editing button, then (2) select an item from the list of macro editing candidates, and repeat this process as required.

**5 Macro editing candidate list**

Shows the list of editing candidates for the selection from the editing button group.

**6 Insert Before button**

Inserts immediately before the event selected in the macro listing.

**7 Append button**

Adds an empty row at the end of the macro listing.

**8 Delete button**

Deletes the event selected in the macro listing.

**9 Set button**

Reflects the item selected in the macro editing candidate list, in the macro listing and editing buttons.

**10 Store button**

Saves the results of the macro register or macro file editing.

**11 Exit button**

Closes the Off Line Edit menu without saving the results of the macro register or macro file editing, and returns to the File Edit menu.

## Carrying out offline editing of macro events

In the Off Line Edit menu, you can carry out the following editing operations on the events in the macro register or macro file.

- **Insert:** Insert a macro event.
  - **Add:** Add a macro event.
  - **Delete:** Delete a macro event.
- You can also create a new macro.

### To insert an event

**1** In the macro listing, select the event immediately after the position where you want to insert an event.

**2** Press [Insert Before].

This inserts a blank row before the event selected in step **1**.

**3** Press [Contents] in the editing button group.

The following event types appear in the macro editing candidate list.

- **Event:** Event
- **Continue:** Event continuation
- **#:** Comment

*For details of the items, see “Macro File Editing Rules” (page 591).*

**4** Select the desired item from the macro editing candidate list, and press [Set].

The selected item appears at the event insertion position in the macro listing, as an event component. Additionally, in the leftmost blank position of the editing button group (to the right of [Contents]), a button appears, corresponding to the item in the macro editing candidate list. For example, if “Event” is selected, an [EVNT] button appears.



**5** In the editing button group, press the button that has just appeared.

The item corresponding to the button appears in the macro editing candidate list.

If you press [EVNT], the symbol indicating the event contents appears (*see page 593*).

**6** Select the desired item from the macro editing candidate list, and press [Set].

At the event insertion position of the macro listing, the selected item is added as an event component. Additionally, in the next blank position of the editing button group, a button appears, corresponding to the item in the macro editing candidate list. For example, if “MEAutoTransition” is selected, a button for the parameters and data for the MEAutoTransition appears.



### Notes

If you select an item from the macro editing candidate list, be sure to press [Set]. If [Set] is not pressed, the selection is not confirmed.

**7** Repeat steps **5** and **6**, to edit the event components.

At the event insertion position of the macro listing, the confirmed item is added as an event component. To further add an event, repeat steps **1** to **7**.

### To close the Off Line Edit menu without saving the editing results

Press [Exit] to return to the menu that was on the screen immediately before the offline editing.

**8** Press [Store].

The numeric keypad window appears.

**9** Enter the register number as required, and press [Enter].

The current macro is stored in the register.

The menu screen switches to the menu that was on the screen immediately before the offline editing.

### To append an event

This adds an event at the end of the macro.

- 1 Press [Append].

A blank row is added at the end of the macro listing.

- 2 Carry out steps **3** to **8** of the previous item, “To insert an event,” to edit an event.

### To delete an event

- 1 In the macro listing, select the event you want to delete.

- 2 Press [Delete].

This deletes the selected event.

If a deleted Event statement is followed by a Continue statement, the Continue statement is converted to an Event statement.

### To close the Off Line Edit menu without saving the editing results

Press [Exit] to return to the File Edit menu.

- 3 Press [Store].

This saves the results of the macro register or macro file editing, and returns to the File Edit menu.

### To create a new macro

- 1 From the list in any of the following menus, select an empty register or file, and press [Off Line Edit] in the button area.

- Macro >Register >Lock menu
  - Macro >Register >Delete menu
  - Macro >Register >Rename menu
  - File >Shotbox, Macro >Macro >File Edit menu
- The Off Line Edit menu appears.

- 2 Carry out steps **3** to **8** of the procedure “To insert an event” (*page 446*), to create an the event.

## Macro Attachment Assigning

Macro attachment is a function whereby a macro register is assigned to a control panel button or a particular position of a fader lever, linking the execution of the button function or a fader lever operation with a macro execution.

### Setting a macro attachment to a button

Select one of the following three linking modes to make the macro attachment.

**Pre-macro:** Mode in which the button function is executed after macro execution has completed

**Post-macro:** Mode in which the macro is executed after carrying out the button function

**Macro only:** Mode in which the button function is not executed, and the macro only is executed

Assign the linking mode selection function to a utility/shotbox control block button or user preference button. You can assign any one of the 250 macro registers to a button.

For a button whose function is switched by delegation, you can make a separate macro attachment for each function. For each control panel, you can make up to 1000 macro attachment settings.

The macro attachment setting is possible for the following bus buttons.

| Block                              | Button   |
|------------------------------------|--|
| Cross-point control block          | <ul style="list-style-type: none"> <li>• Background A row cross-point buttons</li> <li>• Background B row cross-point buttons</li> <li>• Cross-point buttons in the key row of the bus assigned by key delegation button setting</li> <li>• Cross-point buttons in the key row of the bus assigned by AUX delegation button setting</li> <li>• Buttons set to “Inhibit”</li> </ul> |
| Keyframe control block             | <ul style="list-style-type: none"> <li>• [RUN] and [REWIND] buttons</li> <li>• [REV] and [NORM/REV] buttons</li> </ul>   |
| Device control block (trackball)   | Buttons assigned the same function as the [PLAY], [CUE], [STOP], and [START TC] buttons for VTRs/disk recorders/Extended VTRs/frame memory clips   |
| Device control block (search dial) | [PLAY], [CUE], [STOP] and [START TC] buttons   |

| Block                         | Button   |
|-------------------------------|--|
| Downstream key control block  | <ul style="list-style-type: none"> <li>• [DSK1 ON] to [DSK8 ON] buttons<br/>a) b)</li> <li>• [KEY1 ON] to [KEY8 ON] buttons<br/>a) c)</li> <li>• [TAKE] button a)</li> <li>• [MIX], [WIPE], [DME], and [CUT] buttons</li> </ul>  |
| Transition control block      | Fader and buttons assigned with the following functions. <ul style="list-style-type: none"> <li>• Next transition selection</li> <li>• Transition type selection</li> <li>• Wipe direction selection</li> <li>• Auto transition, cut</li> <li>• Device operation (CUE, PLAY, STOP)</li> <li>• Pattern limit on/off</li> <li>• Independent key transition auto-transition a)</li> </ul> |
| Utility/shotbox control block | Memory recall buttons  |
| Menu control block            | [PREFS 1] to [PREFS 16] buttons  |

a) In the case of an event that inserts or deletes a key by an independent key transition, the key state at the time of event registration (inserted or not inserted) is also saved in the macro. When the macro is executed, the event is only replayed if the key state matches the saved state. (Example: For a macro with an event that deletes a key, when the macro is executed, if the key is inserted it is deleted, but otherwise nothing occurs as concerns keying.)

b) DSK5 to DSK8 require an assignment.

c) Assignment is required

#### Notes

- After setting a macro attachment to a cross-point button of the bus assigned by AUX delegation setting, if in the Setup menu you change the bus assignment to the button, the macro attachment setting disappears.
- After setting a macro attachment to a button for which you can perform function replacement or function assignment, if you change the function assignment to the button, the macro attachment setting disappears.
- After setting a macro attachment to a cross-point button in the cross-point control block, if you change the function assignment to the button, the macro attachment setting disappears.

### Enabling and disabling macro attachment

You can temporarily disable the macro attachment settings. When a macro attachment is disabled, pressing the button does not cause execution of the assigned macro. You can enable or disable macro attachments for the individual control panels. Assign the function to enable or disable macro attachments to a button in the utility/shotbox control block or a user preference button, and turn the button on and off as required.

## Setting a macro attachment to a fader lever

You can set a macro attachment to any particular position of a fader lever in the transition control block.

#### Notes

- In macro-only mode it is not possible to set a macro attachment.
- It is not possible to set a macro attachment to a fader lever in the keyframe control block or downstream key control block.

## Clearing the macro attachments

You can clear all of the macro attachments in a single operation.

## Displaying the macro attachment list

You can display the macro attachment settings in the form of a list in the menu display to check them.

## Setting and Canceling a Macro Attachment

### Setting a macro attachment to a button

This section describes the example of setting a macro attachment for the background A row cross-points.

*For details, see “Setting a macro attachment to a button” (page 447) for the buttons for which a macro attachment can be set.*

#### Notes

For each of the [PRE MCRO] and [POST MCRO] settings, it is necessary to make assignments to user preference buttons in the menu control block or to the utility/shotbox control block. Carry out these assignments in the Engineering Setup >Panel >Prefs/Utility menu (see page 515).

- 1 Recall the macro register (1 to 250) that you want to assign to the button (see page 438).
- 2 To make the setting in pre macro mode, hold down the [PRE MCRO] button assigned to a utility/shotbox control block button or user preference button. To make the setting in post macro mode, hold down the [POST MCRO] button, then press the desired button in the background A row.

The cross-point button you pressed flashes amber, and the register you recalled in step 1 is assigned to the button.

## If you make both pre macro and post macro settings for the same button

The later setting is valid.

## To set a macro attachment without changing cross-points

When you set a macro attachment to a cross-point button, you can make the setting without changing the bus cross-points. Carry out this selection in the Engineering Setup >Panel >Operation menu (*see page 532*).

## To make a macro attachment setting in macro only mode

### Notes

To carry out this operation, it is first necessary to assign the “Macro Only Set” function to the user preference buttons in the menu control block or the utility/shotbox control operation. Carry out this assignment in the Engineering Setup >Panel >Prefs/Utility menu (*see page 515*).

To make a macro attachment in macro only mode, use the following procedure.

- 1** Recall the macro register (1 to 250) that you want to assign to the button (*see page 438*).
- 2** Press the button to which [MCRO ONLY SET] is assigned, turning it on.
- 3** Hold down the [PRE MCRO] or [POST MCRO] button assigned to a utility/shotbox control block button or user preference button, and press the desired button in the background A row.

The cross-point button you pressed flashes green, and the register you recalled in step **1** is assigned to the button. The [MCRO ONLY SET] button goes off. Without switching to macro only mode in step **2**, if you hold down the [PRE MCRO] and [POST MCRO] buttons together and press the desired button, it is possible to set a macro attachment in macro only mode for that button.

## To check macro attachment settings

Hold down the [PRE MCRO] or [POST MCRO] button assigned to a utility/shotbox control block button or user preference button. While this is held down, the buttons for which a macro attachment is set flash as follows.

### While the [PRE MCRO] button is held down:

- Buttons set in pre macro mode: flash amber
- Buttons set in macro only mode: flash green

### While the [POST MCRO] button is held down:

- Buttons set in post macro mode: flash amber
- Buttons set in macro only mode: flash green

## Setting a macro attachment to a fader lever

You can set a macro attachment to any particular position of a fader lever in the transition control block.

### Notes

- In macro only mode it is not possible to set a macro attachment.
- It is not possible to set a macro attachment to a fader lever in the downstream key control block.

- 1** Recall the macro register (1 to 250) that you want to assign to the fader lever (*see page 438*).
- 2** Move the fader lever to the position where you want to set the macro attachment.
- 3** Hold down the [PRE MCRO] or [POST MCRO] button <sup>1)</sup> assigned to a utility/shotbox control block or user preference button, and press the [LIMIT SET] or [PRIOR SET] button in the control block containing the fader lever operated in step **2**.

1) Only when setting a macro attachment to the start point or end point of fader lever operation, use [PRE MCRO] and [POST MCRO] in distinction, as follows.

**To set the operation start point (0%):** hold down [PRE MCRO] for the operation.

**To set the operation end point (100%):** hold down [POST MCRO] for the operation.

This assigns the register recalled in step **1** to the fader lever position selected in step **2**.

## To check a macro attachment setting

Hold down the [PRE MCRO] or [POST MCRO] button assigned to a utility/shotbox control block or user preference button. While it is held down, the fader lever position where the macro attachment is set appears in the following places.

- **Transition indicator in the transition execution section:** The indicator lights at the position where the macro attachment is set.
- **Transition rate indication in the transition execution section:** This shows the fader lever position where the macro attachment is set, as a percentage value (fader lever start position as 0%, end position 100%).

## Removing macro attachment settings

### To cancel a macro attachment to a button

Hold down the [PRE MCRO] or [POST MCRO] button assigned to a utility/shotbox control block button or user preference button, and press the background A row button that is flashing. The button for which a macro attachment was set stops flashing and goes off, and the setting is canceled.

### To cancel a macro attachment to a fader lever

Hold down the [PRE MCRO] or [POST MCRO] button assigned to a utility/shotbox control block or user preference button, and press the [LIMIT SET] or [PRIOR SET] button in the control block containing the fader lever having the macro attachment set.

### To delete individual macro attachment settings

You can delete individual settings of a macro attachment assigned to a button.

- 1 In the Macro menu, select VF2 'Attachment.'

The Attachment menu appears.

- 2 In the list, select the relevant data by any of the following methods.

- Press directly on the menu macro register configuration list.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment            | Setting values     |
|------|-----------|-----------------------|--------------------|
| 1    | No        | Number to be selected | 1 to maximum value |

- 3 Press [Delete].

A confirmation message appears.

- 4 To confirm the deletion, select [Yes]. To cancel, select [No].

### To remove all macro attachment settings in a single operation

- 1 In the Macro menu, select VF2 'Attachment.'

- 2 Press [All Clear].

A confirmation message appears.

- 3 Select [Yes].

### Switching between button number mode and pair number mode

When assigning a macro attachment to a cross-point button, you can select the mode as either by button number or by pair number (video and key).

#### Notes

If you change the mode using the following procedure, all macro attachment data relating to cross-point buttons is lost.

- 1 In the Macro menu, select VF2 'Attachment.'

The Attachment menu appears.

- 2 In the <Xpt Attachment Mode> group, select one of the following.

**Button Mode:** Button number mode. Assign an attachment combination of bus and button numbers.

**Pair Mode:** Pair number mode. Assign an attachment combination of bus and pair numbers.

A confirmation message appears.

- 3 To confirm changing the mode, select [Yes]. To cancel, select [No].

#### Notes

- In pair number mode, carry out operations as follows.
  - When a single pair number is assigned to multiple cross-point buttons, pressing any of them executes the macros of all cross-point buttons to which the same pair number is assigned. Further, if you delete any of these assignments, this deletes all assignments to the same pair number.
  - If you assign a pair number to a different cross-point button, the attachment settings are also transferred to the new cross-point button.
- When macro attachment data is loaded to overwrite existing data, this also changes the button number mode or pair number mode setting.

## Displaying the Macro Attachment List

In the Macro >Attachment menu, you can display the macro attachment list to check the macro attachment settings.

The macro attachment list includes the following columns.

- **Block:** Shows the names of control panel blocks.
- **Button:** Shows the names of macro attachment assigned buttons (of up to 30 characters).
- **Reg:** Shows the names of assigned registers.
- **Name:** Shows the names of macro registers.
- **Mode:** Shows the names of macro modes (Pre/Post/Only/--<sup>1)</sup>).

Above the list is shown the names of the block and macro attachment assigned button currently selected in the list.

1) When no macro mode is set

*For details of the macro modes, see "Setting a macro attachment to a button" (page 447).*

*For details of the macro attachment list display, see "About the Macro Attachment List Display" (page 599) in Appendix.*



## Moving quickly within the macro attachment list from one block to another

When you are viewing the macro attachment settings for a block in the macro attachment list, you can move quickly from the current block to another block to check the settings for that block by pressing the following buttons in the <Block Select> group.

- **P/P:** Move to a block in the PGM/PST bank.
- **M/E-1:** Move to a block in the M/E-1 bank.
- **M/E-2:** Move to a block in the M/E-2 bank.
- **M/E-3:** Move to a block in the M/E-3 bank.
- **M/E-4:** Move to a block in the M/E-4 bank.
- **M/E-5:** Move to a block in the M/E-5 bank.
- **Aux:** Move to a section in the auxiliary bus control block.
- **Others:** Move to a block/section in a location other than the PGM/PST bank, M/E-1 to M/E-5 banks, and the auxiliary bus control block.

## Scrolling the list

To scroll the macro attachment list, do one of the following.

- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment                          | Setting values     |
|------|-----------|-------------------------------------|--------------------|
| 1    | No        | Macro attachment settings scrolling | 1 to maximum value |

## Executing a Macro by Macro Attachment

### Notes

To carry out this operation, it is first necessary to assign the “MCRO ATTCH ENBL” function to the user preference buttons in the menu control block or the utility/shotbox control block. Carry out this assignment in the Engineering Setup >Panel >Prefs/Utility menu (*see page 515*).

## Executing a macro assigned to a button

- 1 Press the [MCRO ATTCH ENBL] button assigned to a utility/shotbox control block button or user preference button, turning it on.
- 2 Press the desired button for which a macro attachment has been set.

This recalls the macro register assigned to the button, and the macro is executed as follows, according to the operation mode.

**Pre macro mode:** The macro is executed first, and then the button function is executed.

**Post macro mode:** The button function is executed first, and then the macro is executed.

**Macro only mode:** The button function is not executed, and the macro only is executed.

During macro execution, the button you pressed flashes.

### Notes

- It is not possible to execute more than one macro at a time. Therefore, even if you simultaneously press multiple buttons for which macro attachments are set, only one macro is executed.
- If a button is pressed twice during macro execution or when the macro is stopped, or if another macro is recalled, the following operation (stop or continue) depends on a setting in setup.  
*For details of the settings, see “Setting the Macro Execution Mode” (page 532).*
- Individual events stored in a macro are executed according to the settings in setup. If you change the settings in setup, a saved macro may not have the expected effect.
- During macro execution, if you switch the control panel to macro editing mode, the macro being executed stops.
- During macro editing, pressing a button for which a macro attachment is set does not execute the macro.

## To disable macro attachment settings

Press the [MCRO ATTCH ENBL] button assigned to a utility/shotbox control block button or user preference button, turning it off.

In this state, pressing a button for which a macro attachment is set does not execute the macro.

## Executing a macro assigned to a fader lever

- 1 Press the [MCRO ATTCH ENBL] button assigned to a utility/shotbox control block button or user preference button, turning it on.
- 2 Move the fader lever from the start position to the end position.

When the fader lever passes the position at which the macro attachment is set, the macro register is recalled, and the macro is executed.

### Notes

- Unless you move the fader lever to the end position (completing the travel), it is not possible to execute the macro again.
- When the preset color mix stroke mode is Normal, the first lever operation executes the macro, but the second lever operation does not.

*For details, see “Setting a preset color mix” (page 549).*

- If a button is pressed twice during macro execution or when the macro is stopped, or if another macro is recalled, the following operation (stop or continue) depends on a setting in setup (*see page 532*).
- Individual events stored in a macro are executed according to the settings in setup. If you change the settings in setup, a saved macro may not have the expected effect.
- During macro execution, if you switch the control panel to macro editing mode, the macro being executed stops.
- During macro editing, even if you operate a fader lever with a macro attachment set, the macro is not executed.

**To disable a macro attachment setting**

Press the [MCRO ATTCH ENBL] button assigned to a utility/shotbox control block button or user preference button, turning it off.  
In this state, operating a fader lever with a macro attachment set does not execute the macro.

# Menu Macros

The term “menu macro” refers to the function whereby a sequence of menu operations is saved as data in memory, so that it can be recalled as required to automatically execute the same sequence of operations.  
Using any of the menus in the following table, you can edit menu macro registers and menu macro events.

| Menu   | Function  | Operations  |
|--|---|---|
| Menu Macro Register menu (menu macro register editing) | <ul style="list-style-type: none"><li>• Carry out menu macro register editing.</li><li>• Recall a menu macro register and execute a menu macro.</li></ul> | <ul style="list-style-type: none"><li>• Recalling a register and executing a menu macro</li><li>• Locking a register</li><li>• Copying a register</li><li>• Deleting a register</li><li>• Naming a register</li></ul> |
| Menu Macro Edit menu (editing of menu macro events)    | Edit events in a menu macro register.   | <ul style="list-style-type: none"><li>• Inserting an event</li><li>• Deleting an event</li><li>• Modifying an event</li></ul>   |

## Menu macro registers

The area of memory that holds a menu macro is termed a “menu macro register.” For each control panel there are 99 menu macro registers, numbered 1 to 99. You can manipulate these in the menu macro register menu.

## Menu macro events

The events that can be recorded in a menu macro are operations carried out in a menu.

*For menu operations which are not recorded in menu macros, see “Menu Operations Not Recorded in a Menu Macro” (page 601).*

## Menu macro creation and editing

Carry out menu macro creation and editing in the menu.

## Executing menu macros

You execute a menu macro after recalling a menu macro register.  
You can recall and execute simultaneously. You can also recall and execute a menu macro from a macro recalled on the control panel.

## Recalling a Menu Macro Register and Executing a Menu Macro

Menu macro operation is carried out by recalling a menu macro register.

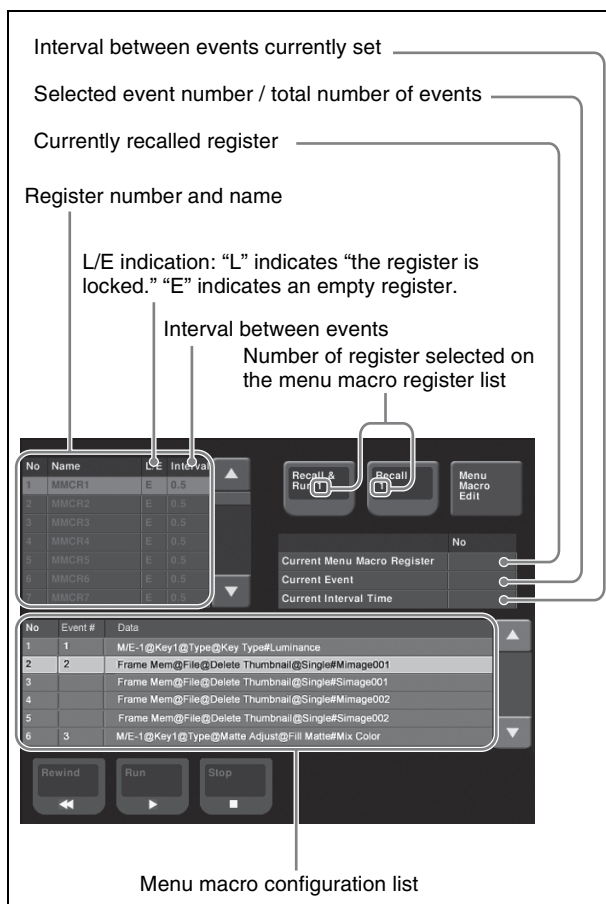
### Notes

- Menu macros and macros recalled with a control panel button operate independently. Therefore, to synchronize these, adjustment of the execution timing is required.
- Events saved in a menu macro are executed according to the settings in setup, and therefore if you change the setup settings, it may not be possible to replay an event.
- When two menu macros are recalled successively, the later coming macro is ignored as far as the first macro is being executed.

### Recalling a menu macro register

- 1 In the Macro menu, select VF3 'Menu Macro Register' and HF1 'Recall & Run.'

The Recall & Run menu appears.



- 2 Using any of the following methods, select the register to be recalled.

- Press directly on the menu macro register list.
- Press the arrow keys on the right list to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter           | Adjustment         | Setting values |
|------|---------------------|--------------------|----------------|
| 1    | Menu Macro Register | Register selection | 1 to 99        |

- 3 Press [Recall & Run x] or [Recall x] (x is the number of the register selected in the menu macro register list).

- To execute the menu macro at the same time as recalling the register, press [Recall & Run x].
- To recall the register only, press [Recall x].

### Executing a menu macro

In the Macro >Menu Macro Register >Recall & Run menu, check that you are not in macro editing mode, then use the following procedure.

- 1 Using any of the following methods, specify the event from which you want to execute.

- Press directly on the menu macro register configuration list.
- Press the arrow keys on the right list to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment         | Setting values     |
|------|-----------|--------------------|--------------------|
| 3    | No        | Select start event | 1 to maximum value |

- 2 Press [Run].

#### To stop execution of a macro

Press [Stop].

#### To move to the start of a menu macro event

Press [Rewind].

### Recalling a menu macro register from a macro register

Menu macro recall and execution operations can be saved as events in a control panel macro, and then recalled.

If with the control panel in macro editing mode you execute a menu macro, then this operation is recorded as an event.

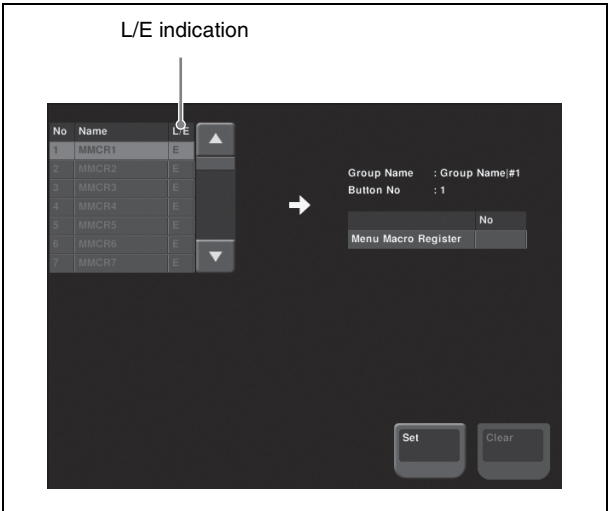
*For details of recalling operations, use the following references, depending on the control panel or menu used.*

- Using the numeric keypad control block and the keyframe control block: *page 438*
- Using menus: *page 445*

Registering a menu macro in the shortcut menu

- 1 In the Home >Favorites >Button Edit menu, select a button to register.
- 2 Press [MenuMacro Set].

The Menu Macro Set menu appears.  
The “L/E” indications have the following meanings.  
**L:** The register is locked.  
**E:** The register is empty.



- 3 In the list on the left, select the button number to be assigned.
- 4 Press [Set].

Executing a menu macro in the shortcut menu

- 1 Select the Home >Favorites >Shortcut menu.  
The following screen appears.



- 2 Press the group name button.
- 3 Press the button to which the menu macro is assigned.

To stop a menu macro during execution  
Press [MenuMacro Stop].

Menu Macro Creation and Editing

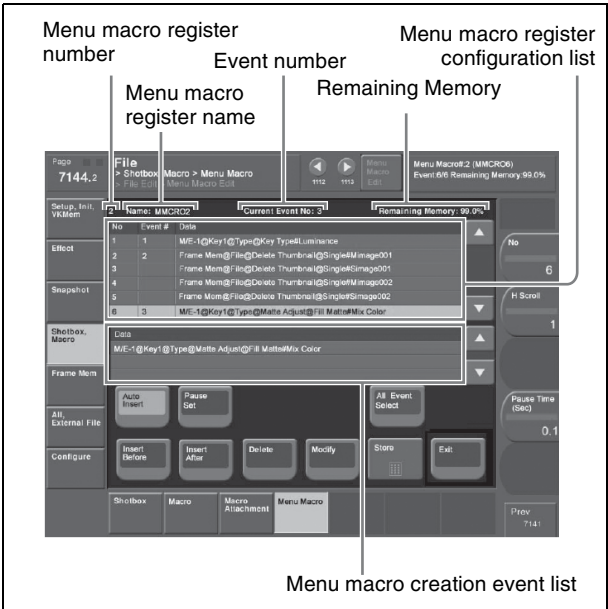
Create or edit menu macro registers.

Notes

It is not possible to execute a menu macro during editing.  
To run the macro, first press [Store] to end editing.

Creating a new menu macro

- 1 In the Macro >Menu Macro Register >Recall & Run menu, select an empty register in the menu macro register list.  
*For details of the method of operation, see “Recalling a menu macro register” (page 453).*
- 2 Press [Menu Macro Edit].  
The menu macro register is recalled, and the system is now in menu macro editing mode.  
The Menu Macro Edit menu appears.



- 3 If required, press [Auto Insert] to switch the auto insert mode on or off.  
In the auto insert mode, when you carry out a menu operation, this is automatically recorded as an event in the menu macro.
- 4 Create an event (carry out the menu operation you want to record as an event in the menu macro).

For details of menus that can be recorded, see page 452.

- When auto insert mode is on, carrying out a menu operation automatically saves the event in a menu macro.
- When auto insert mode is off, skip to step 5.

**5** When auto insert mode is off, press [Insert Before] or [Insert After] to save the event.

**6** Repeat steps 4 and 5, to record the required events in the menu macro.

**7** Turn the knob to input the event execution interval.

| Knob | Parameter           | Adjustment     | Setting values   |
|------|---------------------|----------------|------------------|
| 5    | Interval Time (Sec) | Event interval | 0.0 to 0.5 (sec) |

This value can be set for each menu macro register.

**8** Press [Store].

The numeric keypad window appears.

**9** Enter the menu macro register number as required, and press [Enter].

The menu macro is saved with the specified number. The menu returns to the state in step 1.

### To set a pause duration

During menu macro editing, use the following procedure.

**1** Enter the pause duration by turning the knob.

| Knob | Parameter        | Adjustment     | Setting values    |
|------|------------------|----------------|-------------------|
| 4    | Pause Time (Sec) | Pause duration | 0.1 to 99.9 (sec) |

**2** Press [Pause Set].

- When auto insert mode is on, this sets the pause duration, and inserts the pause event.
- When auto insert mode is off, use the same operations as in step 5 of “Creating a new menu macro” (page 454) to save the event.

### Editing a menu macro

To edit the content of a menu macro, use the following procedure.

**1** In the Macro >Menu Macro Register >Recall & Run menu, select the desired register on the menu macro register list (see page 453).

**2** Press [Menu Macro Edit].

The Menu Macro Edit menu (see previous figure) appears. The menu macro register is recalled, and the system is now in menu macro editing mode.

**3** Select the event you want to edit.

- Press directly on the menu macro register configuration list.
- Press the arrow keys on the right list to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment   | Setting values     |
|------|-----------|--------------|--------------------|
| 1    | No        | Event number | 1 to maximum value |

**4** If required, press [Auto Insert] to switch the auto insert mode on or off.

**5** Carry out the editing.

**When auto insert mode is on:** Edit using menu operation to automatically insert after the selected event.

**When auto insert mode is off:** Perform one of the following.

- To overwrite the selected event, carry out the new menu operation, then press [Modify].
- To insert an event before the selected event, carry out the new menu operation, then press [Insert Before].
- To insert an event after the selected event, carry out the new menu operation, then press [Insert After].

### To delete the selected event

Press [Delete].

To delete all events, select [All Event Select] and press [Delete].

**6** With the same operation as step 7 of “Creating a new menu macro” (page 454), change the event execution interval.

**7** With the same operation as steps 8 and 9 of “Creating a new menu macro” (page 454) save the register.

### Exiting the Menu Macro Edit menu without saving the results of editing

In the Menu Macro Edit menu, press [Exit].

### Scrolling event display using the menu macro listing

**1** Move the cursor to the event you want to display.

**2** Turn the knob.

| Knob | Parameter | Adjustment                                 | Setting values     |
|------|-----------|--|--------------------|
| 2    | H Scroll  | Scroll the characters in the “Data” field. | 1 to maximum value |

About the menu macro editing mode display


If while in menu macro editing mode you switch to another menu, the display is as shown in the following figure.

Screen when the keyframe status is displayed

The keyframe status section appears as follows.

- Menu macro register number
- Menu macro register name
- Current event number / total number of events
- Remaining memory

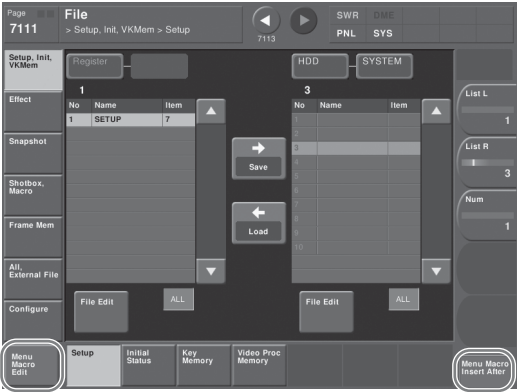
Menu shortcut button to Menu Macro Edit menu



The Previous page button shows one of the following:

- When [Auto Insert] is on, “Menu Macro Auto Insert” appears.
- When [Auto Insert] is off, “Menu Macro Insert After” appears, but operates as [Insert After].

Screen when the keyframe status is not displayed



The Default Recall button shows the following.

Menu shortcut button to Menu Macro Edit menu

The Previous page button shows one of the following:

- When [Auto Insert] is on, “Menu Macro Auto Insert” appears.
- When [Auto Insert] is off, “Menu Macro Insert After” appears, but operates as [Insert After].

Menu Macro Register Editing

You can display the current state of a menu macro register using the Menu Macro Register menu.

The items displayed are the same as under “Effect Status Display” (page 415), with the exception that the region name is not displayed.

In the Menu Macro menu, you can do the following editing operations on menu macro registers.

- **Lock:** Write-protect the contents of the menu macro register.
- **Copy:** Copy the contents of one menu macro register to another menu macro register.
- **Delete:** Delete the contents of a menu macro register.
- **Name:** Attach a name to a menu macro register.

The operations for menu macro register editing are the same as those for effect register editing (see page 415) except the region selection operation, which is not necessary for menu macro register editing.

# Macro Timeline

By recording macro recall and execute action on a timeline, in the same way as for key frames in an effect, you can automatically execute them in a sequence. This timeline is called a “macro timeline,” and one macro timeline can have up to 99 macros being executed simultaneously in parallel.

There are 99 registers in the Macro region that can be recorded on the macro timeline, numbered 1 to 99. These registers are distinct from the registers where individual macros are stored.

## Notes

If you use a macro timeline to superimpose more than one macro, the macros may not be executed according to the timing information registered in the timeline.

## Available key frame functions

The following lists the key frame functions that can be used on the macro timeline.

- RECALL (1 to 99), STORE (1 to 99), RECALL UNDO, STORE UNDO, search for empty register, AUTO SAVE, RECALL MODE (RECALL, RECALL & REWIND)
- EDIT ENABLE, EDIT UNDO
- CONST DUR, EFF DUR, KF DUR, DELAY, PAUSE, INSERT BEFORE, INSERT AFTER, MODIFY, DELETE, COPY, PASTE BEFORE, PASTE AFTER, FROM TO, ALL
- PREV KF, NEXT KF, GOTO TC, GOTO KF, RUN, REWIND, FF, STOP NEXT KF, NORMAL, JOG, KF FADER

The following key frame functions cannot be used

- KF LOOP, EFFECT LOOP, REVERSE, NORMAL/REVERSE
- PATH

## Saving to a register

Set the recall and execute actions for the macros to be registered in the timeline, using the Macro Timeline menu (see page 453). The setting data can be saved in a register as key frame data. You can manipulate this data by recalling the register in which it is saved, and using the key frame control block.

## Notes

An action set for a key frame is only executed when the key frame effect is executed in the forward direction. It is important to remember that the action is not executed in the reverse direction when executing simultaneously with switcher and DME key frame effects.

## Forcibly ending a macro timeline

- If the timeline has completed but a macro is still executing, press the [REWIND] or [RUN] button in the key frame control block to forcibly end the macro timeline.
- In a macro timeline, since a take operation is not possible, if a macro included in the timeline has a pause event with a pause time of zero, the remainder of the timeline after the pause is ignored, and the macro timeline ends at that point.

## Register editing functions

You can use the following editing functions on a register in which a macro timeline is stored.

- Copy
- Move
- Swap
- Merge
- Lock
- Name
- Delete

## File-related functions

You can save and recall a created macro timeline as effect data, in the File menu.

Timeline operations are carried out on a macro timeline in the same way as for normal effects.

*For details of timeline operations, see “Keyframe Effects” (page 386).*

## Notes

When using a macro timeline, note the following.

- To use a macro timeline, the Macro region must be assigned to a region selection button in the numeric keypad control block.  
*For details of region assignment operations, see “Assigning a Region to a Region Selection Button in the Numeric Keypad Control Block” (page 500).*
- On a macro timeline, only macro recall and execution actions are stored. The data for a macro to be recalled on the macro timeline is not held on the timeline. It is necessary to create the macro data first.
- A macro timeline can be saved and recalled on the master timeline or a shotbox register, but cannot be saved as a snapshot.

## Creating and Editing a Macro Timeline

This section describes how to set actions, and add keyframe points. Note that path settings are not needed on the macro timeline.

For details of keyframe operations, see “Creating and Editing Keyframes” (page 399).

### Saving a keyframe

For the operations, use the Macro Timeline menu and the [INS] button in the keyframe control block.

- 1 Press the [EDIT ENBL] button, turning it on.

This enables timeline editing in the keyframe control block.

- 2 In the Macro menu, select VF4 ‘Timeline’ and HF1 ‘Timeline.’

The Macro Timeline menu appears.

- 3 Select one of the actions (Recall, Take, Take All, No Action) that appear on the right.

When you have selected Recall or Take, turn the knob to select the number of the macro register.

| Knob | Parameter | Adjustment                  | Setting values |
|------|-----------|-----------------------------|----------------|
| 3    | Reg No    | Selection of macro register | 1 to 250       |

- 4 Press [Set].

The selected action appears in the Action column on the left.

- 5 Press the [INS] button in the keyframe control block.

This creates the keyframe 1 on the macro timeline.

### To set the action for a rewind operation

On the macro timeline, when the [REWIND] button in the keyframe control block is pressed the action set for the first keyframe is not executed; when the [RUN] button is pressed, then the first keyframe action is executed.

To execute an action when the [REWIND] button is pressed, it is necessary to set this action (Rewind Action).

To carry out this setting, in the Macro >Timeline >Timeline menu, press [Rewind Action] to recall the Rewind Action menu. In this setting screen, use the same setting method as in the screen for setting an action on the macro timeline.

Alternatively, you can select the reverse arrangement, whereby when the

[REWIND] button is pressed, this executes the action set for the first keyframe, and when the [RUN] button is pressed the first keyframe action is not executed. In this case, the Rewind Action setting is still valid.

For details of the setting, see “Setting the First Keyframe When a Rewind is Executed” (page 529).



## Overview of File Operations

You can save register data, including setup information and snapshot information, as a file on a hard disk or memory card, and recall it as required.

You can operate on individual files or registers, or together in a batch.

Regarding frame memory, it is possible to capture image data stored in an external device into frame memory. You can also convert the format of image data in frame memory into a different format and save it in an external device.

### Files that can be manipulated

The following files can be saved and recalled.

- Operation mode setup data for system as a whole and individual devices
- Device status data for system startup
- Key memory setting data
- Video process memory setting data
- Keyframe effect setting data
- Snapshot setting data
- Wipe snapshot setting data
- DME wipe snapshot setting data
- Key snapshot setting data
- Shotbox setting data
- Macro setting data
- Macro attachment data
- Menu macro setting data
- Frame memory image data
- List of files automatically created in a frame memory file backup to DDR/VTR (single data set)
- User setup setting data
- User source name setting data

### File operations

You can carry out the following file operations.

#### When operating on individual files or registers

**Save:** Save the data in a register to the hard disk or memory card.

**Load:** Load a file from the hard disk or memory card.

**Copy:** Copy a file within a directory or from one directory to another. When a remote panel is used, this function applies to it, too.

**Rename:** Rename a file on the hard disk or memory card.

**Delete:** Delete a file from the hard disk or memory card.

#### When operating on files or registers in a batch

The Save, Load, Copy and Delete operations are performable.

#### Notes on transferring multiple frame memory files together to a memory card

- Transferring all of the files within frame memory together fails if the capacity of the memory card is too small to hold all of the images. In this case, replace with a larger capacity memory card, or delete files until saving is possible.

The following table roughly shows the relation between memory card capacity and number of files that can be saved.

| Memory card capacity | Number of files that can be saved |                         |
|----------------------|-----------------------------------|-------------------------|
|                      | SD system                         | HD system (except 720P) |
| 256 MB               | 214                               | 46                      |

Note that when transferring to the hard disk, there is ample capacity, so that problems such as this do not occur.

- If you cancel the operation during a data transfer between frame memory and hard disk or memory card, then any image which was not completely transferred will not be reproducible. Avoid canceling such operations.
- When loading a file from hard disk or memory card, if [Freeze Enable] in the Freeze menu is on, the loaded file may sometimes be overwritten by the frame memory input image.

To avoid this when loading a file, ensure that [Freeze Enable] is turned off.

## Importing or exporting files to or from frame memory

**Import:** Import a file in a different format from hard disk or memory card into frame memory after changing its format.

**Export:** Export a file in a register to hard disk or memory card after changing its format.

You can import the following files.

| File type  | Format                              | File name  | Notes  |
|------------|-------------------------------------|--|--|
| TIFF file  | RGB uncompressed format             | Maximum eight characters, plus extension .tif required | <ul style="list-style-type: none"> <li>Layers cannot be used.</li> <li>If an alpha channel is present, two files are created as a pair.</li> </ul> |
| BMP file   | Windows <sup>a)</sup> 24-bit format | Maximum eight characters, plus extension .bmp required | —  |
| TARGA file | RGB uncompressed/compressed format  | Maximum eight characters, plus extension .tga required | <ul style="list-style-type: none"> <li>Layers cannot be used.</li> <li>If an alpha channel is present, two files are created as a pair.</li> </ul> |
| PNG file   | RGB compressed format               | Maximum eight characters, plus extension .png required | <ul style="list-style-type: none"> <li>Layers cannot be used.</li> <li>If an alpha channel is present, two files are created as a pair.</li> </ul> |

a) Windows is a registered trademark or trademark of Microsoft Corporation in the United States and/or other countries.

### Notes

This functionality has been tested and confirmed to work with TIFF files created by Photoshop, but it may not be possible to use TIFF files created with some other software (Photoshop is a trademark of Adobe Systems Incorporated).

## About import image size

Pay attention to the following, depending on the signal format which you use.

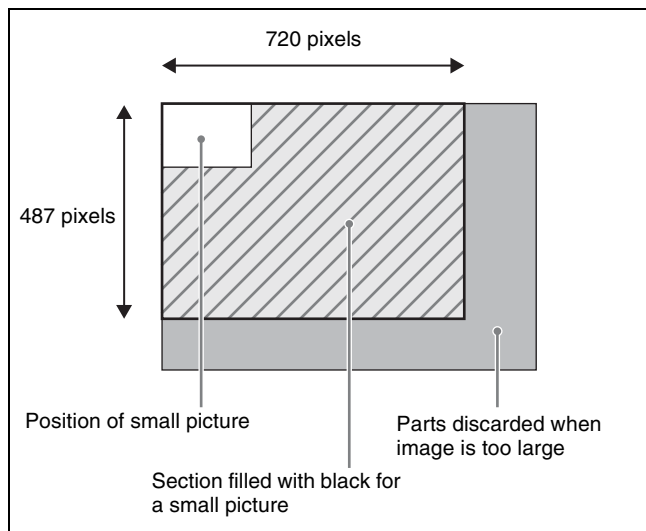
### SDTV (480i)

Images 720 × 487 pixels in size are exactly the size which fills the full screen.

The following figure shows how an import image is processed when the 480i/59.94 format is used.

Images are placed with the upper left of the screen as the origin.

When an image is smaller than the screen, the remainder of the screen is filled with black. When it is larger, parts which extend beyond the screen are discarded.



No pixel ratio conversion is performed when images are imported for the SDTV format.

When the signal format is 480i/59.94, if you create an image with a size of 720 × 540 on a computer and then import it just as it is, the image will be too tall. To maintain the shape of the image, first create it as a 720 × 540 image and then use computer software tools to compress the vertical dimension to 487 pixels before importing it.

### HDTV (1080i)

Images of 1920 × 1080 pixels in size are exactly the size which fills the full screen.

Like SDTV, images are placed with the upper left of the screen as the origin.

When an image is smaller or larger than the screen, processing is the same as for SDTV.

Since the pixel ratio of the HDTV format is 1:1, files created on computers are imported in their original shapes. The following table shows the image sizes which exactly fill the full screen for the various signal formats.

| Signal format         | Image size (H × V) |
|-----------------------|--------------------|
| 480i/59.94            | 720 × 487          |
| 576i/50               | 720 × 576          |
| 1080i/50              | 1920 × 1080        |
| 1080i/59.94           |                    |
| 1080PsF/23.976        |                    |
| 1080PsF/24            |                    |
| 1080PsF/25            |                    |
| 1080PsF/29.97         |                    |
| 1080P/50, 1080P/59.94 |                    |

| Signal format | Image size (H × V) |
|---------------|--------------------|
| 720P/50       | 1280 × 720         |
| 720P/59.94    |                    |

## Importing 720P and 1080P movie material

- To import movie material in 720P or 1080P format, it is necessary to treat each frame as a separate image file.
- For 1080P format, the individual files must have numbers which start from an even number (E.g.: consecutive numbers from 0000).

## Directory operations

You can create a new directory within a hard disk or memory card, and carry out other operations, such as renaming and deleting (*see page 472*).

## File copying between different unit IDs

Switcher and DME files within the hard disk or memory card are managed by unit ID.

To copy files between different unit IDs, use the Unit ID Copy menu (*see page 473*).

## Saving data recalled by autoload

At power on, you can automatically recall data previously stored on the hard disk (Autoload function).

The following data can be loaded by the autoload function.

- Keyframe effect setting data
- Snapshot setting data
- Wipe snapshot setting data
- DME wipe snapshot setting data
- Key snapshot setting data
- Shotbox setting data
- Macro setting data
- Macro attachment data
- Frame memory image data

To use the autoload function, the data required must first be saved (*see page 483*).

*For details of saving operations, see “Setting Automatic Loading of Register Data at Power On (Autoload Function)” (page 484).*

## Locking file recall operations

For each of the following categories, in setup you can apply a lock on recalling files (*see page 493*).

Setup, Initial Status, Key Memory, Video Proc Memory, Effect, Snapshot, Wipe Snapshot, DME Snapshot, Key Snapshot, Shotbox, Macro, Macro Attachment, Menu Macro, User Setup

A locked file cannot be downloaded from the File menu.

# Operations on Individual Files

You can save or load the contents of an individual file or register. Carry out these operations in the File menu.

## Displaying the Individual File Operation Menus

- 1

In the menu control block, press the top menu selection button [FILE].
- 2

Depending on the type of file to be manipulated, select the following VF and HF button combination.

| Button | HF1          | HF2                          | HF3                          | HF4                          | HF5                   | HF6                     | HF7                     |
|--------|--------------|------------------------------|------------------------------|------------------------------|-----------------------|-------------------------|-------------------------|
| VF1    | Setup        | Initial Status               | Key Memory                   | Video Proc Memory            | User Setup            | Export User Source Name | Import User Source Name |
| VF2    | Effect 1-99  | User DME Wipe Effect 101-199 | User DME Wipe Effect 201-299 | User DME Wipe Effect 301-399 | DEV/PBUS Effect 1-250 | —                       | —                       |
| VF3    | Snapshot     | Wipe Snapshot                | DME Snapshot                 | Key Snapshot                 | —                     | —                       | —                       |
| VF4    | Shotbox      | Macro                        | Macro Attachment             | Menu Macro                   | —                     | —                       | —                       |
| VF5    | Frame Memory | Frame Memory Folder          | File Name Data               | —                            | —                     | —                       | —                       |
| VF6    | All          | Import/Export                | —                            | —                            | —                     | —                       | —                       |
| VF7    | Directory    | Unit ID Copy                 | Group ID Copy                | —                            | —                     | —                       | —                       |

The following description refers to the example of carrying out operations on snapshot files, but the procedure is similar in the other menus.

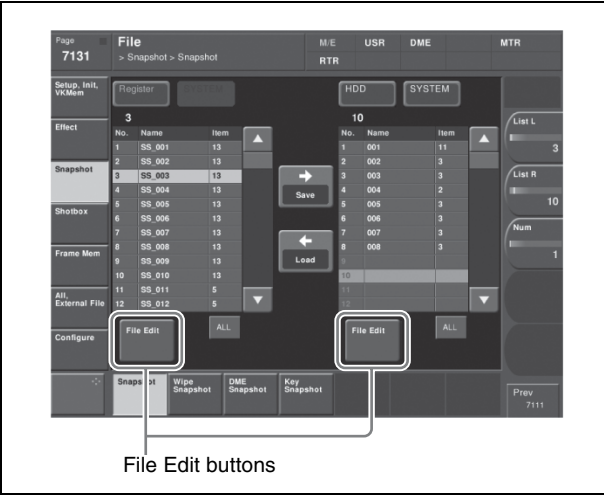
## Viewing Detailed File Information

As an example, to view detailed snapshot file information, carry out the following procedure.

- 1

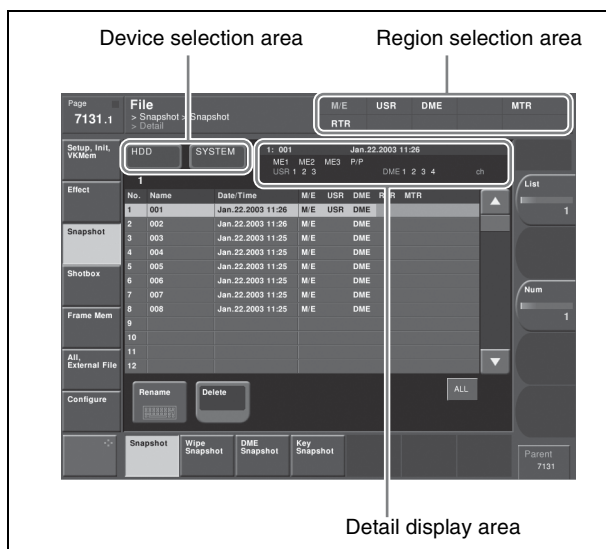
In the File menu, select VF3 ‘Snapshot’ and HF1 ‘Snapshot.’
- The Snapshot menu appears.

The status area shows the device status, and a list of files present on the device.



- 2

Press [File Edit].
- The file details appear (reference region file name, creation date, regions including data) in table form.



Selecting a particular file displays more detailed information about that file in the detail display area at the top right of the file list.

In the Frame Memory menu, the following items are also shown.

**Pair:** In the case of a pair file, “P” is shown.

**Ext:** In the case of an extended clip file, “Ext” is shown.

## Selecting Regions

You can carry out a file operation on a number of regions simultaneously. However, a region selection is not required for the following files.

- Key memory
- Video process memory
- Shotbox
- Macro
- Macro attachment
- Frame memory
- Setup
- Initial status
- User Setup
- User source name

In the above list, for frame memory in Dual Simul mode you can select the switcher to be used for the operation in a way similar to the region selection. For setup and initial status, you can similarly separate the files to be operated on by device.

### To make a region selection

- 1 Press the region selection area at the top right of the screen (see page 463).

The region selection window appears.

- 2 Press the region names you do not want to select, turning them off.

- 3 Press [OK].

## Selecting a Device for Operations

To carry out file operations, you need to specify the device holding the data (or file), as one of the following: register, hard disk, memory card, and so on. You can then further select a directory.

If you have enabled NFS (Network File System) in setup, you can add “Network” to the device for operations.

If you specify “Network,” you can access System Manager through the network for file saving and loading.

For details of the NFS settings, see “Making the Network Settings” (page 476).

### Notes

- Files saved on the hard disk may be lost if the hard disk fails. Always keep separate backup copies of important files on a memory card.
- Format a memory card before using it for the first time (see page 492).

As an example, to select a memory card, use the following procedure.

- 1 In the File menu, press the device selection indication above the file list (default is [HDD] (hard disk)). If [Memory Card] appears, then since the memory card is already selected, steps 1 and 2 are not necessary.

A pull-down menu appears.

- 2 Press [Memory Card].

A list of directories on the memory card appears (Maximum 40 per page).

The maximum number of directories is 120 on a memory card and NFS, or 200 on an internal hard disk.

- 3 As required, press the ◀ or ▶ button, to switch directory pages.

- 4 Press the name of the directory you want to use.

This selects the specified directory on the memory card to be manipulated.

## Saving Files

As an example, to save snapshot register data to hard disk or memory card, use the following procedure.

## Notes

For key snapshots, snapshots, and effects, you cannot perform the following operation when [Src Patch Link] is lit on the menu screen (*see page 588*).

- 1 In the File menu, select VF3 'Snapshot' and HF1 'Snapshot.'
- 2 In the device selection area on the left, select [Register].
- 3 In the device selection area on the right, select [HDD] or [Memory Card], then select a directory.  
*See "Selecting a Device for Operations" (page 463).*
- 4 Using either of the following methods, select the data to be saved, and the file in which to save it.
  - To select all files within the list, press [ALL] below the list.
  - To select multiple files, turn the knobs to select in the following ranges.

| Knob | Parameter | Adjustment  | Setting values |
|------|-----------|---|----------------|
| 1    | List L    | Select the first register whose data is to be saved | 1 to 99        |
| 2    | List R    | Select the first file to which data is to be saved  | 1 to 99        |
| 3    | Num       | Number of registers to be selected                  | 1 to 99        |

- To select a single file, press the arrow keys to scroll the reverse video cursor, or press directly on the list in the status area.

- 5 Press [→ Save].

This saves the selected register data in the specified location.

If there is already data in the specified location, a confirmation message appears.

- Select "Yes" to overwrite the data.
- Select "No" to cancel saving all of the data.

## Saving frame memory files

### Notes

When the signal format is 1080P, saving a still image file creates two still image files for each frame. An 'A' is automatically appended to the first file name, and a 'B' is appended to the second file name. If either of these files is missing, it is not possible to recreate the image, and

therefore for correct operation the two files must always be handled together.

Between steps **3** and **4** of the procedure above, "Saving Files," do as follows.

- 1 To select the frame memory folder, press [Default] in the device selection in the list on the left.  
A pull-down menu appears.
- 2 Press the required folder name.
- 3 Carry out the same operations as in steps **1** and **2** on the list on the right.
- 4 Select the type of data to be displayed.
  - To display still image files, press [Still].
  - To display clip files, press [Clip].
  - To display extended clip files, press [Ext Clip].
  - To display all types of file, press [All].

## Loading Files

As an example, to load a snapshot file from hard disk or memory card to a register, use the following procedure.

- 1 In the File menu, select VF3 'Snapshot' and HF1 'Snapshot.'
- 2 In the device selection area on the left, select [Register].
- 3 In the device selection area on the right, select where the file is held ([HDD] or [Memory Card]), and then specify a directory.  
*See "Selecting a Device for Operations" (page 463).*
- 4 Using any of the following methods, select the register to which you want to load, and the file to be loaded.
  - To select all files within the list, press [ALL] below the list.
  - To select multiple files, turn the knobs to select in the following ranges.

| Knob | Parameter | Adjustment  | Setting values |
|------|-----------|---|----------------|
| 1    | List L    | Select the first register into which the data is to be loaded | 1 to 99        |
| 2    | List R    | Select the first file in which data is held                   | 1 to 99        |
| 3    | Num       | Number to be selected   | 1 to 99        |

- To select a single file, press the arrow keys to scroll the reverse video cursor, or press directly on the list in the status area.

## 5 Press [← Load].

This loads the contents of the selected file from the specified location (setup data is loaded first).

## Loading frame memory files

Between steps **3** and **4** of the procedure above, “Loading Files,” do as follows.

### Notes

- When the signal format is 1080P, extended clip files cannot be recalled.
- In a still image file saved in 1080P signal format, there are two still image files for each frame. If either of these two files is missing, it is not possible to recreate the image, and therefore for correct operation the two files must always be recalled together.

## 1 To select the frame memory folder, press [Default] in the device selection in the list on the left.

A pull-down menu appears.

## 2 Press the required folder name.

## 3 Carry out the same operations as in steps **1** and **2** on the list on the right.

## 4 Select the type of data to be displayed.

- To display still image files, press [Still].
- To display clip files, press [Clip].
- To display extended clip files, press [Ext Clip].
- To display all types of file, press [All].

## Copying Files

You can copy files either within a directory or between directories, on the hard disk, or memory card.

As an example, to copy a snapshot file from memory card to hard disk, use the following procedure.

## 1 In the File menu, select VF3 ‘Snapshot’ and HF1 ‘Snapshot.’

## 2 In the device selection area on the left, specify the location of the file to be copied (in this case [Memory Card] and a directory) (see page 463).

## 3 In the device selection area on the right, select the destination of the copied file (in this case [HDD] and a directory).

## 4 Using any of the following methods, select the source and destination files.

- To select all files within the list, press [ALL] below the list.
- To select multiple files, turn the knobs to select in the following ranges.

| Knob | Parameter | Adjustment                        | Setting values |
|------|-----------|-----------------------------------|----------------|
| 1    | List L    | Select the first copy source file | 1 to 99        |
| 2    | List R    | Select the first destination file | 1 to 99        |
| 3    | Num       | Number to be selected             | 1 to 99        |

- To select a single file, press the arrow keys to scroll the reverse video cursor, or press directly on the list in the status area.

## 5 Press [→ Copy].

This copies the selected file or files to the specified destination.

If there is already data in the specified location, a confirmation message appears.

- Select “Yes” to overwrite the data.
- Select “No” to cancel copying all of the files.

## Copying frame memory files

Between steps **3** and **4** of the procedure above, “Copying Files,” do as follows.

### Notes

In a still image file saved in 1080P signal format, there are two still image files for each frame. If either of these two files is missing, it is not possible to recreate the image, and therefore for correct operation the two files must always be copied together.

## 1 To select the frame memory folder, press [Default] in the device selection in the list on the left.

A pull-down menu appears.

## 2 Press the required folder name.

## 3 Carry out the same operations as in steps **1** and **2** on the list on the right.

## 4 Select the type of data to be displayed.

- To display still image files, press [Still].
- To display clip files, press [Clip].
- To display extended clip files, press [Ext Clip].
- To display all types of file, press [All].

## Renaming Files

You can rename a file on the hard disk or memory card and a register. As an example, to rename a snapshot file, use the following procedure.

- 1 In the File menu, select VF3 'Snapshot' and HF1 'Snapshot.'

The Snapshot menu appears. The status area shows the device status, and a list of files present on the device.

- 2 Press [File Edit].

A detailed list appears. Here too, you can select a device or specify a directory (*see page 463*).

- 3 Using any of the following methods, select the file you want to rename.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment     | Setting values |
|------|-----------|----------------|----------------|
| 1    | List      | File selection | 1 to 99        |

- 4 Press [Rename].

The keyboard window appears.

- 5 Enter a name of not more than eight characters, and press [Enter].

The name you have entered is reflected in the status area.

### Notes

- Within the switcher, the names for Initial Status and Setup data are fixed.  
You can change the file names on the hard disk or memory card, but the next time they are reloaded they will revert to the default names.
- The following names cannot be used.  
CON, PRN, AUX, CLOCK\$, NUL, COM0, COM1, COM2, COM3, COM4, COM5, COM6, COM7, COM8, COM9, LPT0, LPT1, LPT2, LPT3, LPT4, LPT5, LPT6, LPT7, LPT8, LPT9

## Renaming frame memory files

### Notes

- In a still image file saved in 1080P signal format, there are two still image files for each frame. When a register is selected for the operation, if you change one of the file

names, the other file name of the pair also changes automatically.

- When a device other than a register is selected for the operation, if you change one file name, the other file name of the pair does not automatically change. Except for the final 'A' or 'B' in the file name, you must manually keep the names matching.

E.g.: img111A and img111B (file names must have the underscored parts the same)

- 1 In the File menu, select VF5 'Frame Mem' and HF1 'Frame Memory.'

The Frame Memory menu appears. The status area shows the device status, and a list of files present on the device.

- 2 Press [File Edit].

- 3 Select the type of data to be displayed.

- To display still image files, press [Still].
- To display clip files, press [Clip].
- To display extended clip files, press [Ext Clip].
- To display all types of file, press [All].

- 4 Using any of the following methods, select the file you want to rename.

If you selected [Clip] or [Ext Clip] in step 3, you cannot select multiple files.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knobs.

| Knob | Parameter | Adjustment                       | Setting values     |
|------|-----------|----------------------------------|--------------------|
| 1    | List L    | File selection in the left list  | 1 to maximum value |
| 2    | List R    | File selection in the right list | 1 to maximum value |
| 3    | Num       | Number to be selected            | 1 to maximum value |

- 5 Press [Rename].

The keyboard window appears.

- 6 Depending on the selections of steps 3 and 4, enter a name as follows and press [Enter].

- When you selected a single file with [Still] or [All]:  
Enter a name of not more than eight characters.
- When you selected more than one file with [Still] or [All]:  
Enter a name of not more than four characters.
- When you selected a clip file or an extended clip file:  
Enter a name of not more than four characters.

The name you have entered is reflected in the status area.



**Notes**

- If you select [Register] in the operation device selection block, then with [Still] or [All] select multiple files and change a file name, these still images are converted to a clip.
- It is not possible to simultaneously select a file for which the Ext field in the status area is empty and a file for which the Ext field shows “Ext” to change the name.
- When the signal format is 1080P, a still image file name must be a maximum of seven characters.

## Deleting Files

You can delete data from the hard disk or memory card and snapshot or effect data from a register. As an example, to delete a snapshot file, use the following procedure.

- 1 In the File menu, select VF3 ‘Snapshot’ and HF1 ‘Snapshot.’

The Snapshot menu appears. The status area shows the device status, and a list of files present on the device.

- 2 Press [File Edit].

A detailed list appears. Here too, you can select a device or specify a directory (*see page 463*).

- 3 Using any of the following methods, select the file you want to delete.

- To select all files within the list, press [All] below the list.
- To select multiple files, turn the knobs to select in the following ranges.

| Knob | Parameter | Adjustment            | Setting values |
|------|-----------|-----------------------|----------------|
| 1    | List      | Select the first file | 1 to 99        |
| 3    | Num       | Number to be selected | 1 to 99        |

- To select a single file, press the arrow keys to scroll the reverse video cursor, or press directly on the list in the status area.

- 4 Press [Delete].

A confirmation message appears.

- Select “Yes” to delete.
- Select “No” to cancel the deletion.

## Deleting frame memory files

Between steps **2** and **3** of the procedure above, “Deleting Files,” do as follows.

**Notes**

- In a still image file saved in the 1080P signal format, there are two still image files for each frame. When a register is selected for the operation, if you delete one still image file, the other file of the pair is automatically deleted.
- When a device other than a register is selected for the operation, if you delete one still image file, the other file of the pair is not automatically deleted. You must manually delete both files.

- 1 To select the frame memory folder, press [Default] in the device selection in the list.

A pull-down menu appears.

- 2 Press the required folder name.

- 3 Select the type of data to be displayed.

- To display still image files, press [Still].
- To display clip files, press [Clip].
- To display extended clip files, press [Ext Clip].
- To display all types of file, press [All].

## Converting Between Frame Memory Clips and Extended Clips

**Notes**

When the signal format is 1080P, this operation is not possible.

- 1 In the File menu, select VF5 ‘Frame Mem’ and HF1 ‘Frame Memory.’

The Frame Memory menu appears. The status area shows the device status and a list of files on the device.

- 2 Press [File Edit].

- 3 In the device selection section of the list, select where the file is held ([HDD] or [Memory Card]), and specify the directory, and frame memory folder.

- 4 Press either of the following at the top of the list, to select the type of data displayed.

- To display clip files, press [Clip].
- To display extended clip files, press [Ext Clip].

- 5 Using any of the following methods, select the files you want to convert.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.

- Turn the knobs.

| Knob | Parameter | Adjustment                       | Setting values     |
|------|-----------|----------------------------------|--------------------|
| 1    | List L    | File selection in the left list  | 1 to maximum value |
| 2    | List R    | File selection in the right list | 1 to maximum value |
| 3    | Num       | Number of files selected         | 1 to maximum value |

## 6 Carry out either of the following.

- To convert clips to extended clips, press [Clip -> Ext Clip].
- To convert extended clips to clips, press [Ext Clip ->Clip].

## Creating a frame memory folder on the device (HDD or Memory Card)

### 1 In the File menu, press VF5 'Frame Mem' and HF2 'Frame Memory Folder.'

The Frame Memory Folder menu appears. The status area shows the device status, and a list of files present on the device.

### 2 In the pull-down menu of the device selection section, select [HDD] or [Memory Card], and then specify the directory.

### 3 Press [New].

A keyboard window appears.

### 4 Enter a name of up to eight characters, and press [Enter].

The name entered appears in the status area as a frame memory folder.

#### Notes

- The following names cannot be used.  
Default, Flash1, Flash2  
CON, PRN, AUX, CLOCK\$, NUL, COM0, COM1, COM2, COM3, COM4, COM5, COM6, COM7, COM8, COM9, LPT0, LPT1, LPT2, LPT3, LPT4, LPT5, LPT6, LPT7, LPT8, LPT9
- It is not possible to create 12 or more directories in the frame memory folder.

## To rename a frame memory folder

### 1 Using any of the following methods, select the folder.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.

- Turn the knobs.

| Knob | Parameter | Adjustment       | Setting values     |
|------|-----------|------------------|--------------------|
| 1    | List L    | Folder selection | 1 to maximum value |

## 2 Press [Rename].

A keyboard window appears.

## 3 Enter a name of up to eight characters, and press [Enter].

The name entered appears in the status area as a frame memory folder.

## To delete a frame memory folder

### 1 With the same operations as in step 1 of the procedure "To rename a frame memory folder," select the folder.

### 2 Press [Delete].

A confirmation message appears; select "Yes" to carry out the deletion.

## Saving the List of Frame Memory Files to Hard Disk or Memory Card

If you save all files currently held in frame memory as a single backup data set, by high-speed recording on video tape or other medium, a file of file list data is created that is needed for successful frame memory file restore operation. It is necessary to save this file in a hard disk or memory card.

### 1 In the File menu, select VF5 'Frame Memory' and HF3 'File Name Data.'

### 2 In the operating device selection section on the left or right, select [Register].

The register name "FM\_Bkup" appears. In the device selection section on the opposite side, the destination for saving automatically appears.

### 3 As the destination for saving select [HDD] or [Memory Card], then specify the directory.

### 4 Select the destination file for saving.

### 5

- To save to disk, press 'Save.'
- To load from disk, press 'Load.'

## To view details of files

Press 'File Edit.'

A list of the saved file names appears. You can manipulate these files like any other files.

# File Batch Operations

You can batch process all files or registers. Carry out these operations using the File >All, External File >All menu.

## Displaying the Batch Operation Menu

- 1 Press the top menu selection button [FILE].
  - 2 Select VF6 'All, External File' and HF1 'All.'
- The All menu appears.

## Batch Saving Files

To save the data of all registers to hard disk or memory card, use the following procedure.

### Notes

- Files saved on the hard disk may be lost if the hard disk fails. Always keep separate backup copies of important files on a memory card.
- Format a memory card before using it for the first time (*see page 492*).
- You cannot perform the following operation when [Src Patch Link] is lit on the menu screen (*see page 588*).

- 1 In the device selection area of the All menu, select the destination for saving the files ([HDD] or [Memory Card] and directory) (*see page 463*).
- 2 If there are registers you do not want to save, in the <Category> group, exclude them from the operation. To select all registers, press [All Select].

*For details of the data to which operations apply, see "Files that can be manipulated" (page 459).*

### Notes

The frame memory is not selected when you press [All Select]. To apply the setting to frame memory, press [Frame Memory], turning it on. When frame memory is selected, it is not possible to apply settings to the <Category> group data.

- 3 Press [→ Save].

A confirmation message appears.

- Select "Yes" to carry out the batch save.
- Select "No" to cancel the batch save.

## Batch Loading Files

To load files from hard disk or memory card, use the following procedure.

### Notes

It is not possible to recall a file from a category for which recall operations are locked (*see page 493*).

- 1 In the device selection area of the All menu, select where the files are held ([HDD] or [Memory Card] and directory) (*see page 463*).
- 2 If there are files you do not want to load, in the <Category> group, exclude them from the operation. To select all files, press [All Select].

*For details of the data to which operations apply, see "Files that can be manipulated" (page 459).*

### Notes

- The frame memory is not selected when you press [All Select]. To apply the setting to frame memory, press [Frame Memory], turning it on. When frame memory is selected, it is not possible to apply settings to the <Category> group data.
- You cannot select [User Setup] when [Src Patch Link] is lit on the menu screen (*see page 588*).

- 3 Press [← Load].

A confirmation message appears.

- Select "Yes" to carry out the batch load (setup data is loaded first).
- Select "No" to cancel the batch load.

## To execute the load after clearing the data in the destination regions

Before pressing [← Load], press [CLR Before Load], turning it on.

The following categories of data can be cleared before execution of the load.

Effect, Snapshot, Wipe Snapshot, DME Wipe Snapshot, Key Snapshot, Shotbox, and Macro

### Notes

When frame memory is selected for the setting, the data is always deleted before recalling.

## Batch Copying Files

To copy files between the hard disk and a memory card, use the following procedure.

- 1 In the operating device selection section to the left of the All menu, select the storage location ([HDD] or [Memory Card] and directory) of the source files (see page 463).
- 2 In the operating device selection section to the right of the All menu, select the destination storage location ([HDD] or [Memory Card] and directory) (see page 463).
- 3 If there are files you do not want to copy, remove them from the selection in the <Category> group. To select all files, press [All Select].

*For details of the data to which the operation applies, see “Files that can be manipulated” (page 459).*

#### Notes

The frame memory is not selected when you press [All Select]. To apply the setting to frame memory, press [Frame Memory], turning it on. When frame memory is selected, it is not possible to apply settings to the <Category> group data.

- 4 Press [→ Copy].

This copies the selected files to the specified destination.

If there is already data present in the destination location, a confirmation message appears.

- Select “Yes” to overwrite.
- Select “No” to cancel copying all of the files.

## Importing and Exporting Files

You can import or export frame memory image data from or to external media.

**Import:** to transfer a file in a different format from hard disk or memory card to frame memory as image data.

**Export:** to change the file format of register data and save the data on hard disk or memory card.

To carry out these operations, use the File >All, External File >Import/Export menu.

*For details of the formats supported for import and export, see “Importing or exporting files to or from frame memory” (page 460).*

#### Notes

When the signal format is 1080P, exporting is not possible.

## Displaying the Import/Export Menu

In the File menu, select VF6 ‘All, External File’ and HF2 ‘Import/Export.’

The list on the left shows the frame memory registers, and the list on the right shows the content of the external recording media.

## Importing Frame Memory Data

As an example, to import data in a bitmap format from a memory card to a frame memory register, use the following procedure.

#### Notes

When the signal format is 1080P, importing as an extended clip file is not possible.

*About the points you should take note of when importing data, see “About import image size” (page 460).*

- 1 In the Import/Export menu, press the file format selection area at the top of the screen to select [Frame Memory (.BMP)].

Files of the selected type are shown in the list on the right.

- 2 Press one of the buttons at the top left to select the type of data to display.

- To display still image files, press [Still].

- To display clip files, press [Clip].
- To display extended clip files, press [Ext Clip]

All of the selected type of frame memory data appears in the list on the left.

- 3 In the folder selection area on the left, select the frame memory folder to which you want to import the file.
- 4 Press the device selection area on the right to select [Memory Card].
- 5 Select the directory to hold the imported files.

#### Notes

Files on a memory card to be imported must always be in a directory immediately below root.

- 6 Using any of the following methods, select the file you want to import.
  - Press directly on the list in the status area.
  - Press the arrow keys to scroll the reverse video cursor.
  - Turn the knob.

| Knob | Parameter | Adjustment     | Setting values     |
|------|-----------|----------------|--------------------|
| 4    | List R    | File selection | 1 to maximum value |

- 7 Press [← Import].

## Exporting Frame Memory Data

As an example, to save image data from frame memory in a bitmap format on a memory card, use the following procedure.

- 1 In the Import/Export menu, press the file format selection area at the top of the screen to select [Frame Memory (.BMP)].
 

Files of the selected type are shown in the list on the right.
- 2 Press one of the buttons at the top left to select the type of data to display.
  - To display still image files, press [Still].
  - To display clip files, press [Clip].
  - To display extended clip files, press [Ext Clip]

All of the selected type of frame memory data appears in the list on the left.

- 3 Press the device selection area on the right to select [Memory Card].

- 4 Select the directory to which to export the files.

#### Notes

The displayed directories are only those directories immediately below root.

- 5 In the folder selection area on the left, select the frame memory folder that contains the file you want to export.
- 6 Using any of the following methods, select the file you want to export from the list on the left.
  - Press directly on the list in the status area.
  - Press the arrow keys to scroll the reverse video cursor.
  - Turn the knobs.

| Knob | Parameter | Adjustment                     | Setting values     |
|------|-----------|--------------------------------|--------------------|
| 1    | List L    | Register selection             | 1 to maximum value |
| 2    | Num       | Number of files to be selected | 1 to maximum value |

- 7 Press [→ Export].

This adds the image data from the frame memory in a bitmap format on the memory card.

If the specified destination file name already exists, an overwriting confirmation message appears.

- Select “Yes” to overwrite the data.
- Select “No” to cancel the whole file export operation.

# Directory Operations

You can create a new directory on hard disk or memory card, rename, or delete a directory.

To carry out these operations, use the File >Configure >Directory menu.

## Displaying the Directory Menu

In the File menu, select VF7 'Configure' and HF1 'Directory.'

The Directory menu appears.

## Creating a New Directory

You can create a maximum of 120 directories on a memory card and NFS, or 200 on an internal hard disk.

**1** In the device selection pull-down menu, select [HDD] or [Memory Card] (*see page 463*).

**2** Press [New].

The keyboard window appears.

**3** Enter a name of not more than eight characters, and press [Enter].

A new directory with the name you have entered appears in the status area.

### Notes

The following names cannot be used for directories:  
CON, PRN, AUX, CLOCK\$, NUL  
COM0, COM1, COM2, COM3, COM4, COM5,  
COM6, COM7, COM8, COM9  
LPT0, LPT1, LPT2, LPT3, LPT4, LPT5, LPT6, LPT7,  
LPT8, LPT9

## Renaming a Directory

**1** In the device selection pull-down menu, select [HDD] or [Memory Card] (*see page 463*).

**2** Using any of the following methods, select the directory.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment          | Setting values     |
|------|-----------|---------------------|--------------------|
| 1    | List      | Directory selection | 1 to maximum value |

**3** Press [Rename].

The keyboard window appears.

**4** Enter a new name of not more than eight characters, and press [Enter].

The new name appears in the status area.

## Deleting a Directory

**1** In the device selection pull-down menu, select [HDD] or [Memory Card] (*see page 463*).

**2** Using any of the following methods, select the directory.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment          | Setting values     |
|------|-----------|---------------------|--------------------|
| 1    | List      | Directory selection | 1 to maximum value |

**3** Press [Delete].

A confirmation message appears.

- Select "Yes" to delete the directory.
- Select "No" to cancel the deletion.

# Copying Files Between Different Unit IDs

Switcher and DME files on the hard disk or a memory card are handled separately for each unit ID (*see page 475*). With the normal file copy operation, it is not possible to copy files between different unit IDs. To copy files between different unit IDs, use the following procedure.

## Displaying the Unit ID Copy menu

In the File menu, select VF7 'Configure' and HF2 'Unit ID Copy.'  
The Unit ID Copy menu appears.

## Copying files between different unit IDs

To copy files between different unit IDs, grouped by category, use the following procedure.

- 1** In the Unit ID Copy menu, press the category selection section at the top right of the screen.
- 2** Press the categories you do not want to select, turning them off.
- 3** Press [OK].
- 4** In the operating device selection section on the left list, select the storage location of the source files, and in the operating device selection section on the right list, specify the destination storage location.

*For details, see "Selecting a Device for Operations" (page 463).*

- 5** Using either of the following methods, select the copy source and copy destination unit IDs.
  - Press directly on the list for the copy source on the left of the status area, and on the right for the copy destination.
  - Press the arrow keys to scroll the reverse video cursor.
  - Turn the knobs.

| Knob | Parameter | Adjustment                            | Setting values |
|------|-----------|---------------------------------------|----------------|
| 1    | List L    | Selection of copy source unit ID      | 1 to 4         |
| 2    | List R    | Selection of copy destination unit ID | 1 to 4         |

- 6** Press [→Copy].

A confirmation message appears.

- Select "Yes" to carry out the copy to the specified destination of the selected file categories.
- Select "No" to cancel the copy.

### Notes

If there is already data present in the copy destination, note that this will overwrite all of the data.

# Saving Files Recalled by Autoload

If you save effect setting data, frame memory image files and so on in the PWON\_LD directory on the hard disk, then when the system is powered on this data is recalled automatically. This is known as the autoload function. To save the data to be recalled by the autoload function, use the menu for operations on individual files.

For the data recalled by the autoload function, see “Saving data recalled by autoload” (page 461).

For the setting enabling or disabling the autoload function, see “Setting Automatic Loading of Register Data at Power On (Autoload Function)” (page 484).

For example, to save snapshot data, use the following procedure.

- 1
- In the File menu, select VF3 ‘Snapshot’ and HF1 ‘Snapshot.’
- The Snapshot menu appears.
- 2
- In the device selection area on the left, select [Register].
- 3
- In the device selection area on the right, select [HDD].
- Be sure to select [HDD] as the saving destination.
- 4
- Select the PWON\_LD directory.
- The PWON\_LD directory is automatically created when [Power On File Load] is set to On in the System >Start Up menu. If set to Off, the directory does not appear.
- 5
- Using any of the following methods, select the data to be saved, and the file in which to save it.

- To select all files within the list, press [ALL] below the list.
- To select multiple files, turn the knobs to select in the following ranges.

| Knob | Parameter | Adjustment  | Setting values |
|------|-----------|---|----------------|
| 1    | List L    | Select the first register whose data is to be saved | 1 to 99        |
| 2    | List R    | Select the first file to which data is to be saved  | 1 to 99        |

| Knob | Parameter | Adjustment                         | Setting values |
|------|-----------|------------------------------------|----------------|
| 3    | Num       | Number of registers to be selected | 1 to 99        |

- To select a single file, press the arrow keys to scroll the reverse video cursor, or directly press on the list in the status area.

6

Press [→Save].

The data from the selected registers is saved in the specified destination.  
If the specified destination already contains data, a confirmation message appears.

- Select “Yes” to overwrite the existing data.
- Select “No” to cancel the entire saving operation.



## Setup for the Whole System

Carry out operations relating to setup for the whole system in the Engineering Setup menu.

To access the Engineering Setup menu, press the top menu selection button [ENG SETUP].

Here the “whole system” refers to all devices connected on the Control LAN.

The DCU is connected through the control panel, but is also included in the “whole system.”

### Setting the unit ID

When there are two switchers and connected DME units on the same network, it is necessary to set the unit ID on each device, as follows.

| Switcher     | ID |
|--------------|----|
| 1st switcher | 1  |
| 2nd switcher | 2  |

| DME                                     | ID |
|---|----|
| DME1 for 1st switcher (channels 1 to 4) | 1  |
| DME2 for 1st switcher (channels 5 to 8) | 2  |
| DME1 for 2nd switcher (channels 1 to 4) | 3  |
| DME2 for 2nd switcher (channels 5 to 8) | 4  |

#### Notes

The unit ID for the MKS-7470X/7471X is DME1 or DME3.

- DME1 (unit ID: 1) when connected to the 1st switcher (unit ID: 1).
- DME3 (unit ID: 2) when connected to the 2nd switcher (unit ID: 3).

### When the signal format is 1080P

You can connect up to four MVE-8000A units to the first switcher. The unit IDs for these DMEs are assigned as follows.

| DME                           | ID |
|-------------------------------|----|
| DME1 for 1st switcher (Ch1/2) | 1  |
| DME2 for 1st switcher (Ch3/4) | 2  |
| DME3 for 1st switcher (Ch5/6) | 3  |
| DME4 for 1st switcher (Ch7/8) | 4  |

#### Notes

- When the signal format is 1080P, the MKS-7470X is always assigned DME1 (unit ID: 1), supporting four channels. An external DME unit (MVE-8000A) is assigned DME3 (unit ID: 3) or DME4 (unit ID: 4).
- The signal format for the second switcher cannot be changed to 1080P.

*For more details of how to make the unit ID settings, refer to the installation manual for the particular device.*

# Network Settings (Network Config Menu)

This provides automatic configuration of all devices connected to the Data LAN (excluding the DCU), and displays a list of them.

To make the network settings, use System >Network Config menu.

## To display the Network Config menu

In the Engineering Setup menu, select VF1 'System' and HF1 'Network Config.'

The status area shows the device ID, and Control LAN and Data LAN IP addresses for each device excluding the DCU.

## Making the Network Settings

### Checking IP address automatically

- 1 In the System >Network Config menu, press [Auto Config].

This automatically checks all devices (excluding the DCU) connected to the Data LAN.

- 2 Temporarily switch to another menu, then display the Network Config menu again.

Now the status area of the System >Network Config menu shows the results of the automatic check.

#### Notes

Be sure to carry out this operation after reconfiguring the system, or after a software upgrade.

### Using the NFS server

The address of the currently selected NFS server appears in the [NFS Server Address] box in the lower status area.

#### Notes

When the control panel is reset, no NFS server can be used via the Network Config menu. In this case, to use an NFS server, make sure to carry out the following procedure.

- 1 In the System >Network Config menu, press [NFS Server].

A keyboard window appears.

- 2 Enter the address of the server you want to use.

# System Settings (System Config Menu)

To make the system settings, use the System >System Config menu.

Specify the overall system operation mode and the hierarchical relationship of the devices.

## To display the System Config menu

In the Engineering Setup menu, select VF1 'System' and HF2 'System Config.'

### Notes

After changing the following settings, be sure to press [Execute] to save the new values. If you want to cancel the setting changes without saving them, press [Clear].

## Device operating mode selection

The operating mode determines how many switcher and DME units can be controlled from the control panel.

## Device hierarchical relationship setting

- **Panel Assign:** Specify the switcher controlled by a control panel.
- **Switcher Assign:** Specify the DME connected to a switcher.

## Selecting the System Operation Mode

In the <Operation Mode> group of the System >System Config menu, select one of the following.

- **Single Proc mode:** The control panel controls a single switcher and DMEs.
- **Dual Simul mode:** The control panel controls two switchers and DMEs simultaneously. Also, it allows operation to continue on one switcher if the other switcher cannot communicate due to device failure or other cause.

### Notes

Dual Simul mode cannot be selected if the signal format is 1080P or if it is set to 3D mode.

## Selecting a system to set to Dual Simul mode

In Dual Simul mode, a target system must be selected in order to configure the two switchers and the DMEs connected to the switchers.

In the <Target System> group, press [System 1] or [System 2], turning it on. You can also turn both systems on and configure them simultaneously.

## Specifying the Switcher Controlled by the Control Panel

The number of control panels that can be connected to a single switcher depends on the signal format setting.

**1080P:** 2

**Other than 1080P:** 4

- 1 In the System >System Config menu, press [Panel Assign].

The Panel Assign menu appears.

- 2 Select the switcher to be controlled by the selected control panel, as follows.

**If there is only one switcher on the network:** In the <1st Switcher> group, set either [SWR1] or [SWR2] to On to select the switcher to be operated.

In the <2nd Switcher> group, set both [SWR1] and [SWR2] to Off.

**If there are two switchers on the same network:** In the <1st Switcher> group and <2nd Switcher> group, select the switcher to be operated.

When the system operation mode (see previous item) is set to [Dual Simul], the switcher status set in <1st Switcher> appears on the control panel.

- 3 To set the selected control panel as tally control master panel, press [Tally Master], turning it on.

If there are multiple panels and processors, the control panel for which [Tally Master] is set to On carries out tally control for the whole system.

### Notes

- When there are multiple control panels, make sure that one of them has [Tally Master] set to On. When you change the master panel, be sure to copy and save the setup tally (TLY) and router (RTR) data in the File menu, and make the same settings for other panels.
- If you load the master panel tally data into a panel with a different unit ID, then [Tally Master] changes to Off.

## To select the lighting mode of the switcher bus selection buttons on the remote panel

When switching buses with the MKS-8080/8082 AUX Bus Remote Panel or other remote panel connected via S-

Bus data link, you can select the lighting mode of the bus selection buttons.

In the System >System Config >Panel Assign menu, select either of the following in the <S-Bus Remote Sw'er Status> group.

**Mode 1:** The inhibited buttons do not light even when pressed, and the other buttons light after a longer delay time than in Mode 2.

**Mode 2:** The delay time for button lighting is reduced, but even the inhibited buttons may light for a moment when pressed.

#### Notes

- Make sure that [Tally Master] is set to On.
- When simple connection is used between the center control panel and remote panel (*see page 590*), this setting is disabled.

## Specifying the DME Connected to the Switcher

- 1 In the System >System Config menu, press [Switcher Assign].

The Switcher Assign menu appears.

- 2 Using either of the following methods, select the switcher to which the settings apply.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.

The selected switcher appears in reverse video.

- 3 Make the DME settings as follows.

**When making DME settings for SWR1:** For the first DME, select [DME1] in the <1st DME> group. For the second DME, select [DME2] in the <2nd DME> group. When a second DME is not connected, turn all buttons in the <2nd DME> group off.

**When making DME settings for SWR2:** For the first DME, select [DME3] in the <1st DME> group. For the second DME, select [DME4] in the <2nd DME> group. When a second DME is not connected, turn all buttons in the <2nd DME> group off.

#### Notes

If you use the MKS-7470X/7471X, select either DME1 or DME3.

### When the signal format is 1080P

You can connect up to four MVE-8000A units to SWR1.

For SWR1, you can select a DME combination as follows, depending on the number of DMEs connected.

**Only one DME connected:** DME1

**Two DMEs connected:** DME1 and DME2

**Three DMEs connected:** DME1, DME2, and DME3

**Four DMEs connected:** DME1, DME2, DME3, and DME4

When you use both the MKS-7470X/7471X and MVE-8000A to the MVS-7000X, DME1 is assigned to the MKS-7470X/7471X and the selectable DME combinations are as follows.

**Only one MVE-8000A unit connected:** DME3

**Two MVE-8000A units connected:** DME3 and DME4

Depending on the selected DME combination, press [DME1] (first DME), [DME2] (second DME), [DME3] (third DME), or [DME4] (fourth DME), turning them on. For SWR2, the signal format cannot be changed to 1080P.

## Enabling the FM Data Port of the Switcher

With the FM data port enabled, frame memory data can be transferred in a short time between the switcher and the control panels.

- 1 In the System >System Config menu, press [Switcher Assign].

The Switcher Assign menu appears.

- 2 Using any of the following methods, select the switcher to be set.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.

The selected switcher is displayed in reverse video. If there is only one switcher on the network, make the setting only for SWR1 (the first switcher).

- 3 Press [FM Data Port Enbl], turning it on.

# Setting the Signal Format (Format Menu)

To set the format, that is, the frame frequency and number of scan lines handled by each device, use the System >Format menu.

## To display the Format menu

In the Engineering Setup menu, select VF1 'System' and HF3 'Format.'

### Notes

After changing any of the following settings, be sure to press [Execute] (or [FC Format Execute] for changing the format converter signal format) to save the new values. If you want to cancel the settings and return to the original state, press [Clear] without pressing [Execute] or [FC Format Execute]. When you press [Execute], some data is lost (such as frame memory images). If you press [FC Format Execute], memory is not initialized, and this data is not lost.

## Setting the Signal Format

Specify the signal format to be handled by the devices. The combinations of signal formats that can be selected are as follows.

| System    | Field frequency | Effective number of scan lines |
|-----------|-----------------|--------------------------------|
| HD system | 50              | 1080i                          |
|           | 59.94           |                                |
|           | 50              | 1080P                          |
|           | 59.94           |                                |
|           | 23.976          | 1080PsF                        |
|           | 24              |                                |
|           | 25              |                                |
|           | 29.97           |                                |
|           | 50              | 720P                           |
|           | 59.94           |                                |
| SD system | 59.94           | 480i                           |
|           | 50              | 576i                           |

### Notes

When the MVS-8000X is used with the 1080P signal format or the MVS-7000X is used with multiple signal formats, you need to install software options (*see page 486*).

**1** In the System >Format menu, select the device for operations.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment                         | Setting values     |
|------|-----------|------------------------------------|--------------------|
| 1    | Device    | Selection of device for operations | 1 to maximum value |

**2** Press [Signal Format].

A pop-up window appears.



**3** Press the button for the desired signal format.

## Allowing 59.94(2x) Format Signals on an AUX Bus

When the signal format of this system is 1080i/59.94, it is possible to handle different (59.94(2x)) format signals on the AUX bus only.

You can output from a connector to which any of the following is assigned.

Preset, Edit Preview, AUX 1 to 48

Carry out the setting in the Engineering Setup >System >Format >AUX Signal Format menu.

**1** Press [Signal Format] in the Engineering Setup >System >Format menu, and then select [1080i/59.94].

**2** Press [AUX Signal Format].

The AUX Signal Format menu appears.



**3** In the list, select the relevant data by any of the following methods.

- Press directly on the list.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment            | Setting values |
|------|-----------|-----------------------|----------------|
| 1    | Output No | Number to be selected | 1 to 48        |

For each group, four outputs are selected together.

**4** In the <AUX Signal Format> group, select [59.94Hz(2x)] from the following.

**[59.94Hz]:** Mode not allowing a 59.94(2x) signal on the AUX bus.

**[59.94Hz(2x)]:** Mode allowing a 59.94(2x) signal on the AUX bus.

**5** Press [Execute].

A confirmation message appears.

**6** To change the mode, select [Yes].

This changes operation to the selected mode. Even if you press [Execute], the memory is not reinitialized, and therefore frame memory images and other data is not lost.

#### Notes

- When 3D mode is enabled, 59.94(2x) format setting is invalid.
- It is not possible to select a 59.94(2x) format signal as output to a small window in the multi viewer.
- If you assign 59.94(2x) to any of the following outputs, they will not work as a format converter output any longer.  
Output 1, Output 2, Output 25, Output 26

## Switching the Input Reference Signal for HD System

#### Notes

The input reference signal for the MKS-7470X/7471X is used in common with the switchers.

This changes the input reference signal.

- **Tri Sync:** tri-level sync for an HD system
- **BB (Black Burst):** black burst or sync

The following table shows the relation between signal format and the frequency of a signal that can be used as the input reference signal.

| Signal format                                | Input reference signal |                                    |                             |
|--|------------------------|------------------------------------|-----------------------------|
|  | Tri Sync               | Black burst                        |                             |
| 1080PsF/29.97<br>1080P/59.94,<br>1080i/59.94 | 59.94                  | Black Burst<br>59.94               | Sync 59.94                  |
| 1080PsF/25<br>1080P/50,<br>1080i/50          | 50                     | Black Burst<br>50                  | Sync 50                     |
| 1080PsF/24                                   | 48                     | –                                  |                             |
| 1080PsF/<br>23.976                           | 47.952                 | Black Burst<br>59.94 <sup>a)</sup> | Sync<br>59.94 <sup>a)</sup> |
| 720P/59.94                                   | 59.94                  | Black Burst<br>59.94               | Sync 59.94                  |
| 720P/50                                      | –                      | Black Burst<br>50                  | Sync 50                     |

a) Interlock mode

## Setting Conversion Formats

Installing the MKS-8450X Format Converter Board in the MVS-8000X/7000X enables signal video format conversions.

This operation is valid only when BB is selected in the <Ref Input Format> group.

In the MVS-7000X, format conversion is assigned to primary inputs in advance.

*For details about the primary input assignment, see “Selecting the Primary Input to be Used in the Format Converter” (page 540).*

### Format converter

Installing the Format Converter Board in the switcher enables the following signal video format conversions.

- Up-conversion: from SD (4:3) to HD (16:9)
- Down-conversion: from HD (16:9) to SD (4:3)
- Cross-conversion: from HD (720P) to HD (1080i), or from HD (1080i) to HD (720P)

In the MVS-8000X, the maximum number of input signals for which format conversion is possible is 16 (or 8 when only one MKS-8450X board is installed), and the maximum number of output signals is 4 (two outputs when the MKS-8160X is not installed).

In the MVS-7000X, the maximum number of primary input signals for which format conversion is possible is 8, and the maximum number of output signals is 4 (two outputs when the MKS-8160X is not installed).

#### Notes

- After format conversion, input and output signals have one-frame delays with respect to the reference signals. To synchronize converted input signals and unconverted input signals, it is possible to delay the unconverted input signal.  
*For details, see “To delay unconverted input signals (frame delay function)” (page 482).*
- When the input reference signal for HD system is set to Tri Sync, the format converter function is not available.  
*For details, see “Switching the Input Reference Signal for HD System” (page 480).*

#### To synchronize unsynchronized input signals (frame synchronizer)

When the signal format is set to 720P or 1080i, the input signal can be synchronized by the up-converter. When synchronizing, set the format converter to a format that supports the frame synchronizer ([480i/59.94 (with FS)], [576i/50 (with FS)]).

#### Notes

- You can synchronize the input signal to the reference signal within a range of  $\pm 0.5$  frames with respect to the reference signal.
- If a frame synchronizer is used, the up-converter introduces the following delay.
  - If the signal format is 1080i: 2 frames with respect to the reference signal
  - If the signal format is 720P: 1.5 frames, 2 frames, or 2.5 frames with respect to the reference signal
- The frame delay function can be used as the frame synchronizer (*see page 482*).

#### Format combinations allowing conversion

The supported combinations of switcher signal format and format converter (inputs 1 to 4, 5 to 8, 9 to 12 and 13 to 16) are as follows.

Inputs 9 to 12 and 13 to 16 are available only in the MVS-8000X.

#### Notes

The format converter cannot be used when the signal format is 1080PsF/23.976, 1080PsF/24, 1080P/50, or 1080P/59.94.

| Switcher signal format setting | Format converter signal format setting                                   |   |
|--------------------------------|--|---|
|                                | FC Input 1 to 4, 5 to 8 / 9 to 12 <sup>a)</sup> / 13 to 16 <sup>a)</sup> | FC Output 1, 2 / 3, 4                                 |
| 480i/59.94                     | 720P/59.94<br>1080i/59.94<br>1080PsF/29.97                               | 720P/59.94<br>1080i/59.94<br>1080PsF/29.97            |
| 576i/50                        | 720P/50<br>1080i/50<br>1080PsF/25  | 720P/50<br>1080i/50<br>1080PsF/25                     |
| 720P/50                        | 576i/50<br>576i/50 (with FS)<br>1080i/50                                 | 576i/50 <sup>b)</sup><br>1080i/50 <sup>b)</sup>       |
| 720P/59.94                     | 480i/59.94<br>480i/59.94 (with FS)<br>1080i/59.94                        | 480i/59.94 <sup>b)</sup><br>1080i/59.94 <sup>b)</sup> |
| 1080i/50                       | 576i/50<br>576i/50 (with FS)<br>720P/50                                  | 576i/50<br>720P/50                                    |
| 1080i/59.94                    | 480i/59.94<br>480i/59.94 (with FS)<br>720P/59.94                         | 480i/59.94<br>720P/59.94                              |
| 1080PsF/25                     | 576i/50  | 576i/50   |
| 1080PsF/29.97                  | 480i/59.94   | 480i/59.94  |

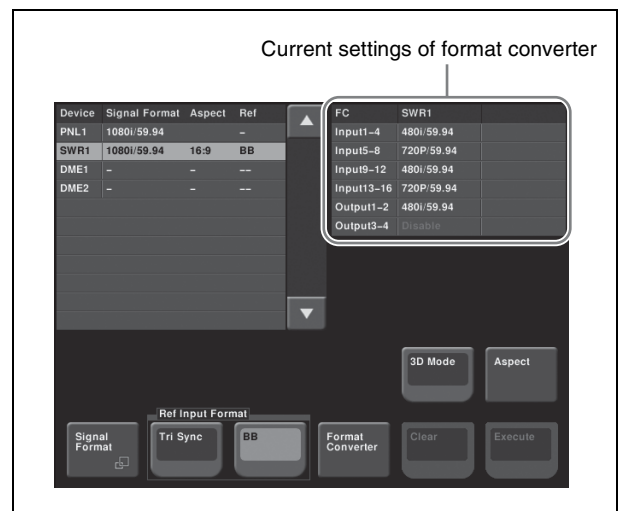
a) Only on MVS-8000X

b) Output signals converted from 720P format are not synchronized to the switcher input reference signal.

On the destination device, do not use an external reference signal, but use an operation mode that can sync to the format converter output signal.

## Setting the conversion format

- 1 Display the System >Format menu.



- 2 Click [Format Converter].

The Format Converter menu appears.

- 3** To select the conversion format for SWR1 format converter inputs 1 to 4, press [Input 1-4 Format] in the <SWR1 FC Input> group.  
A pop-up window appears.
- 4** Press the button for the desired signal format.
- 5** For “Input 5-8 Format” (MVS-8000X/7000X), and “Input 9-12 Format” and “Input 13-16 Format” (MVS-8000X only), set the desired signal format in the same way as in steps **3** and **4**.
- 6** To set the output format for format converters 1 and 2, in the <SWR1 FC Output> group press [Output 1-2 Format], then press the button for the desired format.
- 7** For “Output 3-4 Format,” set the desired signal format in the same way as in step **6**.
- 8** With reference to steps **3** to **7**, make the settings for SWR2.

#### To delay unconverted input signals (frame delay function)

When the signal format is 720P/59.94, 720P/50, 1080i/59.94, or 1080i/50, you can press [Frame Delay] in the pop-up window shown in step **3** and step **5** to delay input signals.

For the format of the format converter input signal, the same format as the signal format is shown.

#### Notes

- The amount of delay that can be configured is given below.
  - If the signal format is 1080i: up to 8 frames in 1-frame units
  - If the signal format is 720P: up to 16 frames in 2-frame units

The input signal must be synchronized to the reference signal to obtain the same delay as that configured.  
*For details, see “Setting the Frame Delay Function” (page 540).*
- You can use the frame delay function as a frame synchronizer by setting the delay value to “1.” However, the frame synchronizer introduces the following delay.
  - If the signal format is 1080i: 1 frame with respect to the reference signal
  - If the signal format is 720P: 0.5 frames, 1 frame, or 1.5 frames with respect to the reference signal

## Setting the Screen Aspect Ratio (Format Menu)

Switch the screen aspect ratio to 16:9 or 4:3.

To set the screen aspect ratio, use the System >Format menu.

### Setting the screen aspect ratio

- 1** In the System >Format menu, press [Aspect].  
The Aspect menu appears.
- 2** In the <Screen Aspect> group, select one of the following.
  - 16:9
  - 4:3
  - Independ: Set the screen aspect ratio separately for M/E, P/P, and USER on the switcher, and for each channel independently on the DME.
- 3** If you selected [Independ] in step **2**, select from the following.
 

**Switcher Aspect:** Make the setting for the switcher.  
**DME Aspect:** Make the setting for the DME.  
A menu appears according to the selection.
- 4** Carry out either of the following, depending on the selection you made in step **3**.
 

**When you selected [Switcher Aspect]:** In each of the <M/E-1>, <M/E-2>, <M/E-3>, <M/E-4>, <M/E-5>, <P/P>, and <USER> groups, select either [16:9] or [4:3].

**When you selected [DME Aspect]:** For each of the <CH1> to <CH4> groups, select either [16:9] or [4:3].
- 5** To confirm the above setting, press [Aspect Execute]. To cancel the setting and return to the original state, press [Clear] without pressing [Aspect Execute].  
When you press [Aspect Execute], a confirmation message appears.
- 6** Press [Yes].



# Selecting the State After Powering On (Start Up Menu)

Set the initial state of the devices when the system is powered on.  
For each device, you can select Resume mode or Custom mode.

## Resume mode

This resumes the setting state at the previous power-off operation. This setting is only available for the switcher processor and control panel.

## Custom mode

This uses the settings saved in non-volatile memory or ROM within the device.  
In this mode, there are Setup and Initial Status settings which can be set separately.

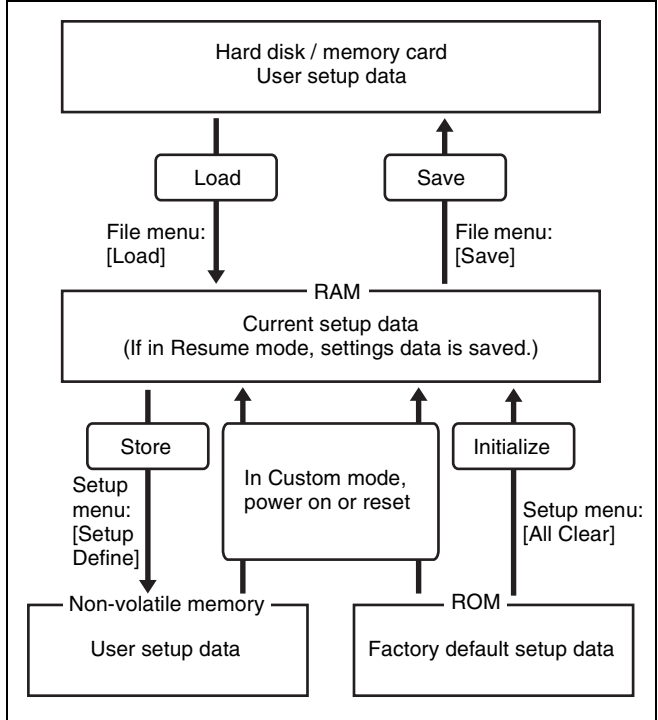
- **Setup mode:** Select the setup state to be used after powering on from the following.  
**User:** Start up using the user data previously saved with [Setup Define].  
**Factory:** Start up with the factory default settings.
- **Initial status mode:** Select the state of each device after powering on (excluding the settings to which “setup” applies).  
**User:** Start up using the user data previously saved with [Initial Status Define].  
**Factory:** Start up with the factory default settings.

For details of saving and recalling setup data, see “Saving and Recalling Setup Data” (page 483) and the appendix “Data Saved by [Setup Define] and [Initial Status Define]” (page 602).

## Autoload function

Switch on or off the function to automatically load predetermined register data or frame memory image data at power on. Set the data to be read in the File menu.

# Saving and Recalling Setup Data



Concept of saving and recalling setup data

Updating the switcher or control panel setup data saves the updated setup data in RAM in each device.

- In Resume mode (see page 483), even if devices are reset or powered off, the data is preserved in RAM, and recalled when the power is turned back on.

## Notes

The Resume mode cannot be used for DMEs and DCUs.

- In Custom mode (see page 483), the user-defined settings (user setup data) saved in non-volatile memory or factory default setup data held in ROM in each device is recalled when a reset is made or the power is turned back on (see page 484).

Note that the setup data in RAM can also be saved to the control panel hard disk or memory card.  
To set the initial state at start-up, use the System >Start Up menu.

## Notes

It is not possible to set the DCU state at start-up, but its settings can be saved in the control panel.

## To display the Start Up menu

In the Engineering Setup menu, select VF1 ‘System’ and HF4 ‘Start Up.’  
The status area shows the current start-up mode settings of each device.

## Selecting the State at Start-up

**1** In the status area of the System >Start Up menu, select the device to which the settings are to apply.

**2** In the <Start Up Mode> group, select one of the following modes.

**Resume:** When this is on, Resume mode is enabled.

**Custom:** When this is on, Custom mode is enabled.

### Notes

The Resume mode is only valid when a switcher or control panel is selected for the setting.

**3** When Custom mode is selected, in each of the <Setup> group and <Initial Status> group, select one of the following.

**User:** When this is on, user-defined settings are used for the Setup or Initial Status settings. For the method of saving the user-defined settings, *see the next item*.

**Factory:** When this is on, factory default settings are used for the Setup or Initial Status settings.

**4** To confirm the settings, press [Execute]. If you want to cancel the setting changes without saving them, press [Clear].

When [Execute] is pressed, a confirmation message appears.

**5** Select [Yes].

## Saving User-Defined Settings

### Saving the Setup settings

**1** After selecting the devices to which the settings apply to, in the System >Start Up menu, press [Setup Define].

A confirmation message appears.

**2** Press [Yes].

This saves the setup settings for the selected devices in non-volatile memory within the respective devices.

*For details about the settings which will be saved, see “Data Saved by [Setup Define] and [Initial Status Define]” (page 602).*

## Saving the Initial Status settings

**1** After selecting the devices to which the settings apply to, in the System >Start Up menu, press [Init Status Define].

A confirmation message appears.

**2** Press [Yes].

This saves the initial status settings other than the “setup” settings for the selected devices in non-volatile memory within the respective devices.

*For details about the settings which will be saved, see “Data Saved by [Setup Define] and [Initial Status Define]” (page 602).*

## Setting Automatic Loading of Register Data at Power On (Autoload Function)

To have specified data read in at power on, in the System >Start Up menu, press [Power On File Load], turning it on. This enables the autoload function.

When the autoload function is enabled, a directory “PWON\_LD” appears in the corresponding File menu.

*For details about saving data which can be loaded by the autoload function, see “Saving Files Recalled by Autoload” (page 474).*

## Reset and Initialization (Initialize Menu)

To carry out a reset or memory initialization for a device, use the System >Initialize menu.

- **Reset:** Reset to state after powering on.
- **All Clear:** Clear the memory, and carry out initialization. The Network Config, System Config, Format, and Start Up setup values are set by reference to data stored in non-volatile memory, and the system automatically starts up. It is not necessary to reset the Date/Time settings.

For more details, see “Saving and Recalling Setup Data” (page 483).

### To display the Initialize menu

In the Engineering Setup menu, select VF1 ‘System’ and HF5 ‘Initialize.’

The status area shows the current start-up mode settings.

## Resetting the device and initializing memory

### Notes

When the MVS-7000X is reset, the MKS-7470X/7471X is also reset at the same time.

- 1 In the status area of the System >Initialize menu, select the device to which the settings are to apply.
- 2 In the <Initialize> group, select one of the following modes.  
  
**Reset:** Reset the device.  
**All Clear:** Initialize memory.
- 3 Press [Execute].  
  
A confirmation message appears.
- 4 Select [Yes].

Depending on the selection in step 2, the following is the result.

- When you selected [Reset], a reset is applied to the device causing it to be restarted in the start-up state.
- When you selected [All Clear], all memory in the device is cleared, including snapshots, keyframe effects, setup, and so on, and the device returns to its factory default settings. However, the Network Config, Format, Start Up, and Date/Time settings are not initialized.

## Installation and Device Setup (Install/Unit Config Menu)

To install software or firmware in a device, use the System >Install/Unit Config menu.

This installs the software and firmware in all devices (including the DCU) connected to the Data LAN.

### Notes

The MKS-7470X/7471X software is included in the MVS-7000X software.

### To display the Install/Unit Config menu

In the Engineering Setup menu, select VF1 ‘System’ and HF6 ‘Install/Unit Config.’

The status area shows the version of the software and the firmware installed in each device.

The following functions are available here.

**Install:** Automatically detects the software that can be installed on each device, and installs the selected software.

**Detail Information:** Gives details of the software and firmware installed in each device.

**Unit Config:** Makes switcher processor settings and changes the DME input/output signal format.

**License:** Makes the license valid or invalid.

## Displaying installation details

In the System >Install/Unit Config menu, press [Detail Information].

This accesses the Detail Information menu, and displays the detailed information on the software and firmware installed in the currently selected device.

### Notes

When the MKS-7470X/7471X is selected, the Detail Information menu cannot be opened.

## Installing Software

- 1 Insert the memory card holding the software into the memory card slot.
- 2 In the System >Install/Unit Config menu, press [Install].

The Install menu appears; the status area shows the following information.

**Upper list:** For each connected device, this shows the device name, current software version (Current), and the latest version that can be installed (Install, Title).

- **OK:** Installation already completed.
- **On:** For installation, but not completed.
- **Error:** An error occurred during installation.
- **Cancel:** Installation canceled.

**Lower list:** For the device selected in the upper list, this shows an automatically detected list of software that can be installed on the particular device. Also, software selected as a candidate for installation in the upper list is marked in the lower list with an bullet.

- 3** If you are satisfied with the currently installed version of all items in the upper list, skip to step **6**.

To change the items to be installed, use any of the following methods to select the relevant device.

- Press directly on the list in the status area.
- Use the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment       | Setting values     |
|------|-----------|------------------|--------------------|
| 1    | Device    | Device selection | 1 to maximum value |

The display of the lower list changes according to the selected device.

#### Notes

When the MKS-7470X/7471X is selected, no software is displayed in the lower list.

#### To display all related software

Press [Display All Software], turning it on. The names of all related software for the selected device appear, not just the automatically detected software.

- 4** In the lower list, select the software you want to install.

- Press directly on the list in the status area.
- Use the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment         | Setting values     |
|------|-----------|--------------------|--------------------|
| 3    | No        | Software selection | 1 to maximum value |

- 5** Press [Set].

The selection is reflected under “Install” and “Title” in the upper list.

- 6** Press [Install].

The “Install” box shows “On,” confirming that this is to be installed. To cancel this installation setting, press “Install” once more, making the box blank.

- 7** Repeat steps **3** to **6**, to confirm all software to be installed.

- 8** Press [Execute].

A confirmation message appears.

- 9** Press [Yes].

This carries out the installation, and when it completes normally, the “Install” box shows “OK.”

## Making Settings Required to Use the Software

To use the software listed below, you are required to enter an install key which validates the software (if the software has been factory installed, the install key is not required). For the method of obtaining an install key, contact your Sony representative. To obtain a key, you may be required to submit the unique device ID of the switcher you are using. You can check the unique device ID in the Install/Unit Config menu of the switcher, using the following procedure.

### When using the MVS-8000X

|           |  |
|-----------|--|
| BZDM-9050 | Texture Lighting Software (for MVE-9000) |
| BZS-8050  | Editing Control Software                 |
| BZS-8200X | Multi Program 2 Software                 |
| BZS-8420X | Color Corrector Software                 |
| BZS-8560X | Switcher Upgrade Software                |
| BZDM-8560 | DME Upgrade Software <sup>a)</sup>       |

a) This can be used only on MVE-8000A.

### When using the MVS-7000X

|                         |                           |
|-------------------------|---------------------------|
| BZS-7500X <sup>a)</sup> | Switcher Upgrade Software |
| BZS-7510X               |                           |
| BZS-7520X <sup>b)</sup> |                           |
| BZS-7530X <sup>c)</sup> |                           |
| BZS-7540X <sup>d)</sup> | DME Upgrade Software      |
| BZS-7541X <sup>e)</sup> |                           |
| BZS-7561X               |                           |
| BZDM-8560 <sup>f)</sup> |                           |
| BZDM-9050 <sup>g)</sup> | Texture Lighting Software |
| BZS-8050                | Editing Control Software  |
| BZS-7200X               | Multi Program 2 Software  |
| BZS-7420X               | Color Corrector Software  |

|           |                           |
|-----------|---------------------------|
| BZS-7560X | Switcher Upgrade Software |
|-----------|---------------------------|

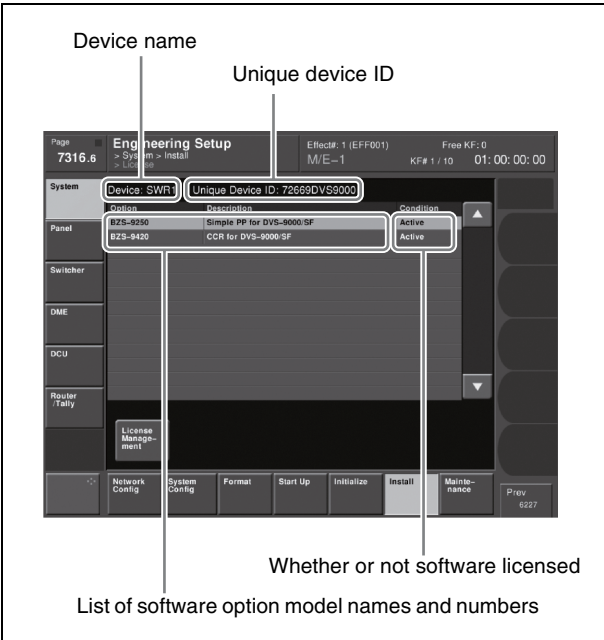
- This is used for license registration common to the MVS-7000X and the MKS-7470X/7471X.
- This is used for license registration required to support multiple signal formats when two MKS-7210X boards are used.
- This is used for license registration required to support multiple signal formats when three MKS-7210X boards are used.
- This is used for license registration required to support multiple signal formats on the MKS-7470X.
- This is used for license registration required to support multiple signal formats on the MKS-7471X.
- This can be used only on MVE-8000A.
- This can be used only on MVE-9000.

### To display the unique device ID

- In the System >Install/Unit Config menu, use either of the following methods to select the device for which you want to register the license.
  - Press directly on the list in the status area.
  - Press the arrow keys to scroll the reverse video cursor.

- Press [License].

The License menu appears as follows.



### Entering the install key

When you have the install key, carry out the following procedure.

- In the System >Install/Unit Config menu, use either of the following methods to select the device for which you want to register the license.
  - Press directly on the list in the status area.
  - Press the arrow keys to scroll the reverse video cursor.

- Press [License].

The License menu appears.

- Press directly on the name of the software you want to license (the Condition box is blank).

- Press [License Management].

The License Management menu appears.

- Press [Activate License].

A keyboard window appears.

- Enter the 16-character install key you have been given, and press [Enter].

A license registration completed message appears.

- Press [OK].

The status area Condition box shows “Active.”

- Using either of the following methods, restart the device.

- In the System >Initialize menu, with only the device for which you registered the license being selected, press [Reset] in the <Initialize> group and then press [Execute].
  - Power off and on again.
- After restarting, the licensed software is now available for use.

In case it becomes necessary to cancel the license registration, you can use the following procedure.

### To cancel the license registration

- In the System >Install/Unit Config menu, use either of the following methods to select the device for which you want to cancel the license registration.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.

- Press [License].

The License menu appears.

- Press directly on the name of the software for which you want to cancel the license registration (the Condition box shows “Active”).

- Press [License Management].

The License Management menu appears.

- Press [Deactivate License].

A confirmation message appears.

**6** Press [Yes].

A license registration canceled message appears.

**7** Press [OK].

The status area Condition box showing “Active” changes to blank.

**8** Using either of the following methods, restart the device.

- In the System >Initialize menu, select only the device for which you registered the license, and press [Reset] in the <Initialize> group.
- Power off and on again.

After restarting, the software for which the license registration has been canceled is no longer available.

## Adding User Texture Patterns

You can add user created texture patterns to the repertory of texture patterns with which the spotlighting function enables the light falls on the image surface.

### Notes

This function is not supported on the MVE-8000A.

For details of spotlighting and texture patterns, see “Spotlighting Settings” in Chapter 11 (Volume 1).

The procedure for adding a texture pattern is as follows.

Prepare the texture file (*next item*)



Create the texture package (*page 489*)



Install the texture package (*page 490*)

### To prepare a texture file

Create a texture file meeting the following conditions, and save it on a memory card.

**File format:** Windows bmp (“bitmap”) (extension: bmp, 24-bit RGB)

**File name:** alphanumeric (maximum 8 characters) + extension (bmp)

Example: wood\_01.bmp

**Image size (horizontal × vertical):** 128 × 128 to 1024 × 1024 pixels

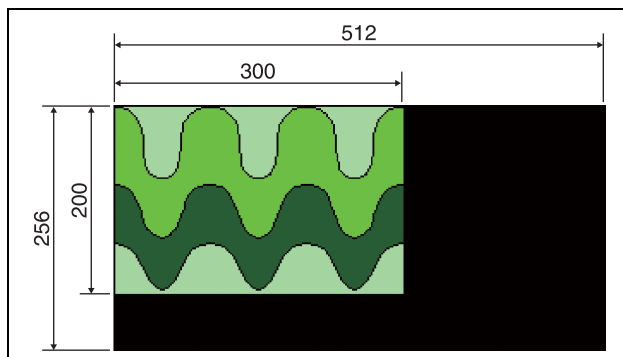
The maximum number of texture files that can be handled by the system is related to the image size of the texture files, as shown in the following table (when all images are the same size).

|                        |                      | Maximum number of texture files handled |            |            |             |
|------------------------|----------------------|---|------------|------------|-------------|
| Dimension (horizontal) | Dimension (vertical) | 128 pixels                              | 256 pixels | 512 pixels | 1024 pixels |
|                        |                      | 128 pixels                              | 256 pixels | 512 pixels | 1024 pixels |
| 128 pixels             | 128 pixels           | 64                                      | 32         | 16         | 8           |
| 256 pixels             | 256 pixels           | 32                                      | 16         | 8          | 4           |
| 512 pixels             | 512 pixels           | 16                                      | 8          | 4          | 2           |
| 1024 pixels            | 1024 pixels          | 8                                       | 4          | 2          | 1           |

### Notes

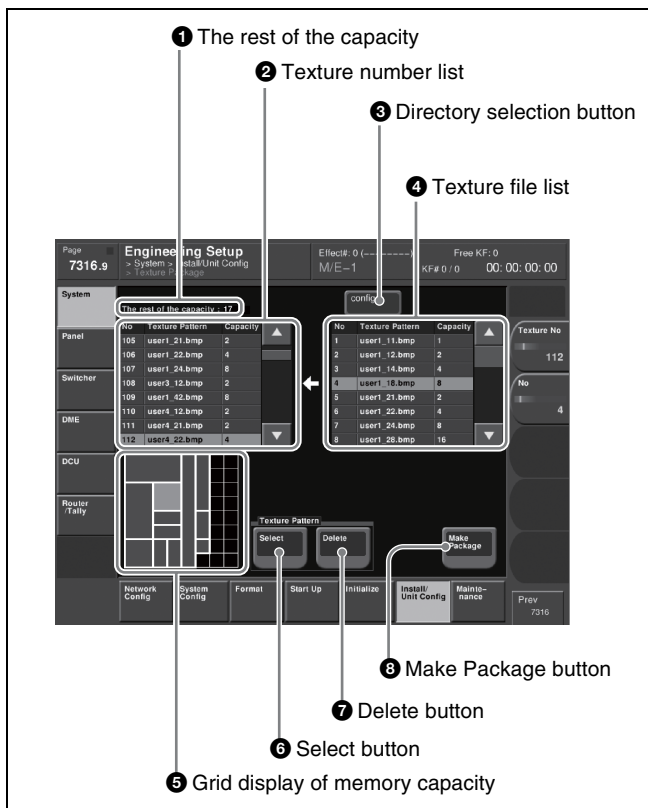
- Different image sizes can be combined, but this affects the total number of texture files that can be handled.
- The number of texture files that can be handled may be reduced, depending on the way in which they are stored in memory.
- For a texture file with an image size outside the specification, the minimum enclosing image size is applied (*see table above*), and the region below and to the right is filled with black.

**Example:** a 300 × 200 pixel texture file is treated as 512 × 256 pixels.



### Texture Package menu

To create user texture patterns, use the Texture Package menu.



### 1 The rest of the capacity (available memory space)

This shows an available memory space in units of 128×128 pixels (a maximum of 64 units of memory space is available).

### 2 Texture number list

This shows the texture numbers (101 to 164) registered in the texture package.

The list Capacity shows the file size in units of 128×128 pixels (a total maximum of 64 units of texture files can be registered).

### 3 Directory selection button

By pressing this button to display the popup window, you can select a directory on the memory card.

### 4 Texture file list

This shows the texture files stored on the memory card. If a texture file is stored in a directory, press the directory selection button and select the directory in the popup window, to show a list of files.

The list Capacity shows the file size in units of 128×128 pixels.

### 5 Grid display of memory capacity

This shows how the texture files are stored in memory (an 8×8 grid, of 64 squares, each equivalent to 128×128 pixels).

And this shows the location where the texture files are stored in memory by bold frames. The grid for the texture file selected in the texture number list is shown in amber.

### 6 Select button

Pressing this button assigns the texture file selected in the texture file list to the number selected in the texture number list.

### 7 Delete button

Pressing this button deletes the texture file assigned to the number in the texture number list.

### 8 Make Package button

Pressing this button creates the texture package.

## Creating a texture package

To use a user-provided texture pattern with the spotlighting function, it is necessary to convert the texture files to vector files for bump mapping. This operation is referred to as “creating a texture package.”

1 Insert the memory card holding the texture file into the memory card slot.

2 In the Engineering Setup menu, select VF1 ‘System’ and HF6 ‘Install/Unit Config.’

The Install/Unit Config menu appears; the status area shows the version information for the software installed on the various devices.

3 Using any of the following methods, select a DME for which the spotlighting license is valid.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

### Notes

The MKS-7470X/7471X does not require license registration.

4 Press [Texture Package].

The Texture Package menu appears.

### Notes

If you select a device for which the spotlighting license is not enabled, then [Texture Package] is not enabled.

5 In the texture number list, select the number for which you want to register the texture package, by any of the following methods.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter  | Adjustment               | Setting values |
|------|------------|--------------------------|----------------|
| 1    | Texture No | Texture number selection | 101 to 164     |

**6** In the texture file list, select the texture file by any of the following methods.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment             | Setting values                   |
|------|-----------|------------------------|----------------------------------|
| 2    | No        | Texture file selection | 1 to maximum value <sup>a)</sup> |

a) The range of the setting values depends on the number of saved files on a memory card.

**7** In the <Texture Pattern> group, press [Select].

This assigns the texture file selected in step **6** to the number selected in step **5**, and updates the texture number list.

The grid display of memory capacity shows the location where the texture files are stored in memory by bold frames. The grid portion for the texture file selected in the texture number list is shown in amber.

**8** Repeat steps **5** to **7**, to assign all of the texture files to texture packages.

#### Notes

- If you assign a texture file that is already in the texture number list to a different texture number, then the previous assignment is deleted. It is not possible to assign the same texture file to two or more different texture numbers.
- In the following cases, texture file assignment is not possible.
  - If there is no available memory space ("The rest of the capacity:0" appears)
  - If the selected texture file is too large to fit in the available memory space

#### To delete a texture file assignment

Select the texture file (multiple selections are not possible) you want to delete in the texture number list, and in the <Texture Pattern> group press [Delete].

**9** To create the texture package, press [Make Package].

A confirmation message appears.

**10** Select [OK].

The texture package is created in the same location that the texture file is stored on the memory card (extension: zsp, file name generated automatically).

#### Notes

- If you remove the memory card on which the texture file is stored, it is not possible to create the texture package.
- If a texture package is already present on the memory card, it is overwritten by a new texture package.
- If you carry out steps **9** and **10** without having assigned even one texture file, it is not possible to create a texture package.
- If there is insufficient space on the memory card to store the texture package, an error message appears, and the process is aborted. If this happens, delete unwanted files from the memory card using your computer, so that there is enough free space on the memory card, and repeat the process. As a guide, the space required is approximately equal to total number of bytes of the texture files assigned in steps **5** to **8**.

## Installing the texture package

**1** Insert the memory card holding the texture package into the memory card slot.

**2** In the Engineering Setup menu, select VF1 'System' and HF6 'Install/Unit Config.'

The Install/Unit Config menu appears; the status area shows the version information for the software installed on the various devices.

**3** Press [Install].

The System >Install/Unit Config >Install menu appears; the status area shows the following information.

**Upper list:** For each connected device, this shows the device name, current software version (Current), and the information about the texture package that can be installed (Install, Title).

- **OK:** Installation already completed.
- **On:** For installation, but not completed.
- **Error:** An error occurred during installation.
- **Cancel:** Installation canceled.

**Lower list:** For the device selected in the upper list, this shows an automatically detected list of software that can be installed on the particular device. Also, software selected as a candidate for installation in the upper list is marked in the lower list with an asterisk.

**4** Using any of the following methods, select in the upper list a DME for which the spotlighting license is valid.

- Press directly on the list in the status area.



- Use the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment       | Setting values     |
|------|-----------|------------------|--------------------|
| 1    | Device    | Device selection | 1 to maximum value |

**5** Press [Display All Software], turning it on.

The lower list shows the texture packages.

**6** Using any of the following methods, select the texture package you want to install from the lower list.

- Press directly on the list in the status area.
- Use the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment        | Setting values     |
|------|-----------|-------------------|--------------------|
| 3    | No        | Package selection | 1 to maximum value |

**7** Press [Set].

The selection is reflected under “Install” and “Title” in the upper list.

**8** Press [Install].

The “Install” box shows “On,” confirming that this is to be installed. To cancel this installation setting, press “Install” once more, making the box blank.

**9** To carry out the installation, press [Execute].

A confirmation message appears.

**10** Select [Yes].

This carries out the installation, and when it completes normally, the “Install” box shows “OK.”

## Saving a Frame Memory Clip With Ancillary Data

### Notes

When the signal format is 1080P, this operation is not possible.

**1** In the System >Install/Unit Config menu, select [SWRx], and press [Unit Config].

The Unit Config menu appears.

**2** Press [FM Ancillary], turning it on.

**On:** Save with ancillary data.

**Off:** Save without ancillary data.

### Notes

Switching on/off reinitializes all frame memory data. Always backup the required data before switching.

**3** Press [Execute].

A popup window appears, displaying a message.

**4** Check the message, and select [Yes].

## Setting the DME Input/Output Signal Format

### Notes

This setting is only valid when the system signal format is set to 1080P.

**1** In the System >Install/Unit Config menu, select [SWRx], and press [Unit Config].

The Unit Config menu appears.

**2** In the <DME I/F Type> group, press one of the following.

**3G Mode:** Use 3G mode (single 3G SDI signal) for DME input/output. <sup>1)</sup>

**Dual Link Mode:** Use dual link mode (two 1.5G SDI signals) for DME input/output. <sup>2)</sup>

1) 3G SDI: Standard defined by SMPTE 424M

2) Dual link: Standard defined by SMPTE 372M

### Notes

- When the MKS-7470X/7471X is used, this setting is fixed to “3G Mode.”
- When “Dual Link Mode” is selected, half as many DME units can be connected to the switcher. In this case, the available channels are DME1 channels 1 and 2, and DME2 channels 3 and 4.
- When “Dual Link Mode” is selected, you cannot use an external DME unit (MVE-8000A/MVE-9000) connected via the SDI interface.

**3** Press [Execute].

A popup window appears, showing a message.

**4** Check the message, and select [Yes].

# System Maintenance (Maintenance Menu)

- Date and time setting
- Formatting a memory card
- Primary settings for USB external storage device
- Reloading a USB driver
- Formatting the hard disk
- Locking setup menu operations
  - For each VF button group, selecting a set of candidate menus to be locked, then locking all of the candidates using a password. Except for list scrolling, moving menus, and similar operations, menu operations for all settings can be locked.
  - Changing the password
- Locking file recall operations
  - Locking file recall operations by category
  - Locking and removing the lock using the password (you can change the password).

## To display the Maintenance menu

In the Engineering Setup menu, select VF1 'System' and HF7 'Maintenance.' In the status area, the current date and time, and details of the memory card appear.

## Setting the Date and Time

- 1 In the System >Maintenance menu, turn the knobs to set the following parameters.

Parameter group [1/2]

| Knob | Parameter | Adjustment | Setting values |
|------|-----------|------------|----------------|
| 1    | Hour      | Hour       | 0 to 23        |
| 2    | Min       | Minute     | 0 to 59        |
| 3    | Sec       | Second     | 0 to 59        |

Parameter group [2/2]

| Knob | Parameter | Adjustment | Setting values |
|------|-----------|------------|----------------|
| 1    | Month     | Month      | 1 to 12        |
| 2    | Day       | Day        | 1 to 31        |
| 3    | Year      | Year       | 2000 to 2037   |

The set date and time appears in the "Set" box in the status area.

- 2 Press [Set Date/Time].

This sets the current time to the date and time set in step 1, and the setting in the "Current" box of the status area changes accordingly.

## Using a Memory Card

### Displaying memory card information

- 1 Insert the memory card into the memory card slot.
- 2 In the <USB Storage Device> group of the System >Maintenance menu, press [Refresh].

### Formatting a memory card

#### Notes

Format a memory card before using it for the first time.

- 1 Insert the memory card in the memory card slot.
- 2 In the System >Maintenance menu, using either of the following methods, select the USB device.
  - Press directly on the list in the status area.
  - Press the arrow keys to scroll the reverse video cursor.
- 3 In the <USB Storage Device> group, press [Format].  
A confirmation message appears.
- 4 To carry out the formatting, press [Yes].

## Carrying Out the Primary Setting

To specify a USB device with a storage device connected as a primary device, use the following procedure.

#### Notes

Without this setting, you cannot use the "Memory Card" item in the File menu to access a memory card on a storage device connected to the USB device.

- 1 In the System >Maintenance menu, using any of the following methods, select the USB device you want to set as primary.
  - Press directly on the list in the status area.
  - Press the arrow keys to scroll the reverse video cursor.
  - Turn the knob.

| Knob | Parameter   | Adjustment           | Setting values |
|------|-------------|----------------------|----------------|
| 5    | Mount Point | USB device selection | 1 to 18        |

- 2 In the <USB Storage Device> group, press [Set Primary].

### Making the primary setting automatic

In the <USB Storage Device> group, press [Auto Detect].

## Reloading a USB Driver

To reload a USB driver, in the System >Maintenance menu, press [Reload USB Driver].

### Notes

If even after this operation the memory card is not recognized, remove the memory card and reinsert it, then try again.

## Initializing the Hard Disk

If a file system corruption error has occurred on the hard disk, you should initialize the hard disk.

- 1 In the <HDD> group of the System >Maintenance menu, press [HDD Format].

An initialization confirmation message appears.

### Notes

When the hard disk is operating normally, pressing [HDD Format] has no effect.

- 2 To execute the initialization operation, press [Yes]. To cancel, press [No].

If you have pressed [Yes], the hard disk initialization operation is executed, and a finished message appears. If you have pressed [No], the initialization operation is canceled, and the System >Maintenance menu appears again.

- 3 Press [OK].

## Locking the Setup Menu Settings

To protect the data, you can inhibit operations in selected setup menus. Use the following procedure. Note that it is not possible to lock the Setup Operation Lock menu.

- 1 In the System >Maintenance menu, press [Setup Operation Lock].

The Setup Operation Lock menu appears.

- 2 In the <VF Group> group, select the group including the desired menu.

The status area shows a list of menu numbers and menu names in the selected group.

Subsequent lock operations apply within the group selected here.

- 3 Using any of the following methods, select the menu or the set of menus as candidates for the locking operation.


- Press directly on the list in the status area.
- Use the arrow keys to scroll the reverse video cursor.
- Turn the knobs.

| Knob | Parameter | Adjustment                                    | Setting values     |
|------|-----------|---|--------------------|
| 1    | No        | Selection of a menu by its number in the list | 1 to maximum value |
| 3    | Num       | Selection of number of menus in the list      | 1 to maximum value |

- To select all setup menus within the selected group, press [ALL].

You can also select a menu while it is open (*see page 494*).

- 4 Press [Lock Item Select].

This makes the selected menus candidates for locking, and a padlock icon appears in the “Lock” box in the unlocked state .

### Notes

If there are already one or more locked menus, selection of lock candidates is not possible.

### To deselect a lock candidate

After selecting a menu, press [Lock Item Select] once more, to clear the Lock box.

### To deselect all lock candidates in the selected VF group


Press [Lock Item All Clear].

- 5 Repeat steps 2 to 4, to select all of the lock candidates.

- 6 Press [Lock].

A keyboard window appears.

- 7 Enter the password with a maximum of 16 characters, and press [Enter].

If the password is correct, the menus selected in the list of candidates are all locked. The padlock icon changes to the locked state .

### Releasing the lock

When a lock is already applied, use the following procedure.

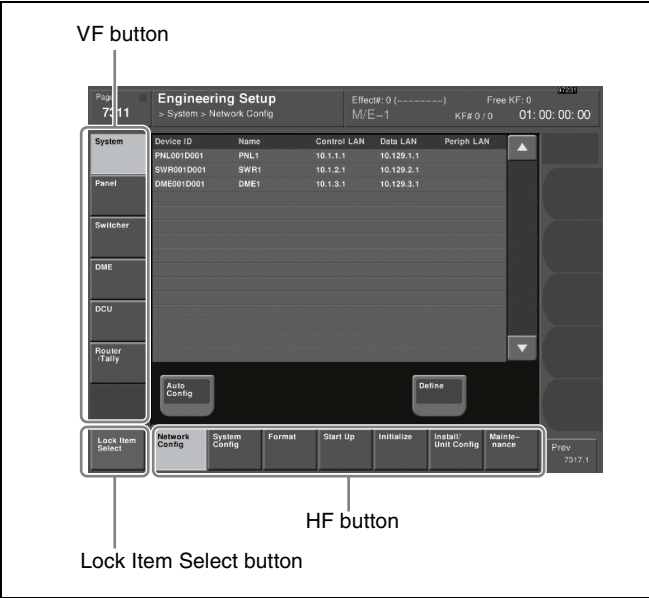
- 1 In the System >Maintenance >Setup Operation Lock menu, press [Lock].  
A keyboard window appears.
- 2 Enter the password.  
If the password is correct, the lock is released, and the padlock icon disappears.

### Changing the lock password

- 1 In the System >Maintenance >Setup Operation Lock menu, press [Change Password].  
A confirmation message appears.
- 2 Press [Yes].  
A keyboard window labeled “Old Password” appears.
- 3 Enter the old password, and press [Enter].  
If the password is correct, a keyboard window labeled “New Password” appears.
- 4 Enter the new password, and press [Enter].  
A keyboard window labeled “New Password (Confirm)” appears.
- 5 Enter the new password once more for confirmation, and press [Enter].  
If the password is correct, the password change completed message appears.
- 6 Press [OK].

### Selecting an opened setup menu for locking

With the menu you want to lock open, press [Lock Item Select] at the lower left.



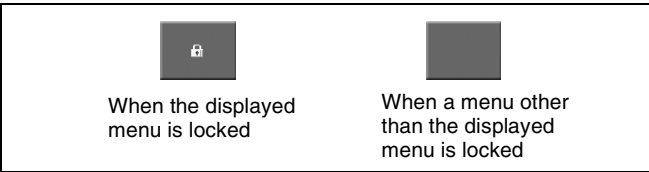
[Lock Item Select] turns red, and a padlock icon appears.



This selection is reflected in the lock candidate list in the Setup Operation Lock menu.

#### Notes

If there are already one or more locked menus, selection of lock candidates is not possible. In this case, the indication of [Lock Item Select] changes as follows.



If you want to select lock candidates, first remove the lock in the Setup Operation Lock menu.

### Locking File Loading Operations

You can inhibit load operations for a specified file category.

- 1 In the System >Maintenance menu, press [File Load Lock].  
The File Load Lock menu appears.  
The status area shows a list of file category numbers, category names, and the lock status.  
Subsequent lock operations apply to the category selected here.

- 2** Using any of the following methods, select the category or the set of categories as candidates for the locking operation.

- Press directly on the desired list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knobs.

| Knob | Parameter | Adjustment  | Setting values |
|------|-----------|---|----------------|
| 1    | No        | Selection of a category by its number in the list | 1 to 14        |
| 3    | Num       | Selection of number of categories in the list     | 1 to 14        |

- To select all categories, press [ALL].

- 3** Press [Lock].

This makes the selected categories candidates for locking. The category name display color changes to yellow, and the indication “Lock” is displayed in yellow in the Lock box.

#### To deselect a lock candidate

After selecting a category, press [Clear] to clear the indication “Lock” in the Lock box.

- 4** Repeat steps **2** and **3**, to select all of the lock candidates.

- 5** Press [Execute].

A keyboard window appears.

- 6** Enter the password with a maximum of 16 characters, and press [Enter].

If the password is correct, the categories selected in the list of candidates are all locked. The category name display color and the “Lock” indication color in the Lock box both change to white.

#### To release the lock

When a lock is already applied, use the following procedure.

- 1** In the System >Maintenance >File Load Lock menu, press [Lock].

A keyboard window appears.

- 2** Enter the password.

If the password is correct, the lock is released, and the indication “Lock” in the Lock box disappears.

#### To change the lock password

In the System >Maintenance >File Load Lock menu, press [Change Password], and carry out step **2** and following of “Changing the lock password” (page 494).

## Overall Control Panel Settings (Config Menu)

To carry out the overall control panel settings, use the Panel >Config menu.

### To display the Config menu

In the Engineering Setup menu, select VF2 'Panel' and HF1 'Config.'

The status area shows the location numbers of the M/E and PGM/PST banks, the allocated bank names, and whether or not operation is enabled.

## Panel Setup

In panel setup, you carry out settings particular to the control panel.

You can make the following settings.

### Panel settings (Config)

- **M/E Assign:** Set the logical configuration of the M/E and PGM/PST banks.
- **M/E Operation:** For each of the M/E and PGM/PST banks, make operations possible, not possible, or disabled (Enable/Disable/Inhibit).
- **Dual M/E Assign:** Using two M/E banks, assign the shift and non-shift button rows of a single M/E bank.
- **Dual M/E Xpt Swap:** When a setting has been made for Dual M/E Assign, swap the shift and non-shift button rows.
- **DSK Fader Assign:** Carry out fader function assignment and key delegation for the key delegation buttons, in each of the maximum of four downstream key control blocks.
- **External Bus Link:** Make link settings relating internal switcher buses to routing switcher destinations.
- **Key Trans Link:** Select whether or not to link transitions between keyers, and if so which keyer to link

to. You can set the links between keyers for each M/E bank separately.

- **Joystick/Trackball User Setting:** When a trackball module and a joystick module are both connected as device control blocks, select which is used as the reference. Also select whether key wipe positioning applies to keys 1 to 8, or to keys 1 to 4.
- **10 Key Region Assign:** Assign any regions to the region selection buttons in the numeric keypad control block. Also used for setting the regions included in the selection when the [ALL] button is pressed.
- **Program Button:** Make assignments for buttons of some control blocks such as assigning the buttons in a transition control block for controlling a VTR.
- **Compact Key Module Assign:** You can select which keys can be operated with an independent key transition control block (simple type).
- **M/E Operation Inhibit:** For each M/E or PGM/PST bank, enable or inhibit utility 2 bus-related and key-related operations.
- **Joystick/Trackball Module:** Enable or inhibit DME channel selection operations from the device control block (trackball) or device control block (joystick).

## Interchanging the Bank Order or Disabling Operation

- 1 In the Panel >Config menu, select the Bank you want to set, using any of the following methods.

- Press directly on the status area display.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment                                      | Setting values |
|------|-----------|---|----------------|
| 1    | Bank      | Select the position of the bank you want to set | 1 to 7         |

The Bank selection here indicates the physical position on the control panel, numbering from the top as the 1st Row, 2nd Row, 3rd Row, and 4th Row.  
On the MKS-9011 1M/E Control Panel only the 1st Row is valid. On the MKS-9012 2M/E Control Panel, only the 1st Row and 2nd Row are valid.

- 2 Select the bank that you want to assign to the selected Bank number in the <M/E Assign> group.

The status area shows the interchanged state of the banks.

#### Notes

- It is not possible to assign the same M/E logical bank to more than one physical bank. Be sure to make different M/E assignments.
- When the bank order is changed, the state of region selection button assignment in the numeric keypad control block also changes correspondingly.

- 3 For the selected Bank number, in the <M/E Operation> group, select one of the following.

**Enable:** Enable panel display and operation of the bank.

**Disable:** Enable only panel display, and disable operation of the bank.

**Inhibit:** Disable both the panel display and operation of the bank.

#### Notes

When this is set to Inhibit, snapshots of the bank are not recalled.

## Assigning Two M/E Banks to One M/E Bank

- 1 In the Panel >Config menu, select the M/E bank for which you want to make the setting.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment   | Setting values       |
|------|-----------|--|----------------------|
| 1    | Bank      | Selection of position of bank for which you want to make the setting | 1 to 7 <sup>a)</sup> |

a) Depends on the center control panel configuration. When 7 (Ext 3) is selected, or a switcher bank is selected which is immediately above a switcher bank to which nothing is assigned, then [Dual M/E Assign] is disabled.

For example, if the furthest bank from you is assigned to M/E-1, and you want no shift button operation for the bank, select 1 (1st Row) for Bank.

- 2 Press [Dual M/E Assign].

This assigns the furthest M/E bank from you to the unshifted (shifted) cross-points and the M/E bank in front of it to the shifted (unshifted) cross-points. For fader lever operations, only the M/E bank closer to you is enabled.

The shift/non-shift assignment is set by [Dual M/E Xpt Swap].

*For more details, see the next section, "Interchanging shifted and non-shifted operations for a dual M/E."*

### To return to the original assignment

Interchange the bank order (see page 496).

## Interchanging shifted and non-shifted operations for a dual M/E

- 1 In the Panel >Config menu, select the M/E bank for which the dual M/E setting is made.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment                               | Setting values |
|------|-----------|--|----------------|
| 1    | Bank      | Bank to be selected for dual M/E setting | 1 to 7         |

- 2 Press [Dual M/E Xpt Swap], toggling it on or off.

**On:** The lower M/E bank is non-shifted, and the higher M/E bank is shifted.

**Off:** The lower M/E bank is shifted, and the higher M/E bank is non-shifted.

## Assigning the Key Delegation in the Downstream Key Control Block (MKS-8032 DSK Fader Module, Option)

As an example, to assign key 4 of the M/E-1 bank to key delegation button 1 of the downstream key control block 1, use the following procedure.

- 1 In the Panel >Config menu, press the [DSK Fader Assign].

The DSK Fader Assign menu appears.

- 2** Directly press on the indications in the status area, to select the downstream key control block for which you want to make the setting, and select the key delegation. Here, press on the intersection of the “1st Module” column and “Key1 Assign” row.
- 3** In the <M/E Select> group, select the bank of the key you want to assign.  
Here, select [M/E-1] as an example.
- 4** In the <Key Link Select> group, select the key you want to assign.  
Here, select [Key4] as an example.
- 5** Press [Fader Assign] in the DSK Fader Assign menu.  
The Fader Assign menu appears.
- 6** To disable the fader lever of the selected downstream key control block, select [Disable] in the <Fader Assign> group.  
To enable the fader lever, select one of the following in the <Fader Assign> group, determine the key to which the fader lever operation applies.  
  
**All:** Key selected with one of the key delegation buttons  
**Key1 to Key4:** Key assigned to key delegation buttons 1 to 4 ([DSK1] to [DSK4] buttons)

## Inhibiting button operations in the downstream key control block

- 1** In the Panel >Config menu, press the [DSK Fader Assign].  
The DSK Fader Assign menu appears.
- 2** Select the relevant module by any of the following methods.
  - Press directly on the list.
  - Press the arrow keys to scroll the reverse video cursor.
- 3** Press [Inhibit], turning it on.  
  
This inhibits operations.  
To reenable operations, press the same button, turning it off.

## Linking Switcher Bus and Router Destination

To provide links between the switcher bus and router destination, make the following settings as required.

- Matrix selection:** Select the target of link setting from the eight matrices (1 to 8).
- Matrix position definition:** Set the start address and level for the source and destination on the S-Bus.
- Link table setting:** Link a switcher cross-point button and matrix source.
- Link bus setting:** Link a switcher bus address and router destination.

## Selecting a matrix number

- 1** In the Panel >Config menu, press [Link/Program Button].  
  
The Link/Program Button menu appears.
- 2** In the <Link> group, press [External Bus Link].  
  
The External Bus Link menu appears.  
The status area shows the current link status.
- 3** Turn the knobs to select the matrix.

| Knob | Parameter   | Adjustment    | Setting values |
|------|-------------|---------------|----------------|
| 1    | Link No     | Link number   | 1 to 64        |
| 2    | Link Matrix | Matrix number | 1 to 8         |

In the status area, the color of the selected part changes.

- 4** Press [Link Matrix Set].  
  
This confirms the matrix selection and the selected part in the status area returns to the previous color.

### To delete a link

With the link selected, press [Clear].

## Defining the position of a matrix

Specify where in the 1024 × 1024 S-Bus space the link matrix is to be provided, by setting the source and destination start address.  
For the matrix selected in the External Bus Link menu, use the following procedure.

- 1** In the Panel >Config >Link/Program Button >External Bus Link menu, press [Link Matrix Adjust].  
  
The Link Matrix Adjust menu appears.  
The status area shows the status of the currently selected matrix, and a list of the source and destination start addresses that can be selected.  
In this menu too, you can use the knobs to select the link for the setting.
- 2** Using any of the following methods, define the position of the matrix to be linked.



- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knobs.

| Knob | Parameter   | Adjustment                | Setting values |
|------|-------------|---------------------------|----------------|
| 2    | Source      | Source start address      | 1 to 897       |
| 3    | Destination | Destination start address | 1 to 897       |
| 4    | Level       | Level                     | 1 to 8         |

- 3 To confirm a source address selected in step **2**, press [Source Set], to confirm a destination address press [Destination Set], and to confirm a level press [Level Set].

This confirms the selection, which is reflected in the status area.

## Setting a link table

For the link selected in the External Bus Link menu, make the settings as follows.

- 1 In the Panel >Config >Link/Program Button >External Bus Link >Link Matrix Adjust menu, press [Link Table Adjust].

The Link Table Adjust menu appears.

The status area lists the status of the currently selected link, combinations of video signals and sources, and the sources that can be selected.

- 2 Using any of the following methods, select the switcher cross-point button and the matrix source to be linked to the button.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knobs.

| Knob | Parameter | Adjustment                  | Setting values |
|------|-----------|-----------------------------|----------------|
| 1    | Main No   | Switcher cross-point button | 1 to 300       |
| 2    | Source No | Matrix source selection     | 1 to 128       |

- 3 To confirm the matrix source selection made in step **2**, press [Link Source Set].

This confirms the selection, which is reflected in the status area.

- 4 As required, repeat steps **2** and **3** to select the matrix sources to be linked to other cross-point buttons.

## To initialize the set links

In the Panel >Config >Link/Program Button >External Bus Link >Link Matrix Adjust menu, press [Init Link Table].

A confirmation message appears.

Press [Yes].

The links set using the above procedure are initialized to the default settings, and this is reflected in the status area.

## Making link bus settings

For the link number selected in the External Bus Link menu, use the following procedure.

- 1 In the Panel >Config >Link/Program Button >External Bus Link menu, press [Link Bus Adjust].

The Link Bus Adjust menu appears.

The status area lists the current link status, and the switcher buses and router destinations that can be selected.

In this menu too, you can use knob 1 to select the link to be set.

- 2 Using any of the following methods, select the switcher bus and the router destination to be linked to the switcher bus.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knobs.

| Knob | Parameter    | Adjustment                   | Setting values |
|------|--------------|------------------------------|----------------|
| 2    | Internal Bus | Switcher bus selection       | 1 to 180       |
| 3    | Destination  | Router destination selection | 1 to 128       |

- 3 To confirm the bus selected in step **2**, press [Master Bus Set], and to confirm the destination press [Linked Dest Set].

This confirms the selection, which is reflected in the status area.

## Linking Transitions Between Keyers

- 1 In the Panel >Config menu, press [Link/Program Button].

The Link/Program Button menu appears.

- 2 In the <Link> group, press [Key Trans Link].

The Key Trans Link menu appears.

The status area shows the keyers for each M/E bank and the linked keyers.

- 3 Using any of the following methods, select the keyer to be the master.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter  | Adjustment                | Setting values |
|------|------------|---------------------------|----------------|
| 1    | Master Key | Select keyer to be master | 1 to 48        |

The selected keyer appears in reverse video.

- 4 In the <Key Select> group, select the keyer to be linked to the transition of the master.

#### Notes

Linking does not apply to a transition carried out with the downstream key control block.

## Linking the Next Transition Selection Buttons

To the transition links between keyers, you can add a link for the next transition selection buttons in the transition control block. The effect of this additional link is such that if for example, two keyers (Key 2 and Key 3) are linked with the master keyer (Key 1), pressing the [KEY1] next transition selection button also selects the [KEY2] and [KEY3] buttons.

- 1 Set the transition links between keyers.

*For details of the operation, see the previous section “Linking Transitions Between Keyers.”*

- 2 Press [Next Trans Link], turning it on.

The [KEY1] to [KEY8] next transition selection buttons in the transition control block are now selected coupled to the settings in the Key Trans Link menu for transition links between keyers.

#### Notes

These settings apply to the whole Key Trans Link menu. It is not possible to make separate settings for each master keyer.

## Selecting the Module to Be the Reference for Device Control Block

When both trackball and joystick device control blocks are connected, select which is to be the reference. Also select the range to which key wipe positioning applies.

### To select the reference module

- 1 In the Panel >Config menu, press [JS/TB User Setting].

The JS/TB User Setting menu appears.

- 2 In the <Reference Module> group, select one of the following.

**Trackball:** Trackball device control block

**Joystick:** Joystick device control block

### To select the range to which key wipe positioning applies

In the Panel >Config menu <Wipe Pos Key Select Module> group, select one of the following.

**KEY1-4:** Applies to keys 1 to 4.

**KEY1-8:** Applies to keys 1 to 8.

#### Notes

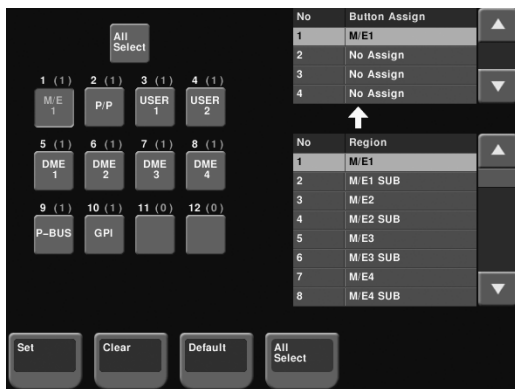
When “KEY1-8” is selected, after selecting more than one key it is not possible to carry out key wipe positioning. There is no such restriction when “KEY1-4” is selected.

## Assigning a Region to a Region Selection Button in the Numeric Keypad Control Block

A maximum of four regions can be set for a single region selection button in the numeric keypad control block.

- 1 In the Panel >Config menu, press [10 Key Region Assign].

The 10 Key Region Assign menu appears.



The left side of the status area shows region selection buttons; the upper part of the right side shows a list of regions assigned to region selection buttons, and the lower part shows a list of assignable regions.

- 2 Press the indication of the button for the assignment.  
The button you pressed appears in reverse video.
- 3 Using any of the following methods, select one of the four regions for the setting.

- Press directly on the list in the upper part of the right side.
- Press the arrow keys to scroll the reverse video cursor in the list in the upper part of the right side.
- Turn the knob.

| Knob | Parameter     | Adjustment                         | Setting values |
|------|---------------|------------------------------------|----------------|
| 1    | Button Assign | Selection to which setting applies | 1 to 4         |

- 4 Using any of the following methods, select the region to be assigned.
- Press directly on the list in the lower part of the right side.
  - Press the arrow keys to scroll the reverse video cursor in the list in the lower part of the right side.
  - Turn the knob.

| Knob | Parameter | Adjustment       | Setting values     |
|------|-----------|------------------|--------------------|
| 2    | Region    | Region selection | 1 to maximum value |

- 5 Press [Set], to confirm the selection.

This assigns the region to the region selection button in the numeric keypad control block.

#### Notes

Only regions assigned here can be used for keyframe or snapshot recall.

### To return the region assignment to the factory default state

In the Panel >Config >10 Key Region Assign menu, press [Default].

This returns the assignment of region selection buttons in the numeric keypad control block to the factory default state.

### To delete a region assignment

In step 2 of the procedure “Assigning a Region to a Region Selection Button in the Numeric Keypad Control Block” (page 500), make the selection to which the operation applies, then press [Clear].

This clears the assignment of the selected region.

### Setting the region selection buttons selected when the [ALL] button is pressed

- 1 In the Panel >Config >10 Key Region Assign menu, press [All Select] in the button area, or the [All Select] button indication in the status area, setting it to On.

The [All Select] button indication in the status area changes to orange, and the system switches to a mode for assigning region selection buttons to the [ALL] button. In the factory default state, all buttons appear in reverse video, and are assigned to the [ALL] button.

- 2 If you do not want to assign any region selection button to the [ALL] button, press the corresponding button indication, setting it to Off.

The button you pressed returns to normal display.

#### Notes

Assignment to the [ALL] button is region by region. Changing the assignment of a region selection button does not change the regions assigned to the [ALL] button.

### Setting Transition Control Block Button Assignments

There are three separate menus for these settings, for the left part of the transition control block (Transition Module1), upper right part (Transition Module2), and lower right part (Transition Module3).

The following example describes the operation for the left part (Transition Module1 menu), but operations in the Transition Module2 and Transition Module3 menus are similar.

- 1 In the Panel >Config menu, press [Link/Program Button].

The Link/Program Button menu appears.

## 2 Press [Transition Module1].

The Transition Module1 menu appears.

## 3 Select the bank of the transition control block you want to set in the <Bank Select> group.

The current assignment of the buttons appears at the left.

## 4 Press the transition type selection button for which you want to change the assignment.

The button you pressed appears in reverse video.

## 5 Using any of the following methods, select the function to be assigned, from the list on the right.

- Press directly on the list.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter     | Adjustment            | Setting values     |
|------|---------------|-----------------------|--------------------|
| 1    | Button Assign | Selection of function | 1 to maximum value |

## 6 Press [Set].

The texts on the button illustrations change to reflect the selection.

### To cancel the assignment

Press [Clear].

### To make the assignment the default

Press [Default].

## Setting the Assignment of Macro Operation Buttons

### Notes

This setting is disabled for the CCP-9000A.

To switch the [UNDO] button on a simple type Flexi Pad control block to a [MCRO] button for macro operation, use the following procedure.

## 1 In the Panel >Config >Link/Program Button menu, press [Flexi Pad Module].

The Flexi Pad Module menu appears.

## 2 Select the assignment of the [UNDO] button in the simple type Flexi Pad control block from the <UNDO Button Assign> group.

**UNDO:** use as an [UNDO] button.

**MACRO:** use as a [MCRO] button.

## Assigning Keys to the DSK1 and DSK2 Buttons in the Downstream Key/Fade-to-Black Control Block

It is possible to select the key used for downstream key/fade-to-black control block operations.

### Notes

This operation cannot be done in the CCP-9000A.

## 1 In the Panel >Config >Link/Program Button menu, press [DSK/FTB Module].

The DSK/FTB Module menu appears.

The left side of the status area shows the [DSK1] and [DSK2] buttons, and the right side shows a list of keys to be assigned.

## 2 Press the indication (DSK1, DSK2) of the button for the assignment.

The button you pressed changes to reverse video.

## 3 Using any of the following methods, select the key to be assigned.

- Press directly on the list.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment                          | Setting values |
|------|-----------|-------------------------------------|----------------|
| 1    | Key No    | Selection of key assigned to button | 1 to 48        |

## 4 Press [Set], to confirm the selection.

This assigns the selected key to the key delegation button.

### To return the key delegation button assignment to the factory default state

In the DSK/FTB Module menu, press [Default].

This returns the key delegation assignment to the factory default state.

## Assigning Keys to the Independent Key Transition Control Block (Simple Type)

It is possible to select the keys that can be used in an independent key transition control block (simple type) operation.

### Notes

This operation cannot be done in the CCP-9000A.

The control panel comprises a main base for installing the principal switcher bank control blocks, and an extension section for extended control blocks. The independent key transition control block (simple type) can be installed in either, but the assignable keys differ as follows.

### When the independent key transition control block (simple type) is installed in the main base

Select the keys to be assigned from the following.

- Key1, 2 (keys 1 and 2)<sup>1)</sup>
- Key3, 4 (keys 3 and 4)<sup>1)</sup>
- Key5, 6 (keys 5 and 6)<sup>1)</sup>
- Key7, 8 (keys 7 and 8)<sup>1)</sup>
- DSK1, 2 (downstream keys 1 and 2)
- DSK3, 4 (downstream keys 3 and 4)
- DSK5, 6 (downstream keys 5 and 6)
- DSK7, 8 (downstream keys 7 and 8)
- N/A (no assignment)

1) The M/E bank depends on the settings in the M/E Assign menu where the independent key transition control block is installed.

### When the independent key transition control block (simple type) is installed in the extension section

Select the keys to be assigned from the following.

- M/E-1 Key1, 2
- M/E-1 Key3, 4
- M/E-1 Key5, 6
- M/E-1 Key7, 8
- M/E-2 Key1, 2
- M/E-2 Key3, 4
- M/E-2 Key5, 6
- M/E-2 Key7, 8
- M/E-3 Key1, 2
- M/E-3 Key3, 4
- M/E-3 Key5, 6
- M/E-3 Key7, 8
- M/E-4 Key1, 2
- M/E-4 Key3, 4
- M/E-4 Key5, 6
- M/E-4 Key7, 8
- M/E-5 Key1, 2
- M/E-5 Key3, 4
- M/E-5 Key5, 6

- M/E-5 Key7, 8
- DSK1, 2
- DSK3, 4
- DSK5, 6
- DSK7, 8
- Key1, 2<sup>1)</sup>
- Key3, 4<sup>1)</sup>
- Key5, 6<sup>1)</sup>
- Key7, 8<sup>1)</sup>
- N/A (no assignment)

1) These keys are the keys of the M/E-1, M/E-2, M/E-3, M/E-4, M/E-5, or PGM/PST bank depending on the settings of the M/E Assign menu of the interface port for the extension section in which the independent key transition control block is installed.

## To assign a key to the main base

To assign a key to the independent key transition control block (simple type), use the following procedure. Here the example shown is the case in which keys 3 and 4 (“Key3, 4”) are assigned to the second row switcher bank of the main base.

- 1 In the Panel >Config menu, press [Compact Key Module Assign].

The Compact Key Module Assign menu appears. The left side of the status area shows data for the main base (physical layout and switcher bank names and key assignment).

- 2 Press directly on the display on the left, to select the control block for the assignment. Here, press on the intersection of the “2nd Row” column and “Module” row.

- 3 Select the key from the table on the right.

- 4 Press [Set].

### To return the key assignment to the default

In the Compact Key Module Assign menu, press [Default]. This returns all key assignments for the main base to their factory default state.

## To assign a key to an extension

Press [Extension Port], to display the Extension Port menu, then continue as for the main base.

To return the extension assignments to their original values, press [Default].

# Assigning Functions to Key Control Block Buttons

Select one of the four key control blocks installed in the main base and extension, then assign functions to the 30 buttons.

- 1 In the Panel >Config menu, press [Link/Program Button].  
The Link/Program Button menu appears.
- 2 Press [Key Control Module].  
The Key Control Module menu appears.
- 3 Press one of [1st], [2nd], [3rd], and [4th], to select the key control block.
- 4 Press [Button Assign].  
The assignment status of the control block you selected in step 3 above appears.



- 5 Press the button to which you want to assign a function, displaying it in reverse video.
- 6 Using any of the following methods, select the function you want to assign from the Button Assign list.
  - Press directly on the list.
  - Press the arrow keys to scroll the reverse video cursor.
  - Turn the knob.
- 7 When you have completed the required assignments, press [Set].

| Knob | Parameter     | Adjustment                               | Setting values     |
|------|---------------|--|--------------------|
| 1    | Button Assign | Select function to be assigned to button | 1 to maximum value |

# Assigning Preview Output to Preview Selection Buttons

It is possible to assign any preview output to a preview selection button.  
This applies to the preview selection buttons in the fade-to-black control block and the downstream key/fade-to-black control block.

## Notes

This operation cannot be done in the CCP-9000A.

- 1 In the Panel >Config menu, press [Link/Program Button].  
The Link/Program Button menu appears.
- 2 Press [Fade To Black Module].  
The Fade To Black Module menu appears.  
On the left of the status area, preview selection buttons (1 to 11) appear. On the right side a list of signals to be assigned appears.
- 3 In the button indications on the left, press the button for the assignment.
- 4 Using any of the following methods, select the signal to be assigned.
  - Press directly on the list on the right.
  - In the list on the right, press the arrow keys to scroll the reverse video cursor.
  - Turn the knob.

| Knob | Parameter | Adjustment       | Setting values     |
|------|-----------|------------------|--------------------|
| 1    | Button    | Button selection | 1 to maximum value |

- 5 Press [Set].  
This assigns the signal selected in the list to the button.

## To cancel an assignment

Select the button, then press [Clear].  
This leaves nothing assigned.

## To return all preview selection button assignments to the factory default state

In the Fade To Black Module menu, press [Default].

## Assigning Functions to the Device Control Block

### Assigning devices or functions to the device selection buttons and other buttons of the device control block (search dial)

You can assign devices and functions to the device selection buttons, SBOX buttons and [DELAY] button of the device control block (search dial).

- 1 In the Panel >Config menu, press [Link/Program Button].

The Link/Program Button menu appears.

- 2 Press [Device Control Module].

The Device Control Module menu appears.

The left of the status area shows the device selection buttons, SBOX buttons and [DELAY] button of the device control block (search dial). The list on the right shows the devices and functions that can be assigned.

- 3 In the button displays on the left, press the button for the assignment.

- 4 Using any of the following methods, select the device or function to be assigned.

- Press directly on the list on the right.
- In the list on the right, press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter       | Adjustment                                     | Setting values     |
|------|-----------------|--|--------------------|
| 1    | Device Function | Selection of device or function to be assigned | 1 to maximum value |

- 5 Press [Set].

#### To cancel an assignment

Select the button, then press [Clear].

This removes the assignment to that button.

#### To return all device selection button assignments to the factory default state

In the Device Control Module menu, press [Default].

### Assigning devices and functions to the region selection buttons of the device control block (MKS-8031TB Trackball Module, option)

You can assign devices and functions to the region selection buttons of the optional device control block (trackball).

- 1 In the Panel >Config menu, press [Link/Program Button].

The Link/Program Button menu appears.

- 2 Press [Joystick/Trackball Module].

The Joystick/Trackball Module menu appears.

- 3 In the lower right <Mode Select> group, select [Device/Clip] or [Wipe/RSZR].

**Device/Clip:** Assignment while the device control block [DEV] button is lit

**Wipe/RSZR:** Assignment while no button is lit on the device control block or the [RSZR] button is lit. According to the selection, the left of the status area shows the region selection buttons of the device control block. The list on the right shows the devices and functions that can be assigned.

- 4 In the button displays on the left, press the button for the assignment.

- 5 Using any of the following methods, select the device or function to be assigned.

- Press directly on the list on the right.
- In the list on the right, press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment                                     | Setting values     |
|------|-----------|--|--------------------|
| 1    | Function  | Selection of device or function to be assigned | 1 to maximum value |

- 6 Press [Set].

#### To cancel an assignment

Select the button, then press [Clear].

This removes the assignment to that button.

#### To return all device selection button assignments to the factory default state

In the Joystick/Trackball Module menu, press [Default].

## Inhibiting Utility 2 Bus and Key Operations

You can inhibit operations on the utility 2 bus and keys 1 to 8 of the M/E and PGM/PST banks by menu operations. This inhibitions apply for the following control blocks.

- Cross-point control block
- Transition control block
- Independent key transition control block <sup>1)</sup>

<sup>1)</sup> Only when "Key1,2," "Key3,4," "Key5,6," or "Key7,8" are assigned by the Compact Key Module Assign menu.

## Notes

This operation cannot be done in the CCP-9000A.

**1** In the Panel >Config menu, press [Operation Inhibit].

Operation Inhibit menu appears.

**2** Press [M/E Operation Inhibit].

The M/E Operation Inhibit menu appears.

**3** In the list in the status area, using any of the following methods, select the switcher bank for which operations are to be inhibited.

- Press directly on the desired switcher bank in the list.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment  | Setting values     |
|------|-----------|---|--------------------|
| 1    | Bank      | Switcher bank selection for inhibiting operations | 1 to maximum value |

**4** In the <M/E Operation Inhibit> group, press the utility 2 bus or key button ([Util2 Bus] or [Key1] to [Key8]) for which operations are to be inhibited.

## Inhibiting DME Channel Selection Operations

You can inhibit DME channel selection operations from the device control block (trackball) or device control block (joystick).

**1** In the Panel >Config menu, press [Operation Inhibit].

The Operation Inhibit menu appears.

**2** Press [Joystick/Trackball Module].

The Joystick/Trackball Module menu appears.

**3** In the list in the status area, using any of the following methods, select the DME channel for which operations are to be inhibited.

- Press directly on the desired DME channel in the list.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment                                      | Setting values |
|------|-----------|---|----------------|
| 1    | DME Ch    | DME channel selection for inhibiting operations | 1 to 8         |

**4** Press [Inhibit].

## Assigning Functions to the Menu Control Block Top Menu and User Preference Buttons

To these 41 buttons, you can freely assign a menu recall or user preference button function.

**1** In the Panel >Config menu, press [Link/Program Button].

The Link/Program Button menu appears.

**2** Press [Menu Panel].

The Menu Panel menu appears.

The left side of the status area shows the Top menu selection buttons and user preference buttons, and the right side shows a list of menus and actions to be assigned.

**3** Using any of the following methods, scroll the display.

- Press the arrow keys.
- Turn the knob.

| Knob | Parameter | Adjustment | Setting values |
|------|-----------|------------|----------------|
| 1    | Scroll    | Scroll     | 1 to 5         |

**4** In the button indications on the left, press the button for the assignment.

**5** Using any of the following methods, select the menu or action to be assigned.

- Press directly on the right list.
- Press the arrow keys on the right list to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter   | Adjustment                | Setting values |
|------|-------------|---------------------------|----------------|
| 3    | Menu/Action | Select the menu or action | 1 to 45        |

**6** Press [Set] you confirm the setting.

This assigns the menu or action selected in the list to the button.

To cancel an assignment, select the button, then press [Clear].



To return all button assignments to the factory default state, in the Menu Panel menu, press [Default].

## Assigning Keys to the Cross-Point Control Block Key Delegation Buttons

- 1** In the Panel >Config menu, press [Link/Program Button].
- The Link/Program Button menu appears.
- 2** Press [CCP-9000 Key Deleg].
- The CCP-9000 Key Delegation menu appears. Four buttons appear for each of the M/E and P/P banks.
- 3** Press the button to which you want to assign a key, displaying it in reverse video.
- 4** Using any of the following methods, select the key you want to assign from the Button Assign list.
- Press directly on the list.
  - Press the arrow keys to scroll the reverse video cursor.
  - Turn the knob.

| Knob | Parameter        | Adjustment                               | Setting values |
|------|------------------|--|----------------|
| 1    | Button Assign No | Select function to be assigned to button | 1 to 8         |

- 5** Press [Set].

## Cross-Point Settings (Xpt Assign Menu)

To carry out the cross-point settings, use the Panel >Xpt Assign menu.

### To display the Xpt Assign menu

In the Engineering Setup menu, select VF2 ‘Panel’ and HF2 ‘Xpt Assign.’

The status area shows a list of “cross-point assign tables” to use for the M/E banks, PGM/PST bank, and various buses.

The following functions are available here.

- **Xpt Assign:** For each control block or bus, display and set the assignments to the main table and tables 1 to 14. You can also carry out settings to link switcher signal selection to the audio mixer.
- **Main, V/K Pair Assign:** Make cross-point settings for the main table.
  - Assign video/key sources for button numbers 1 to 300.
  - For each table, specify whether the rightmost cross-point button in each row is used as a shift button, and the operation mode when it is used as a shift button.
  - For the [SHIFT] button in the cross-point control block and for each table, select the mode in which this is a shift button dedicated to the source name displays, or the mode in which it is a shift button for all buses.
  - Disable cross-point buttons to work.
- **Mixer Xpt Assign:** Assign audio mixer cross-points to cross-point buttons in the main table.
- **Table Button Assign:** Create tables 1 to 14 in the same way as the main table.
- **Src Name:** Set source names of up to 16 characters.
- **LCD Color:** Set the LCD color for source name display.
- **Table Copy:** Copy table contents from the main table to tables 1 to 14 or between tables 1 to 14 (it is not possible to copy tables 1 to 14 to the main table).
- **Name Export:** This function sends the source name and destination name to the S-Bus.
- **Side Flags Button Assign:** Assign the rightmost button in the background A/B row to the side flag function (inserting a selected image on both sides of a 4:3 image).

## Creating Cross-Point Assign Tables

As cross-point assign tables, you can create a “main” table and up to 14 other tables (table 1 to table 14). However, you can only carry out assignment of the video and key combinations in the main table.

## Creating the main table

In the main table, a pair consisting of a video signal and a key signal is assigned to each button number. You can also assign the same signal to another button number at the same time. Further, you can delete currently assigned signals from the main table.

- 1 In the Panel >Xpt Assign menu or Panel >Xpt Assign >Table Button Assign menu, press [Main, V/K Pair Assign].

The Main, V/K Pair Assign menu appears.  
The left of the status area shows the video and key signal names, source number, and audio mixer cross-points (machine numbers) currently assigned in the main table. On the right is a list of the source numbers and signals that can be assigned. When the shift button is pressed, the number column is distinguished by color.

*For details of audio mixer cross-point assignment operations, see “Setting the audio mixer cross-points” (page 512).*

- 2 Using any of the following methods, select the button number.

- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter   | Adjustment                             | Setting values |
|------|-------------|--|----------------|
| 1    | V/K Pair No | Selection of video and key pair number | 1 to 300       |

- 3 When assigning a video signal, press [Video] in the <Assign> group. When assigning a key signal, press [Key]. You can select a video signal and a key signal at the same time.

### Notes

[Video] and [Key] in the <Assign> group cannot be turned off at the same time. At least the one or the other is always on.

- 4 Use any of the following methods to select the signal to assign.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment                         | Setting values                               |
|------|-----------|------------------------------------|--|
| 3    | Source No | Selection of source to be assigned | 1 to 326 (MVS-8000X)<br>1 to 152 (MVS-7000X) |

- 5 Using the buttons in the <Xpt Assign> group, assign the selected signal to the button number currently selected in the main table.

**Set:** Delete the signal currently assigned to the selected button number and make a new assignment.

**Insert:** Move down one line the signal currently assigned to the selected button number and following signals, and make a new assignment.

### Notes

When a button number upper than 121 is selected, execution of “Insert” is impossible. The signal assignments to button numbers upper than 121 cannot be changed. When “Insert” is executed for any other number, moving down of signals ends at number 120, and the signals assigned to numbers upper than 121 are maintained in their original lines.

## To disable a button

In the Panel >Xpt Assign >Main, V/K Pair Assign menu, select the button you want to disable, and press [Inhibit].

## To delete any currently assigned signal

In the Panel >Xpt Assign >Main, V/K Pair Assign menu, select the button corresponding to the signal you want to delete, and press [Delete] in the <Xpt Assign> group. Signal deletion is executed in accordance with the selection in the <Assign> group, and the signal assigned to the button number next to the selected button number and following signals move up one line.

### Notes

When a button number upper than 121 is selected, execution of “Delete” is impossible. The signal assignments to button numbers upper than 121 cannot be changed. When a signal assigned to any other button number is deleted, moving up of signals ends when the signal assigned to number 120 has moved to number 119, and the signals assigned to numbers upper than 121 are maintained in their original lines.

## Creating tables 1 to 14

When creating tables 1 to 14, in the same way as when creating the main table, you can assign the same signal to more than one button number, or delete currently assigned signals. However, assignment of video and key combinations is impossible.

- 1 In the Panel >Xpt Assign menu, press [Table Button Assign].

The Table Button Assign menu appears.  
The table number appears on the upper left part of the status area.

The left part of the status area shows the cross-point button numbers, video and key pair numbers, video signal source names and source numbers, and key signal source names and source numbers. When the shift button is pressed, the number column is distinguished by color.

The right part shows the video and key pair numbers, and the names of video signals and key signals set in the main table.

The Table Button Assign menu also allows you to access the Main, V/K Pair Assign menu and the Src Name/LCD Color menu.

- 2 Using the knob, select the table number.

| Knob | Parameter | Adjustment                       | Setting values |
|------|-----------|----------------------------------|----------------|
| 1    | Table No  | Selection of the table to be set | 1 to 14        |

- 3 Using any of the following methods, select the button number.

- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment                   | Setting values |
|------|-----------|------------------------------|----------------|
| 2    | Button No | Cross-point button selection | 1 to 300       |

- 4 Using any of the following methods, select the pair number.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter   | Adjustment  | Setting values |
|------|-------------|---|----------------|
| 3    | V/K Pair No | Selection of video and key pair number to be assigned | 1 to 300       |

- 5 Using the buttons in the <Button Assign> group, assign the selected pair number to the button number currently selected in table 1.

**Set:** Delete the signal currently assigned to the selected button number and make a new assignment.

**Insert:** Move down one line the signal currently assigned to the selected button number and following signals, and make a new assignment.

#### Notes

When a button number upper than 121 is selected, execution of “Insert” is impossible. The signal

assignments to button numbers upper than 121 cannot be changed. When “Insert” is executed for any other number, moving down of signals ends at number 120, and the signals assigned to numbers upper than 121 are maintained in their original lines.

#### To disable a button

In the Panel >Xpt Assign >Table Button Assign menu, select the button you want to disable, and press [Inhibit].

#### To delete any currently assigned signal

In the Panel >Xpt Assign >Table Button Assign menu, select the button corresponding to the signal you want to delete, and press [Delete] in the <Button Assign> group. The signal assigned to the button number next to the selected button number and following signals move up one line.

#### Notes

When a button number upper than 121 is selected, execution of “Delete” is impossible. The signal assignments to button numbers upper than 121 cannot be changed. When a signal assigned to any other button number is deleted, moving up of signals ends when the signal assigned to number 120 has moved to number 119, and the signals assigned to numbers upper than 121 are maintained in their original lines.

#### Returning the table to its default state

- 1 In the Panel >Xpt Assign >Main, V/K Pair Assign menu or Panel >Xpt Assign >Table Button Assign menu, press [Default Recall].

A confirmation message appears, asking whether or not to return to the default state.

- 2 To return to the default state, press [Yes], and to cancel the operation, press [No].

#### Setting the cross-point button shift operation

You can set the operation of the rightmost button in each row of cross-point buttons excluding the reentry buttons. In the <Xpt Shift Mode> group of the Panel >Xpt Assign >Main, V/K Pair Assign menu or Panel >Xpt Assign >Table Button Assign menu, select one of the following for each cross-point table.

**Hold:** Acts as a shift button, and the shifted version of the cross-point buttons is enabled while the button is held down.

**Lock:** Acts as a shift button, and pressing the button toggles between the shifted version and the unshifted version.

**Off:** Acts as a cross-point button, in a 16-button system as button number 16, in a 24-button system as button

number 24, and in a 32-button system as button number 32.

## Setting the action of the [SHIFT] button in the cross-point control block

In the <Display Shift Mode> group of the Panel >Xpt Assign >Main, V/K Pair Assign menu or Panel >Xpt Assign >Table Button Assign menu, select either of the following.

**Shift All Bus:** When this is On, it functions as a shift button for all buses.

**Key5-8 Select:** This functions as a shift button dedicated to the key 1 and key 2 rows. When On, keys 5 to 8 are selected, and when Off, keys 1 to 4 are selected.

### Notes

- It is not possible to make this setting separately for each of the M/E and PGM/PST banks.
- “Shift All Bus” is only valid when the cross-point button shift operation (*see previous item*) is set to “Lock” or “Off.”
- If both “Shift All Bus” and “Key5-8 Select” are off, the [SHIFT] button functions as a shift button for the source name display. It is not possible to set both “Shift All Bus” and “Key5-8 Select” to On.

## Setting the source signal name

- In the Panel >Xpt Assign menu or Panel >Xpt Assign >Table Button Assign menu, press [Src Name/LCD Color].

The Src Name/LCD Color menu appears.

- Turn the knob to select the signal to be set.

| Knob | Parameter | Adjustment                              | Setting values       |
|------|-----------|---|----------------------|
| 1    | Source No | Source signal selection                 | 1 to 326 (MVS-8000X) |
| 2    | Num       | Number of source signals to be selected | 1 to 152 (MVS-7000X) |

- Press [Source Name].

A keyboard window appears.

- Enter any name of not more than 16 characters, then press [Enter].

## Sequential names for multiple signals

When you specify a number at the end of a signal name, all of the signals in the range selected by knobs 1 and 2 are automatically assigned names ending with sequential numbers.

**Example:**

To assign sequential names to source signal 2 through source signal 4

- In step 2 above, set knob 1 to “2,” and set knob 2 to “3.”
- Set the name of source signal 2 to “CAM2.” The name “CAM3” is assigned automatically to source signal 3, and the name “CAM4” is assigned automatically to source signal 4.

## Setting the source name display color

- In the Panel >Xpt Assign >Table Button Assign >Src Name/LCD Color menu, turn the knobs to select the setting target.

| Knob | Parameter | Adjustment                              | Setting values       |
|------|-----------|---|----------------------|
| 1    | Source No | Source signal selection                 | 1 to 326 (MVS-8000X) |
| 2    | Num       | Number of source signals to be selected | 1 to 152 (MVS-7000X) |

- In the <LCD Color> group, select the color (Orange/Green/Yellow).

## Copying Cross-Point Assign Tables

The contents of a cross-point assign table can be copied to another cross-point assign table, and vice versa.

### Notes

The contents of a sub table cannot be copied to the main table.

- In the Panel >Xpt Assign menu, press [Table Copy].

The Table Copy menu appears.

The status area shows a list of copy sources and a list of copy destinations.

- Using any of the following methods, select the number of the table to use as the copy source and the number of the table you want to be the copy destination.

- Press directly on the list of copy sources (left-side list) or the list of copy destinations (right-side list) in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment                    | Setting values |
|------|-----------|-------------------------------|----------------|
| 1    | Left No   | Selection of copy source      | 1 to 15        |
| 2    | Right No  | Selection of copy destination | 1 to 14        |

**3** Press [Copy].

A confirmation message appears, asking whether or not to execute the copy.

**4** To execute the copy, press [Yes], and to cancel the operation, press [No].

## Selecting Cross-Point Assign Tables

For the M/E-1 bank or PGM/PST bank, you can select the cross-point assign table to be used.

When the AUX delegation buttons of the AUX control block in the control panel are selected, the table set for the M/E or P/P bank is used as the cross-point assign table in the cross-point control block.

### Notes

When manipulating the switcher buses with the MKS-8080/8082 AUX bus remote panel, you can assign a different cross-point table for each bus. However, it is not possible to assign cross-point tables 5 to 14.

**1** In the Panel >Xpt Assign menu, use any of the following methods to select the switcher bank.

- Press directly on the list on the left of the status area.
- Press the arrow keys on the list on the left to scroll the reverse video cursor.
- Turn the knobs.

| Knob | Parameter   | Adjustment                        | Setting values     |
|------|-------------|-----------------------------------|--------------------|
| 1    | Bank/Bus No | Switcher bank selection           | 1 to maximum value |
| 2    | Num         | Number of selected switcher banks | 1 to maximum value |

**2** Using any of the following methods, select the table.

- Press directly on the list on the right of the status area.
- Press the arrow keys on the list on the right to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment                        | Values  |
|------|-----------|-----------------------------------|---------|
| 3    | Table No  | Selection of table to be assigned | 1 to 15 |

**3** Press [Table Assign Set].

This sets the table for the selected switcher bank.

## Exporting Source Names and Destination Names

To send the source names and destination names to the S-Bus, use the following procedure.

**1** In the Panel >Xpt Assign menu, press [Name Export].

The Name Export menu appears.

**2** Turn the knob to set the station ID.

| Knob | Parameter  | Adjustment         | Setting values         |
|------|------------|--------------------|------------------------|
| 1    | Station ID | Station ID setting | 1 to 255 <sup>a)</sup> |

a) If set to 255, the information is sent to all stations (with display of "All").

**3** Press [Src Name Export].

This exports the source names to the station selected in step 2.

**4** Press [Dest Name Export].

This exports the destination names to the station selected in step 2.

### Notes

Since destination names cannot be selected freely, fixed names are used.

## Making Settings for Audio Mixer

### Enabling the function to link the audio mixer

### Notes

For audio mixer operations in this system, it is necessary to set Mixer ESAM-II for the DCU 9-pin serial port.

For details, see "Serial Port Settings (Serial Port Assign Menu)" (page 571).

**1** In the Panel >Xpt Assign menu, using any of the following methods, select the M/E bank or bus.

- Press directly on the list on the left of the status area.
- Press the arrow keys in the list on the left, to scroll the reverse video cursor.
- Turn the knob.

**2** Press [Audio Follow].

“Enable” appears in the “Audio Follow” column.

## Setting the audio mixer cross-points

To assign an audio mixer cross-point to a switcher cross-point pair (video/key), carry out the following procedure.

- 1 In the Panel >Xpt Assign menu, press [Mixer Xpt Assign].

The Mixer Xpt Assign menu appears.

- 2 In the list on the left, select the number for the setting.
- 3 In the list on the right, select the audio mixer cross-point (machine number).
- 4 Press [Set].

The audio mixer number appears in the “Mixer Xpt” column.

*For details of side flag operations, see “Side Flag Settings” in Chapter 10 (Volume 1).*

- 1 In the Panel >Xpt Assign menu, press [Side Flags Button Assign].

The Side Flags Button Assign menu appears.

- 2 Press [Side Flags Btn Assign], turning it on.

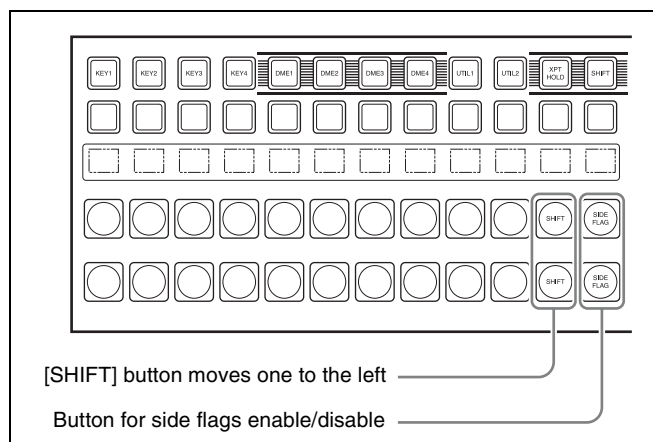
## Assigning a Cross-Point Button to Enable/Disable Side Flags

By assigning the side flag function to the rightmost button in a cross-point button row, you can use this button to enable/disable side flags for each of the M/E and PGM/PST banks.

This setting applies to all of the M/E and PGM/PST banks. When you make this assignment, the [SHIFT] button (the button assigned to the shift function) is moved one to the left.

### Notes

If a macro attachment is set, when you assign the button to the side flag function, the button numbers are offset, and therefore when you press the button this does not execute the macro. The settings, however, are maintained, so that when you cancel the side flag assignment, the macro can be accessed once more.



# Auxiliary Bus Control Block Settings (Aux Assign Menu)

To carry out the settings of the AUX delegation buttons in the auxiliary bus control block, use the Panel >Aux Assign menu.

## To display the Aux Assign menu

In the Engineering Setup menu, select VF2 'Panel' and HF3 'Aux Assign.'

The left side of the status area shows the delegation numbers, and the list of buses set; the right side shows a list of buses that can be assigned.

The following functions are available here.

- **Aux Assign:** Assign the AUX delegation buttons in the auxiliary bus control block to any bus.
- **Shift Mode:** Specify whether the rightmost button of the AUX delegation buttons is used as a shift button, and when it is used as a shift button, the operation mode.

## Assigning a Bus to an AUX Delegation Button

- 1 In the Panel >Aux Assign menu, using any of the following methods, select the delegation button and the bus to be assigned.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knobs.

| Knob | Parameter | Adjustment                         | Setting values         |
|------|-----------|------------------------------------|------------------------|
| 1    | Deleg No  | Selection of AUX delegation button | 1 to 128 <sup>a)</sup> |
| 2    | Bus No    | Selection of bus to be assigned    | 1 to 185 <sup>b)</sup> |

a) The setting can be from 1 to 20. The valid settings, however, depend on the number of buttons and the delegation button shift mode.

| Shift mode | Valid settings |
|------------|----------------|
| OFF        | 1 to 10        |
| ON         | 1 to 20        |

- b) The buses that can be assigned are as follows.  
 AUX1 to AUX48, DME1V to DME8V, DME1K to DME8K, M/E-1 Utility1 and 2, P/P Utility1 and 2, Frame Memory Source1 and 2, Edit Preview, DSK1 to 8 Fill/Source, M/E-1 Key 1 to 8 Fill/Source, M/E-1 EXT DME, P/P EXT DME, DME Utility 1 and 2, CCR 1 and 2
- For a button for which you want to disable operation, press [Inhibit].

- 2 Press [Set] to confirm the selection.

## To set the AUX delegation button shift operation

To set the operation mode of the rightmost button in the row of AUX delegation buttons, select one of the following in the <Shift Mode> group of the Panel >Aux Assign menu.

**Hold:** Acts as a shift button, and the shifted version of the AUX delegation buttons is enabled while the button is held down.

**Lock:** Acts as a shift button, and pressing the button toggles between the shifted version and the unshifted version of the AUX delegation buttons.

**Off:** Acts as an AUX delegation button. In a 16-button system it acts as button number 16, in a 24-button system as button number 24, and in a 32-button system as button number 32.

## Using the Auxiliary Bus Control Block for Router Control

To make router control settings, display the Panel >Aux Assign >RTR Mode Setting menu.

This menu is used to make settings related to "Router Control Menu Operations" in Chapter 8 (Volume 1).

## To display the RTR Mode Setting menu

- 1 In the Engineering Setup menu, select VF2 'Panel' and HF3 'Aux Assign.'

The Aux Assign menu appears.

- 2 Press [RTR Mode Setting].

The RTR Mode Setting menu appears. The left of the status area shows the destination number assignment status and source table, and the right side lists the destinations that can be assigned.

## Assigning a destination to a destination selection button

In the Panel >Aux Assign >RTR Mode Setting menu, use the following procedure.

- 1 Using any of the following methods, select a destination selection button and the destination to be assigned to the button.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knobs.

| Knob | Parameter | Adjustment                             | Setting values |
|------|-----------|--|----------------|
| 1    | Dest No   | Destination selection button selection | 1 to 128       |
| 2    | No        | Destination selection in S-Bus space   | 1 to 1024      |

For a button whose operation you want to disable, press [Inhibit].

#### Notes

When a destination selection button having a number in the range 65 to 128 is selected, source table selection automatically becomes invalid, and therefore the Inhibit function also becomes invalid.

**2** Press [Dest Set] to confirm the selection.

**3** If in step **1** you selected a value in the range 1 to 64, turn the knob to select the source table.

| Knob | Parameter    | Adjustment             | Setting values |
|------|--------------|------------------------|----------------|
| 3    | Source Table | Source table selection | 1 to 5         |

**4** Press [Source Table Set] to confirm the selection.

**5** Repeat steps **1** to **4** as required.

#### To set the shift operation of the destination selection buttons

To set the operation mode of the rightmost button in the destination selection button row, select one of the following in the <Dest Shift Mode> group of the Panel >Aux Assign >RTR Mode Setting menu.

**Hold:** Acts as a shift button, and the shifted destination selection buttons are enabled while the button is held down.

**Lock:** Acts as a shift button, and pressing the button toggles between the shifted and unshifted states of the destination selection buttons.

**Off:** Acts as a destination selection button, that is, button number 16 on a 16-button system, button number 24 on a 24-button system, and button number 32 on a 32-button system.

#### Setting the source table

**1** In the Panel >Aux Assign >RTR Mode Setting menu, press [Source Table Assign].

The Source Table Assign menu appears.

**2** In the <Source Table Select> group, select the source table you want to manipulate.

**3** Press [Table Assign].

The Table Assign menu appears.

The left of the status area lists the button numbers and set sources, and the right side lists the source that can be assigned.

**4** Using any of the following methods, select a source selection button and the source you want to assign.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knobs.

| Knob | Parameter | Adjustment                        | Setting values |
|------|-----------|-----------------------------------|----------------|
| 1    | Source No | Source selection button selection | 1 to 128       |
| 2    | No        | Source selection in S-Bus space   | 1 to 1024      |

For a button whose operation you want to disable, press [Inhibit].

**5** Press [Source Set] to confirm the selection.

#### To set the shift operation of the source selection buttons

To set the operation mode of the rightmost button in the source selection button row with different destinations assigned to the 1st and 2nd rows, select the source table in the Source Table Assign menu, then in the <Xpt Shift Mode> group select one of the following.

**Hold:** Acts as a shift button, and the shifted source selection buttons are enabled while the button is held down.

**Lock:** Acts as a shift button, and pressing the button toggles between the shifted and unshifted states of the source selection buttons.

**Off:** Acts as a cross-point button, that is, button number 16 on a 16-button system, button number 24 on a 24-button system, and button number 32 on a 32-button system.

#### To expand the shift function

To set the [KEY] button as a shift operation expansion button, in the Source Table Assign menu select the source table, then in the <Expand Xpt Shift Assign> group, press [Key Button].

In order not to expand the shift operation, press [No Assign] in the <Expand Xpt Shift Assign> group.

#### Assigning levels to a level selection button

To assign levels to the [LEVEL1] to [LEVEL4] buttons in the auxiliary bus control block, use the following procedure.

**1** In the Panel >Aux Assign >RTR Mode Setting menu, press [Level Button Assign].



The Level Button Assign menu appears. The status area shows a list of the assignment status of levels to each button.

- 2 In the <Level Button Select> group, select the button you want to set.
- 3 In the <Level Assign> group, press the levels you want to assign to the button, turning them on.

You can select plural of levels. You can also make a selection that overlaps that of another button.

## Selecting a destination selection button for a snapshot

To set whether snapshots are recalled for each destination selection button individually, use the Panel >Aux Assign >RTR Mode Setting menu as follows.

- 1 Use any of the following methods to select the destination selection button to which the setting applies.
  - Press directly on the list on the left of the status area.
  - Press the arrow keys to scroll the reverse video cursor.
  - Turn the knob.

| Knob | Parameter | Adjustment                                | Setting values |
|------|-----------|---|----------------|
| 1    | Dest No   | Selection of destination selection button | 1 to 128       |

- 2 Press [SS Enable], turning it on or off.

**On:** When a snapshot applying to the router is recalled, the recall also applies to the selected destination selection button.

**Off:** When a snapshot applying to the router is recalled, the recall does not apply to the selected destination selection button.

### Notes

When a destination selection button is set to Inhibit, then even if SS Enable is on, the snapshot for that destination is not recalled.

# Setting Button Assignments (Prefs/Utility Menu)

Assign the [PREFS 1] to [PREFS 16] buttons in the menu control block, and the utility/shotbox control block buttons.

This assigns recalling frequently used menus (menu shortcuts), enabling/disabling functions (recalling utility commands) and recalling shotbox registers or macro registers.

- **User Preference:** Make the settings for the user preference buttons in the menu control block.
- **Utility Module Assign:** Make the utility/shotbox control block settings.

## To display the Prefs/Utility menu

In the Engineering Setup menu, select VF2 'Panel' and HF4 'Prefs/Utility.'

The status area shows the settings of the user preference buttons.

## Assigning Functions to User Preference Buttons

- 1 In the Panel >Prefs/Utility menu, using any of the following methods, select the button to be assigned.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment                       | Setting values |
|------|-----------|----------------------------------|----------------|
| 1    | No        | User preference button selection | 1 to 16        |

- 2 In the <Action> group, select the function to be assigned.

**Menu Shortcut:** Assign a frequently used menu to be recalled (menu shortcut).

**Utility Command:** Assign a function enable/disable or similar operation (utility command).

**Macro Recall:** Assign a macro register recall.

**Shotbox Recall:** Assign a shotbox register recall.

- 3 Depending on the selection in step 2, make the following settings.

**When Menu Shortcut is selected:** For the subsequent operations, see "Assigning a menu shortcut to a user preference button" (page 519).

**When Utility Command is selected:** A list of commands appears on the right of the status area; using any of the following methods, select the command you want to assign.

- Press directly on the list.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob            | Parameter | Adjustment                | Setting values     |
|-----------------|-----------|---------------------------|--------------------|
| 3               | Command   | Utility command selection | 1 to maximum value |
| 4 <sup>a)</sup> | GPI No    | GPI port number           | 1 to maximum value |

a) When the Command parameter is set to Sw'er GPI Test Fire, Panel GPI Test Fire, or DCU GPI Test Fire

**When Macro Recall is selected:** Turn the knob to select the macro register you want to assign.

| Knob | Parameter | Adjustment               | Setting values |
|------|-----------|--------------------------|----------------|
| 3    | Macro     | Macro register selection | 1 to 250       |

**When Shotbox Recall is selected:** Turn the knob to select the shotbox register you want to assign.

| Knob | Parameter | Adjustment                 | Setting values |
|------|-----------|----------------------------|----------------|
| 3    | Shotbox   | Shotbox register selection | 1 to 99        |

**4** Press [Action Set].

This assigns the selected action, which is reflected in the status area.

#### To cancel an assignment

After selecting the relevant button, press [Clear].

#### To display register names in the Utility Command column

If in step **2** you select [Macro Recall] or [Shotbox Recall], press [Reg Name Display] to select whether or not register names appear in the Utility Command column.

#### Using the [PREFS 9] to [PREFS 16] settings

There are sixteen user preference buttons that can be set, [PREFS 1] to [PREFS 16], but there are only eight user preference buttons present in the menu control block. By default these buttons are assigned to the [PREFS 1] to [PREFS 8] settings. Therefore, to use the settings of [PREFS 9] to [PREFS 16], it is necessary to access the Engineering Setup >Panel >Config >Link/Program Button >Menu Panel menu, and assign these settings to buttons in the menu control block.

### List of utility commands and user preference button status

The following table shows the utility commands that can be assigned to user preference buttons.

| Command name <sup>a)</sup>                | Function  | Button status |          |
|---|---|---------------|----------|
|   |   | Lit amber     | Off      |
| SWR Remote1 Enbl<br> <br>SWR Remote4 Enbl | Switcher Remote 1 enabled/disabled<br> <br>Switcher Remote 4 enabled/disabled   | Enabled       | Disabled |
| DME1 Editor Port Enbl                     | DME1 editor port enabled/disabled   | Enabled       | Disabled |
| DME2 Editor Port Enbl                     | DME2 editor port enabled/disabled   | Enabled       | Disabled |
| DME3 Editor Port Enbl                     | DME3 editor port enabled/disabled   | Enabled       | Disabled |
| DME4 Editor Port Enbl                     | DME4 editor port enabled/disabled   | Enabled       | Disabled |
| ME1 PGM1 ST<br> <br>ME1 PGM4 ST           | M/E-1 PGM1 output safe title on/off<br> <br>M/E-1 PGM4 output safe title on/off | On            | Off      |
| ME1 PVW ST                                | M/E-1 preview output safe title on/off  | On            | Off      |
| ME1 Clean ST                              | M/E-1 clean output safe title on/off  | On            | Off      |
| ME1 K-PVW ST                              | M/E-1 key preview output safe title on/off                                      | On            | Off      |
| ME2 PGM1 ST<br> <br>ME2 PGM4 ST           | M/E-2 PGM1 output safe title on/off<br> <br>M/E-2 PGM4 output safe title on/off | On            | Off      |
| ME2 PVW ST                                | M/E-2 preview output safe title on/off  | On            | Off      |
| ME2 Clean ST                              | M/E-2 clean output safe title on/off  | On            | Off      |

| Command name <sup>a)</sup>      | Function  | Button status               |                                |
|---------------------------------|---|-----------------------------|--------------------------------|
|                                 |   | Lit amber                   | Off                            |
| ME2 K-PVW ST                    | M/E-2 key preview output safe title on/off                                      | On                          | Off                            |
| ME3 PGM1 ST<br> <br>ME3 PGM4 ST | M/E-3 PGM1 output safe title on/off<br> <br>M/E-3 PGM4 output safe title on/off | On                          | Off                            |
| ME3 PVW ST                      | M/E-3 preview output safe title on/off  | On                          | Off                            |
| ME3 Clean ST                    | M/E-3 clean output safe title on/off  | On                          | Off                            |
| ME3 K-PVW ST                    | M/E-3 key preview output safe title on/off                                      | On                          | Off                            |
| ME4 PGM1 ST<br> <br>ME4 PGM4 ST | M/E-4 PGM1 output safe title on/off<br> <br>M/E-4 PGM4 output safe title on/off | On                          | Off                            |
| ME4 PVW ST                      | M/E-4 preview output safe title on/off  | On                          | Off                            |
| ME4 Clean ST                    | M/E-4 clean output safe title on/off  | On                          | Off                            |
| ME4 K-PVW ST                    | M/E-4 key preview output safe title on/off                                      | On                          | Off                            |
| ME5 PGM1 ST<br> <br>ME5 PGM4 ST | M/E-5 PGM1 output safe title on/off<br> <br>M/E-5 PGM4 output safe title on/off | On                          | Off                            |
| ME5 PVW ST                      | M/E-5 preview output safe title on/off  | On                          | Off                            |
| ME5 Clean ST                    | M/E-5 clean output safe title on/off  | On                          | Off                            |
| ME5 K-PVW ST                    | M/E-5 key preview output safe title on/off                                      | On                          | Off                            |
| PP PGM1 ST<br> <br>PP PGM4 ST   | P/P PGM1 output safe title on/off<br> <br>P/P PGM4 output safe title on/off     | On                          | Off                            |
| PP PVW ST                       | P/P preview output safe title on/off  | On                          | Off                            |
| PP Clean ST                     | P/P clean output safe title on/off  | On                          | Off                            |
| PP K-PVW ST                     | P/P key preview output safe title on/off  | On                          | Off                            |
| DME Mon Video ST                | DME Monitor Video output safe title on/off                                      | On                          | Off                            |
| DME Mon Key ST                  | DME Monitor Key output safe title on/off  | On                          | Off                            |
| Edit PVW ST                     | Edit preview output safe title on/off   | On                          | Off                            |
| Preset ST                       | Preset output safe title on/off   | On                          | Off                            |
| AUX1 ST<br> <br>AUX48 ST        | AUX1 output safe title on/off<br> <br>AUX48 output safe title on/off            | On                          | Off                            |
| FM Src1 Frame Freeze            | Frame freeze of frame memory source 1   | During frame freeze         | Either of the other two states |
| FM Src1 Filed Freeze            | Field freeze of frame memory source 1   | During field freeze         | Either of the other two states |
| FM Src1 Freeze Off              | Release freeze of frame memory source 1   | While freeze being released | Either of the other two states |
| FM Src2 Frame Freeze            | Frame freeze of frame memory source 2   | During frame freeze         | Either of the other two states |
| FM Src2 Field Freeze            | Field freeze of frame memory source 2   | During field freeze         | Either of the other two states |
| FM Src2 Freeze Off              | Release freeze of frame memory source 2   | While freeze being released | Either of the other two states |
| SWR GPI Enbl                    | Enable/disable switcher GPI   | Enabled                     | Disabled                       |
| DME1 GPI Enbl                   | Enable/disable DME1 GPI   | Enabled                     | Disabled                       |
| DME2 GPI Enbl                   | Enable/disable DME2 GPI   | Enabled                     | Disabled                       |
| DME3 GPI Enbl                   | Enable/disable DME3 GPI   | Enabled                     | Disabled                       |
| DME4 GPI Enbl                   | Enable/disable DME4 GPI   | Enabled                     | Disabled                       |



| Command name <sup>a)</sup>                        | Function  | Button status   |                               |
|---|---|---|-------------------------------|
|   |   | Lit amber   | Off                           |
| Panel GPI Enbl                                    | Enable/disable panel GPI  | Enabled   | Disabled                      |
| SWR GPI1 Test Fire<br> <br>SWR GPI8 Test Fire     | Output test trigger from switcher GPI1<br> <br>Output test trigger from switcher GPI8   | Output (lights only at the instant the button is pressed) | When the output is assigned   |
| Panel GPI1 Test Fire<br> <br>Panel GPI8 Test Fire | Output test trigger from panel GPI1<br> <br>Output test trigger from panel GPI8   | Output (lights only at the instant the button is pressed) | When the output is assigned   |
| DCU GPI1 Test Fire<br> <br>DCU GPI50 Test Fire    | Output test trigger from port assigned to DCU GPI1<br> <br>Output test trigger from port assigned to DCU GPI50                                | Output (lights only at the instant the button is pressed) | When the output is assigned   |
| Macro Attachment Enbl                             | Enable/disable macro attachment   | Enabled   | Disabled                      |
| Macro Only Set                                    | Macro only mode on/off  | On  | Off                           |
| Pre Macro   | Set macro attachment in pre macro mode  | Can be set only while pressed (lit)                       | When the function is assigned |
| Post Macro  | Set macro attachment in post macro mode   | Can be set only while pressed (lit)                       | When the function is assigned |
| Macro Take  | Macro execution   | During execution  | When the function is assigned |
| Macro Cancel                                      | Macro cancel  | Lights only at the instant the button is pressed          | When the function is assigned |
| Macro Auto Ins                                    | Macro auto insert mode on/off   | On  | Off                           |
| Macro AT with Rate                                | When registering an auto transition macro event, on/off setting of mode to save transition rate   | On  | Off                           |
| Macro AT with A/B Bus                             | When registering an auto transition macro event for the transition control block, on/off setting of mode to save A/B Bus cross-point settings | On  | Off                           |
| Macro TL with Region                              | When registering a timeline macro event, on/off setting of mode to save applicable region   | On  | Off                           |
| DME Override                                      | DME override on/off   | On  | Off                           |
| DME Graphic                                       | DME graphics on/off (applies to graphics for channel selected in device control block)  | On  | Off                           |
| System Manager Enbl                               | Enable/disable operation from System Manager  | Enabled   | Disabled                      |
| Plug-In Editor Enbl                               | Enable/disable operation from an editing keyboard   | Enabled   | Disabled                      |
| Inhibit Set                                       | Inhibit cross-point button  | Can be set only while pressed (lit)                       | When the function is assigned |
| Inhibit All Clear                                 | Clear all cross-point button inhibit settings   | Can be set only while pressed (lit)                       | When the function is assigned |
| K-SS Store  | Enable/disable key snapshot saving <sup>b)</sup>  | Enabled   | Disabled                      |
| 1st DSK Fader Inhibit                             | Inhibit operation of the first downstream key control block   | On  | Off                           |
| 2nd DSK Fader Inhibit                             | Inhibit operation of the second downstream key control block  | On  | Off                           |
| 3rd DSK Fader Inhibit                             | Inhibit operation of the third downstream key control block   | On  | Off                           |
| 4th DSK Fader Inhibit                             | Inhibit operation of the fourth downstream key control block  | On  | Off                           |

| Command name <sup>a)</sup> | Function                                 | Button status               |                      |
|----------------------------|--|-----------------------------|----------------------|
|                            |  | Lit amber                   | Off                  |
| SWR1 LAN Status            | SWR1 communications status <sup>c)</sup> | Communications disconnected | During communication |
| SWR2 LAN Status            | SWR2 communications status <sup>c)</sup> | Communications disconnected | During communication |

a) For the safe title on/off commands (from ME1 PGM1 ST-ME1 PGM4 ST to AUX1 ST-AUX48 ST), the name of the assigned output signal is shown.

b) Pressing this button to turn it on enables key snapshot operations for all control blocks.

c) Control LAN status only.

## Assigning a menu shortcut to a user preference button

- Referring to the procedure up to step 2 of “Assigning Functions to User Preference Buttons” (page 515), select [Menu Shortcut].

The user preference buttons [PREFS 1] to [PREFS 16] flash amber.

- Using any of the following methods, display the menu to which you want to make a shortcut.

- In the menu control block, press the relevant top menu selection button, then select VF and HF.
- Press the menu page number button in the upper left corner of the menu screen, then enter a menu number from the numeric keypad window.
- Press a particular control panel button twice in rapid succession.

- Press the user preference button to which you want to assign the shortcut.

The menu screen goes back to the Panel >Prefs/Utility menu, and the selection is reflected in the status area. The user preference buttons [PREFS 1] to [PREFS 16] flash amber.

- Repeat steps 2 and 3 as required, to assign all desired menu shortcuts to the user preference buttons.

## To abandon the process of menu shortcut assignment

In the Prefs/Utility menu, press [Menu Shortcut] once more.

This exits the menu shortcut assignment mode.

## Assigning a Function to a Memory Recall Button in the Utility/Shotbox Control Block (MKS-8033 Utility/Shotbox Module, Option)

- In the Panel >Prefs/Utility menu, press [Utility Module Assign].

The Utility Module Assign menu appears. The status area shows the settings in the utility/shotbox control block.

- Using any of the following methods, select the button to be assigned.

- Press directly on the list.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knobs.

| Knob | Parameter | Adjustment                     | Setting values |
|------|-----------|--------------------------------|----------------|
| 1    | Bank      | Bank selection                 | 1 to 4         |
| 2    | Button No | Control block button selection | 1 to 24        |

- In the <Action> group, select the function you want to assign.

**Menu Shortcut:** Assign a frequently used menu to be recalled (menu shortcut).

**Utility Command:** Assign a function on/off or similar operation (utility command).

**Macro Recall:** Assign a macro register recall.

**Shotbox Recall:** Assign a shotbox register recall.

- Depending on the selection in step 3, make the following settings.

**When Menu Shortcut is selected:** For the subsequent operations, see “Assigning a menu shortcut to a memory recall button” (page 523).

**When Utility Command is selected:** A list of commands appears on the right of the status area; using any of the following methods, select the command you want to assign.

- Press directly on the list.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob            | Parameter | Adjustment                | Setting values     |
|-----------------|-----------|---------------------------|--------------------|
| 3               | Command   | Utility command selection | 1 to maximum value |
| 4 <sup>a)</sup> | GPI No    | GPI port number           | 1 to maximum value |

a) When the Command parameter is set to Sw'er GPI Test Fire, Panel GPI Test Fire, or DCU GPI Test Fire

**When Macro Recall is selected:** Turn the knob to select the macro register you want to assign.

| Knob | Parameter | Adjustment               | Setting values |
|------|-----------|--------------------------|----------------|
| 3    | Macro     | Macro register selection | 1 to 250       |

**When Shotbox Recall is selected:** Turn the knob to select the shotbox register you want to assign.

| Knob | Parameter | Adjustment                 | Setting values |
|------|-----------|----------------------------|----------------|
| 3    | Shotbox   | Shotbox register selection | 1 to 99        |

## 5 Press [Action Set].

This assigns the selected action, which is reflected in the status area.

In the utility/shotbox control block, the assigned button lights orange.

If a shotbox register was assigned, the register name appears.

### To cancel an assignment

After selecting the relevant button, press [Clear].

### To display register names in the Utility Command column

If in step **3** you select [Macro Recall] or [Shotbox Recall], press [Reg Name Display] to select whether or not register names appear in the Utility Command column.

## List of utility commands and memory recall button status

The following table shows the utility commands that can be assigned to memory recall buttons.

| Command name <sup>a)</sup>                | Function  | Button status |            |
|---|---|---------------|------------|
|   |   | Lit green     | Lit orange |
| SWR Remote1 Enbl<br> <br>SWR Remote4 Enbl | Switcher Remote 1 enabled/disabled<br> <br>Switcher Remote 4 enabled/disabled   | Enabled       | Disabled   |
| DME1 Editor Port Enbl                     | DME1 editor port enabled/disabled   | Enabled       | Disabled   |
| DME2 Editor Port Enbl                     | DME2 editor port enabled/disabled   | Enabled       | Disabled   |
| DME3 Editor Port Enbl                     | DME3 editor port enabled/disabled   | Enabled       | Disabled   |
| DME4 Editor Port Enbl                     | DME4 editor port enabled/disabled   | Enabled       | Disabled   |
| ME1 PGM1 ST<br> <br>ME1 PGM4 ST           | M/E-1 PGM1 output safe title on/off<br> <br>M/E-1 PGM4 output safe title on/off | On            | Off        |
| ME1 PVW ST                                | M/E-1 preview output safe title on/off  | On            | Off        |
| ME1 Clean ST                              | M/E-1 clean output safe title on/off  | On            | Off        |
| ME1 K-PVW ST                              | M/E-1 key preview output safe title on/off                                      | On            | Off        |
| ME2 PGM1 ST<br> <br>ME2 PGM4 ST           | M/E-2 PGM1 output safe title on/off<br> <br>M/E-2 PGM4 output safe title on/off | On            | Off        |
| ME2 PVW ST                                | M/E-2 preview output safe title on/off  | On            | Off        |
| ME2 Clean ST                              | M/E-2 clean output safe title on/off  | On            | Off        |
| ME2 K-PVW ST                              | M/E-2 key preview output safe title on/off                                      | On            | Off        |
| ME3 PGM1 ST<br> <br>ME3 PGM4 ST           | M/E-3 PGM1 output safe title on/off<br> <br>M/E-3 PGM4 output safe title on/off | On            | Off        |
| ME3 PVW ST                                | M/E-3 preview output safe title on/off  | On            | Off        |
| ME3 Clean ST                              | M/E-3 clean output safe title on/off  | On            | Off        |
| ME3 K-PVW ST                              | M/E-3 key preview output safe title on/off                                      | On            | Off        |

| Command name <sup>a)</sup>                        | Function  | Button status   |                                |
|---|---|---|--------------------------------|
|   |   | Lit green   | Lit orange                     |
| ME4 PGM1 ST<br> <br>ME4 PGM4 ST                   | M/E-4 PGM1 output safe title on/off<br> <br>M/E-4 PGM4 output safe title on/off       | On  | Off                            |
| ME4 PVW ST  | M/E-4 preview output safe title on/off  | On  | Off                            |
| ME4 Clean ST                                      | M/E-4 clean output safe title on/off  | On  | Off                            |
| ME4 K-PVW ST                                      | M/E-4 key preview output safe title on/off  | On  | Off                            |
| ME5 PGM1 ST<br> <br>ME5 PGM4 ST                   | M/E-5 PGM1 output safe title on/off<br> <br>M/E-5 PGM4 output safe title on/off       | On  | Off                            |
| ME5 PVW ST  | M/E-5 preview output safe title on/off  | On  | Off                            |
| ME5 Clean ST                                      | M/E-5 clean output safe title on/off  | On  | Off                            |
| ME5 K-PVW ST                                      | M/E-5 key preview output safe title on/off  | On  | Off                            |
| PP PGM1 ST<br> <br>PP PGM4 ST                     | PP PGM1 output safe title on/off<br> <br>PP PGM4 output safe title on/off             | On  | Off                            |
| PP PVW ST   | P/P preview output safe title on/off  | On  | Off                            |
| PP Clean ST                                       | P/P clean output safe title on/off  | On  | Off                            |
| PP K-PVW ST                                       | P/P key preview output safe title on/off  | On  | Off                            |
| DME Mon Video ST                                  | DME Monitor Video output safe title on/off  | On  | Off                            |
| DME Mon Key ST                                    | DME Monitor Key output safe title on/off  | On  | Off                            |
| Edit PVW ST                                       | Edit preview output safe title on/off   | On  | Off                            |
| Preset ST   | Preset output safe title on/off   | On  | Off                            |
| AUX1 ST<br> <br>AUX48 ST                          | AUX1 output safe title on/off<br> <br>AUX48 output safe title on/off                  | On  | Off                            |
| FM Src1 Frame Freeze                              | Frame freeze of frame memory source 1   | During frame freeze                                       | Either of the other two states |
| FM Src1 Filed Freeze                              | Field freeze of frame memory source 1   | During field freeze                                       | Either of the other two states |
| FM Src1 Freeze Off                                | Release freeze of frame memory source 1   | While freeze being released                               | Either of the other two states |
| FM Src2 Frame Freeze                              | Frame freeze of frame memory source 2   | During frame freeze                                       | Either of the other two states |
| FM Src2 Field Freeze                              | Field freeze of frame memory source 2   | During field freeze                                       | Either of the other two states |
| FM Src2 Freeze Off                                | Release freeze of frame memory source 2   | While freeze being released                               | Either of the other two states |
| SWR GPI Enbl                                      | Enable/disable switcher GPI   | Enabled   | Disabled                       |
| DME1 GPI Enbl                                     | Enable/disable DME1 GPI   | Enabled   | Disabled                       |
| DME2 GPI Enbl                                     | Enable/disable DME2 GPI   | Enabled   | Disabled                       |
| DME3 GPI Enbl                                     | Enable/disable DME3 GPI   | Enabled   | Disabled                       |
| DME4 GPI Enbl                                     | Enable/disable DME4 GPI   | Enabled   | Disabled                       |
| Panel GPI Enbl                                    | Enable/disable panel GPI  | Enabled   | Disabled                       |
| SWR GPI1 Test Fire<br> <br>SWR GPI8 Test Fire     | Output test trigger from switcher GPI1<br> <br>Output test trigger from switcher GPI8 | Output (lights only at the instant the button is pressed) | When the output is assigned    |
| Panel GPI1 Test Fire<br> <br>Panel GPI8 Test Fire | Output test trigger from panel GPI1<br> <br>Output test trigger from panel GPI8       | Output (lights only at the instant the button is pressed) | When the output is assigned    |

| Command name <sup>a)</sup>                     | Function  | Button status   |                               |
|--|---|---|-------------------------------|
|  |   | Lit green   | Lit orange                    |
| DCU GPI1 Test Fire<br> <br>DCU GPI50 Test Fire | Output test trigger from port assigned to DCU GPI1<br> <br>Output test trigger from port assigned to DCU GPI50                                | Output (lights only at the instant the button is pressed) | When the output is assigned   |
| Macro Attachment Enbl                          | Enable/disable macro attachment   | Enabled   | Disabled                      |
| Macro Only Set                                 | Macro only mode on/off  | On  | Off                           |
| Pre Macro                                      | Set macro attachment in pre macro mode  | Can be set only while pressed (lit)                       | When the function is assigned |
| Post Macro                                     | Set macro attachment in post macro mode   | Can be set only while pressed (lit)                       | When the function is assigned |
| Macro Take                                     | Macro execution   | During execution  | When the function is assigned |
| Macro Cancel                                   | Macro cancel  | Lights only at the instant the button is pressed          | When the function is assigned |
| Macro Auto Ins                                 | Macro auto insert mode on/off   | On  | Off                           |
| Macro AT with Rate                             | When registering an auto transition macro event, on/off setting of mode to save transition rate   | On  | Off                           |
| Macro AT with A/B Bus                          | When registering an auto transition macro event for the transition control block, on/off setting of mode to save A/B Bus cross-point settings | On  | Off                           |
| Macro TL with Region                           | When registering a timeline macro event, on/off setting of mode to save applicable region   | On  | Off                           |
| DME Override                                   | DME override on/off   | On  | Off                           |
| DME Graphic                                    | DME graphics on/off (applies to graphics for channel selected in device control block)  | On  | Off                           |
| Plug-In Editor Enbl                            | Enable/disable operation from an editing keyboard   | Enabled   | Disabled                      |
| Inhibit Set                                    | Inhibit cross-point button  | Can be set only while pressed (lit)                       | When the function is assigned |
| Inhibit All Clear                              | Clear all cross-point button inhibit settings   | Can be set only while pressed (lit)                       | When the function is assigned |
| K-SS Store                                     | Enable/disable key snapshot saving <sup>b)</sup>  | Enabled   | Disabled                      |
| 1st DSK Fader Inhibit                          | Inhibit operation of the first downstream key control block   | On  | Off                           |
| 2nd DSK Fader Inhibit                          | Inhibit operation of the second downstream key control block  | On  | Off                           |
| 3rd DSK Fader Inhibit                          | Inhibit operation of the third downstream key control block   | On  | Off                           |
| 4th DSK Fader Inhibit                          | Inhibit operation of the fourth downstream key control block  | On  | Off                           |
| SWR1 LAN Status                                | SWR1 communications status <sup>c)</sup>  | Communications disconnected                               | During communication          |
| SWR2 LAN Status                                | SWR2 communications status <sup>c)</sup>  | Communications disconnected                               | During communication          |

a) For the safe title on/off commands (from ME1 PGM1 ST-ME1 PGM4 ST to AUX1 ST-AUX48 ST), the name of the assigned output signal is shown.

b) Pressing this button to turn it on enables key snapshot operations for all control blocks.

c) Control LAN status only.



## Assigning a menu shortcut to a memory recall button

- 1 Referring to the procedure up to step 3 in “Assigning a Function to a Memory Recall Button in the Utility/Shotbox Control Block (MKS-8033 Utility/Shotbox Module, Option)” (page 519), select [Menu Shortcut].

The memory recall buttons in the utility/shotbox control block flash orange.

- 2 Using any of the following methods, display the menu to which you want to make a shortcut.

- In the menu control block, press the relevant top menu selection button, then select VF and HF.
- Press the menu page number button in the upper left corner of the menu screen, then enter a menu number from the numeric keypad window.
- Press a particular control panel button twice in rapid succession.

- 3 In the utility/shotbox control block, select the bank, and press the button to which you want to assign the shortcut.

The menu screen goes back to the Panel >Prefs/Utility >Utility Module Assign menu, and the selection is reflected in the status area.

The buttons in the utility/shotbox control block flash.

- 4 Repeat steps 2 and 3 as required, to assign all desired menu shortcuts to the buttons in the utility/shotbox control block.

### To abandon the process of menu shortcut assignment

In the Utility Module Assign menu, press [Menu Shortcut]. This exits the menu shortcut assignment mode.

## Setting names to be displayed in memory recall buttons

### Notes

The name you set using the following procedure is displayed only when “Menu Shortcut” or “Utility Command” has been assigned to the selected memory recall button. To set a name for display in a memory recall button to which “Shotbox Recall” or “Macro Recall” has been assigned, use the Shotbox menu or Macro menu.

- 1 In the Panel >Prefs/Utility >Utility Module Assign menu, select the button using any of the following methods.

- Press directly on the list.

- Press the arrow keys to scroll the reverse video cursor.
- Turn the knobs.

| Knob | Parameter | Adjustment                     | Setting values |
|------|-----------|--------------------------------|----------------|
| 1    | Bank      | Bank selection                 | 1 to 4         |
| 2    | Button No | Control block button selection | 1 to 24        |

- 2 Press [Name].

A keyboard window appears.

- 3 Enter a name of not more than eight characters, and press [Enter].

The name you have set is reflected in the status area and on the memory recall button in the utility/shotbox control block.

# Interfacing With External Devices (Device Interface Menu)

To carry out setup relating to connections with external devices, display the Panel >Device Interface menu.

## To display the Device Interface menu

In the Engineering Setup menu, select VF2 'Panel' and HF5 'Device Interface.'

The following functions are available here.

- **GPI Input:** Set the GPI input ports and trigger type, and make the action settings.
- **GPI Output:** Set the GPI output ports and trigger type, and make the action settings.
- **P-Bus Control:** Set the control mode for P-Bus devices.
- **DCU Serial Port Assign:** Assign the devices (disk recorder/VTR/Extended VTR) connected to a DCU and accessible from the control panel to the [DEV1] to [DEV12] buttons which become operative when you press the [DEV] button on the device control block. For a disk recorder or Extended VTR, you can also make settings relating to sharing of file lists. Further, you can make settings for devices (disk recorder/VTR/Extended VTR) operable from an editing keyboard.
- **Editor Port Assign:** When the BZS-8050 license is valid, make settings for the SCU editor panel port.
- **Aux Bus Override Mode:** Set the operating mode when "Aux ? O'ride Src ??" is selected as the GPI input action.

## Making Control Panel GPI Input Settings

- 1 In the Panel >Device Interface menu, press [GPI Input].


The GPI Input menu appears.


- 2 Using any of the following methods, select the settings.


- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.


| Knob | Parameter | Adjustment     | Setting values |
|------|-----------|----------------|----------------|
| 1    | Port      | Port selection | 1 to 8         |

- 3 In the <Trigger Type> group, select the trigger type.

 **(Rising Edge):** Apply the trigger on a rising edge of an input pulse.

 **(Falling Edge):** Apply the trigger on a falling edge of an input pulse.

 **(Any Edge):** Apply the trigger on a change in the polarity of the input signal.

 **(Level):** Carry out the specified operation when the input is low or high.

**No Operation:** Apply no trigger on an input pulse.

- 4 In the <Target> group, select the action block.

**M/E-1, M/E-2, M/E-3, M/E-4, M/E-5, P/P:** Set the action for one of the banks.

**Common/Setup:** Set an action for something other than the above, or a setup action.

- 5 Using any of the following methods, select the action to be set.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knobs.

| Knob | Parameter  | Adjustment                       | Setting values  |
|------|------------|----------------------------------|---|
| 2    | Action     | Action selection                 | 1 to maximum value <sup>a)</sup>  |
| 4    | Aux Bus No | AUX bus selection                | 1 to 48 <sup>b)</sup>   |
| 5    | Reg No     | Register number                  | 1 to 4 <sup>c)</sup><br>1 to 99 <sup>d)</sup><br>1 to 250 <sup>e)</sup><br>1 to 399 <sup>f)</sup> |
| 5    | Src No     | Source signal selection          | 1 to maximum value <sup>b) h) i)</sup>  |
| 5    | No         | User preference button selection | 1 to 16 <sup>g)</sup>   |

a) As for the setting values, see "Selectable actions for various trigger types" (page 524).

b) When knob 2 selection is "Aux ? O'ride Src ??"

c) When knob 2 selection is "Key Snapshot"

d) When knob 2 selection is "Snapshot" or "Shotbox"

e) When knob 2 selection is "Macro"

f) When knob 2 selection is "Effect"

g) When knob 2 selection is "Prefs Button?"

h) The following values apply to the MVS-8000X.

For primary inputs: 1 to 144

For premium inputs: 145 to 164 ((PREM1) to (PREM20) indicated after the number)

For format converter dedicated inputs: 165 to 180 ((FC1) to (FC16) indicated after the number)

i) The values from 1 to 80 apply to the MVS-7000X.

- 6 Press [Action Set] to confirm the action selection.

The selected setting appears in the status area.

## Selectable actions for various trigger types

- **When the trigger type is other than "Level"**

In M/E-x, the x is the M/E bank number (1 to 5); in

DSKx the x is the DSK number (1 to 8); in Keyx the x is the key number (1 to 8).

When Target is M/E-x: Cut, Auto Trans, Keyx Cut,  
Keyx Auto Trans, Keyx SS ? Recall  
When Target is P/P: Cut, Auto Trans, DSKx Cut, DSKx  
Auto Trans, DSKx SS ? Recall, FTB Auto Trans, FTB  
Cut

When Target is Common/Setup: Master SS ? Recall,  
Master Effect ? Recall, SS ? Recall, Effect ? Recall,  
Effect ? Recall & Run, KF Run, KF Stop, KF Rewind,  
FM Src1 Frame Freeze, FM Src1 Field Freeze, FM  
Src1 Freeze Off, FM Src2 Frame Freeze, FM Src2  
Field Freeze, FM Src2 Freeze Off, FM Src1 Clip  
Record, FM Src1 Clip Stop, FM Src2 Clip Record, FM  
Src2 Clip Stop, FM1 to FM8 Clip Cueup, FM1 to FM8  
Clip Play, FM1 to FM8 Clip Stop, Shotbox ? Recall,  
Macro Take, Prefs Button?, Macro ? Recall, No  
Action

- **When the trigger type is only “Rising Edge” or “Falling Edge”**

Aux? O’ride Src ??

- **When the trigger type is “Level”**

When Target is M/E-1, M/E-2, M/E-3, M/E-4, M/E-5, or  
P/P: No Action

When Target is Common/Setup: System Format (overall  
system settings), Aspect (overall system settings),  
Level Enable, Panel Status, No Action

#### Notes

- “Level Enable” is a function that determines whether GPI inputs are enabled (“Enable”) or disabled (“Disable”) for the “Aspect” and “System Format” actions that can be used when the trigger type is Level. When Level Enable is used, if the input is “Disable” then it is not possible to switch “Aspect” or “System Format” by GPI input.  
If a GPI to switch “Aspect” or “System Format” occurs when powering the system off, the action triggered by the GPI may start immediately before the power goes off and the power may go off before the action is completed. This may corrupt the setup settings. It is therefore recommended to use Level Enable to avoid such a situation.
- As for “Aux ? O’ride Src ??,” when “Rising Edge” is selected, on a rising edge the set AUX bus input is used. On a falling edge, the original state of the cross-point is restored. If the GPI trigger is applied repeatedly at short intervals (0.5 second or less), the cross-point switching may not be carried out correctly. In this case, apply the GPI trigger again.
- If “System Format” is selected for “Action” when the format converter is used on the switcher, you can set the conversion format of the format converter for “FC Input 1-4,” “FC Input 5-8,” “FC Input 9-12” (MVS-8000X only), “FC Input 13-16” (MVS-8000X only), “FC Output 1-2,” and “FC Output 3-4.”
- In Dual Simul mode, you can select the target switcher for the panel status display using “Panel Status” (H=SWR1, L=SWR2).

## Carrying out level settings

To set the low level and high level, first set the trigger type to “Level,” then use the following procedure.

- 1 In the Panel >Device Interface >GPI Input menu, select the action to be set, and press [H/L Set].

The H/L Set menu appears.

- 2 Using any of the following methods, select the settings.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment   | Setting values        |
|------|-----------|--|-----------------------|
| 1    | No        | Signal format/<br>screen aspect<br>ratio selection | 1 to maximum<br>value |

- 3 To apply the selection made in step 2 when the input is the GPI high level, press [H Set]. To apply the selection made in step 2 when the input is low, press [L Set].

This confirms the setting, which appears in the status area.

## To set the level for the format converter

- 1 Set “Action” to “System Format” in step 5 of “*Making Control Panel GPI Input Settings*” (page 524).

The format converter list appears.

- 2 Select the format converter that you want to set from the list.
- 3 In the <FC Input/Output> group, press [H Set] or [L Set] to set the high level or low level, respectively.

## Making Control Panel GPI Output Settings

- 1 In the Panel >Device Interface menu, press [GPI Output].

The GPI Output menu appears.

- 2 Using any of the following methods, select the settings.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment     | Setting values |
|------|-----------|----------------|----------------|
| 1    | Port      | Port selection | 1 to 8         |

- 3** In the <Trigger Type> group, select the trigger polarity.

- ☐ **(Rising Edge):** The trigger causes the relay to open or the output to go high level, and holds this state for the specified pulse width duration.
- ☐ **(Falling Edge):** The trigger causes the relay to close or the output to go low level, and holds this state for the specified pulse width duration.
- ☒ **(Any Edge):** When a trigger occurs, the relay opens/closes or the output goes high/low level, switching state.

**Status:** The relay opens/closes or the output goes high/low level in response to the status.

**No Operation:** The trigger has no effect on the relay state or output level.

- 4** Turning the knobs, select the pulse width and timing to be set.

| Knob | Parameter   | Adjustment    | Setting values       |
|------|-------------|---------------|----------------------|
| 3    | Pulse Width | Pulse width   | 1 to 60 (fields)     |
| 4    | Timing      | Output timing | 1 to 3 <sup>a)</sup> |

a) 1: Field 1, 2: Field 2, 3: Any

When “∞” is selected as the trigger polarity, there is no Pulse Width setting. When “Status” is selected, there is no Pulse Width or Timing setting.

- 5** In the <Source> group, select the action block.

**M/E-1 to M/E-5 and P/P:** Set an action for the M/E or PGM/PST bank.

**Common:** Set an action for error status.

- 6** Using any of the following methods, select the action to be set.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knobs.

| Knob | Parameter | Adjustment       | Setting values                   |
|------|-----------|------------------|----------------------------------|
| 2    | Action    | Action selection | 1 to maximum value <sup>a)</sup> |
| 5    | Reg No    | Register number  | 1 to 4 <sup>b)</sup>             |

a) **Action list when the trigger type is other than “Status”**

In M/E-x, the x is the M/E bank number (1 to 5); in DSKx the x is the DSK number (1 to 8); in Keyx the x is the key number (1 to 8).

When Source is M/E-x: Keyx SS ? Recall, No Action

When Source is P/P: DSKx SS ? Recall, No Action

When Source is Common: KF Run, No Action

**Action list when the trigger type is “Status”**

In M/E-x, the x is the M/E bank number (1 to 5); in DSKx the x is the DSK number (1 to 8); in Keyx the x is the key number (1 to 8).

When Source is M/E-x: Keyx SS ? Recall, Keyx On, No Action

When Source is P/P: DSKx SS ? Recall, DSKx On, No Action

When Source is Common: Error Make, Error Break, Keep Break,

Keep Make, PREFS1, PREFS2, PREFS3, PREFS4, PREFS5,

PREFS6, PREFS7, PREFS8, PREFS9, PREFS10, PREFS11,

PREFS12, PREFS13, PREFS14, PREFS15, PREFS16, Device

Recording, No Action

b) When knob 2 selection is “Key Snapshot”

- 7** Press [Action Set] to confirm the action selection.

The selected setting appears in the status area.

## Test firing the trigger

To test fire the trigger, press [Test Fire].

This outputs a trigger from the selected output port. This is not output when the trigger type is “Status.”

## Setting the Control Mode for P-Bus Devices

In the <P-Bus Control> group of the Panel >Device Interface menu, select the mode.

**Trigger:** When a predetermined button is pressed, the action command assigned to that button is output, to control an external device.

**Timeline:** The external device is controlled as a keyframe effect controlled by the center control panel.

## Setting the SCU Editor Panel Port

When an editing keyboard is used, this port setting is for the editing keyboard if the license for the BZS-8050 is valid (*see page 486*), and for the serial tally if the license for the BZS-8050 is invalid.

If you want to use the port setting for the serial tally when the license for the BZS-8050 is valid, select [Serial Tally] from the <Editor Port Assign> group in the Panel >Device Interface menu.

**Serial Tally:** Use the SCU editor panel port for the serial tally.

**Editor Keyboard:** Use the SCU editor panel port for the editing keyboard.

## Making DCU Serial Port Settings

You can assign buttons in the device control block (DEV1 to DEV12) to DCU serial ports, to operate the devices (disk recorder/VTR/Extended VTR) connected to these ports. For a disk recorder/Extended VTR, you can also set the sharing of file lists.

For details of DCU serial port settings, see “Serial Port Settings (Serial Port Assign Menu)” (page 571).

## Associating a serial port with a device selection button

- 1 In the Panel >Device Interface menu, press [DCU Serial Port/MPE Assign].

The DCU Serial Port/MPE Assign menu appears.

- 2 Using any of the following methods, select the DCU serial port.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment            | Setting values                   |
|------|-----------|-----------------------|----------------------------------|
| 1    | No        | Serial port selection | 1 to maximum value <sup>a)</sup> |

a) The range of the setting value depends on the DCU port settings.

The DCU number, slot number, and serial port number appear.

- 3 Select the device selection button to be assigned from the <Assign> group.

### Notes

- It is not possible to assign more than one device selection button to the same port. The later assigned device selection button takes priority, and the previous selection is invalidated.
- If P-Bus/Mixer ESAM-II is assigned to a serial port, it is not possible to assign a device selection button to that port.

- 4 Repeat steps 2 and 3 as required to make assignments to other ports.

### To select whether to use an editing keyboard

If you want to use an editing keyboard for the selected device, select a port using the same operation as in step 2, then press [Plug-In Editor Enbl] to display “Enbl” in the Editor column. If you do not want to use an editing keyboard, press [Plug-In Editor Enbl] to make the “Enbl” display disappear.

### Notes

- This selection is possible when the BZS-8050 license is valid (see page 486).
- A port to which Mixer ESAM-II is assigned is automatically set to Enbl, and you cannot change this setting.

## Sharing Disk Recorder/Extended VTR File Lists

To share files between devices connected to the same disk recorder/Extended VTR, use the following procedure.

### Notes

The following operation can only be carried out for the ports to which a disk recorder or Extended VTR is assigned.

- 1 In the Panel >Device Interface >DCU Serial Port/MPE Assign menu, select the target disk recorder/Extended VTR.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment            | Setting values                   |
|------|-----------|-----------------------|----------------------------------|
| 1    | No        | Serial port selection | 1 to maximum value <sup>a)</sup> |

a) The range of the setting value depends on the DCU port settings.

- 2 Turn the knob to select the device selection button (DEV1 to DEV12) for sharing the file list.

| Knob | Parameter | Adjustment  | Setting values |
|------|-----------|---|----------------|
| 2    | File List | Device selection button for sharing the file list | 1 to 12        |

- 3 Press [Same File List Set].

This is reflected in the file list in the status area.

- 4 Repeat steps 1 to 3 as required to select other devices for sharing the file list.

## Setting the AUX Bus Override Operating Mode

Set the operating mode when the trigger type is “Rising Edge” or “Falling Edge,” and “Aux ? O’ride Src ??” is selected as the GPI input action.

In the <Aux Bus Override Mode> group of the Panel >Device Interface menu, select one of the following modes.

**Momentary:** On an input pulse rising (falling) edge, the input of the selected AUX bus is used, and on a falling (rising) edge this returns to the original cross-point.

**Latch:** On an input pulse rising (falling) edge, the input of the selected AUX bus is used, and this does not return

to the original cross-point change even on a falling (rising) edge.

This setting is also valid when AUX bus override is selected as the DCU GPI input (*see page 567*).

---

## Operation Settings (Operation Menu)

To make settings relating to panel operation, use the Panel >Operation menu.

### To display the Operation menu

In the Engineering Setup menu, select VF2 'Panel' and HF6 'Operation.'

The status area shows the items that can be set and a list of the settings.

The following functions are available here.

- **Button Tally:** Set whether or not the system tally generation results are reflected in the panel tally.
- **Trans Rate Display:** Select whether the transition rate display mode is in frames or timecode units.
- **S-Bus Name Link:** Copy the S-Bus description name to the source name.
- **Effect:** For keyframe effects, you can make the following settings.
  - Recall mode
  - Automatically turning off the [EDIT ENBL] button when an effect is recalled
  - Automatic insertion of a first keyframe when an empty register is recalled
  - Effect Auto Save
  - Default KF Duration
  - Setting whether or not to replay the first keyframe after rewinding a GPI/P-Bus/disk recorder/VTR/Extended VTR/Macro effect
- **Source/Dest Name:** For the Source/Dest (source/destination) names used by the system, select one of the following:
  - Source name set by cross-point assignment or fixed bus name
  - Description name set on routing switcher
  - "Type + Num" name set on routing switcherNames assigned with Xpt Assign can be replaced later with description names.
- **Name Display:** Specify the number of characters for display of the names selected in Source/Dest Name above, as two characters, four characters, or Auto.
- **Flexi Pad Mode:** Make menu settings for wipe snapshots.
- **Custom Button:** Set the following button operation modes.
  - [ALL] button for next transition selection
  - [AUTO TRANS] or [TAKE] button during auto transition execution
  - [RUN] button during keyframe execution
  - [AUTO TRANS] and [CUT] button replacement
  - [TRANS PVW] button
  - Key delegation [DME1] to [DME4] button selection mode
  - Key delegation [XPT HOLD] button operation mode

- Selection of signal assigned to the key source bus (either key signal only, or either video signal or key signal selectable)
- **Sensitivity:** Adjust trackball, joystick and double-click sensitivity, or set the relationship between the angle of the search dial and the playback speed or the sensitivity for the search dial in jog mode.
- **Macro:** Set the macro execution mode.

## Setting the On-Air Tally

To set the high tally state reflected on the control panel, use the following procedure.

- 1 In the Panel >Operation menu, press [Button Tally].  
The Button Tally menu appears.
- 2 In the <Tally Type> group, select either of the following.  
**[R1] to [R8]:** Reflect any of tally groups 1 to 8 as the tally state.  
**Independent:** Reflect only the switcher tally state.
- 3 Press [Execute].  
A popup window appears and shows the progress of the operation.

## Setting the Transition Rate Display Mode

To determine whether to display transition rate values in menus and on the control panel in frames or as timecode values, select either of the following in the <Trans Rate Display> group.

**Frame:** display in frames.

**Timecode:** display as timecode (SS:FF).

## Making Settings Relating to Effects

To make settings relating to the functions used when carrying out keyframe effect operations, use the following procedure.

- 1 In the Panel >Operation menu, press [Effect Mode].  
The Effect Mode menu appears.  
The status area shows a list of the items with their settings.
- 2 Make the following settings as required.

**Effect recall mode:** To select the state of the first keyframe when an effect is recalled, select [Recall] (the first keyframe is not recalled) or [Recall&Rewind] (the first keyframe is recalled) in the <Recall Mode> group.

**Automatically turning [EDIT ENBL] off:** When an effect is recalled with the [EDIT ENBL] button on, to automatically turn this button off, disabling keyframe editing, turn [Edit Enable Auto Off] on.

**Automatic first keyframe insertion:** When an empty register is recalled, to automatically insert a first keyframe of the state at that point, turn [1st KF Auto Insert] on.

**Automatic effect saving:** To automatically save an effected when it is recalled after being edited, turn [Effect Auto Save] on.

**Keyframe duration default value:** Press [Default KF Duration], then enter the default value from the numeric keypad window.

## Setting the First Keyframe When a Rewind is Executed

For P-Bus, GPI, and DDR/VTR timeline operations, to execute the first keyframe when a rewind is carried out, set each external device on in the <REWIND&1st KF> group in the Effect Mode menu.

### Notes

When an effect is executed by pressing the [RUN] button with this setting on, the first keyframe action is not executed.

**GPI:** setting for the GPI timeline

**P-Bus:** setting for the P-Bus timeline

**DDR/VTR:** setting for the VTR/disk recorder/Extended VTR timeline

**Macro:** setting for the macro timeline

## Setting the Source and Destination Names

To set the Source and Destination names used in the control panel, use the following procedure.

### Notes

Before carrying out these settings, it is necessary to set the number of the S-Bus description name (*see page 579*).

- 1 In the <Source/Dest Name> group of the Panel >Operation menu, select the names to be used from the following.

**Sw'er Local:** Source names set in the Xpt Assign menu, and fixed bus names

**S-Bus Descript:** Description names set in the router

**S-Bus Type + Num:** Type + Num set in the router (in this case always eight characters).

- 2 In the <Name Display Mode> group, select the method of display in the source name displays.

**Auto:** Optimize display according to number of characters. A name of up to two characters appears as two characters in one line. A name of up to four characters appears as four characters in one line. Otherwise, up to the first eight characters are shown in two lines.

**2 Character:** The first two characters appear.

**4 Character:** The first four characters appear.

### To replace a name set in the Xpt Assign menu with an S-Bus description name

Turn [S-Bus Name Link] on.

This has such effect that each time a description name is changed on the router, the corresponding source name is automatically changed. Thus, the same description name can always be used both on the router and the switcher. Even when [Sw'er Local] is selected, the same name as when [S-Bus Descript] is selected can be displayed. The S-Bus description name can also be displayed in the Xpt Assign menu.

## Settings for the Wipe Snapshot Menu

You can select the pattern numbers or register names as the button indications for the following menus.

- M/E-1 >Wipe >Wipe Snapshot menu
- M/E-1 >DME Wipe >DME Wipe Snapshot menu
- Misc >Snapshot menu

- 1 In the Panel >Operation menu, press [Flexi Pad Mode].

The Flexi Pad Mode menu appears.

The status area shows a list of the items with their settings.

- 2 Make the following settings as required.

### When making settings for the Wipe Snapshot menu or DME Wipe Snapshot menu memory recall buttons:

In the <Wipe/DME Display> group, press to select [Pattern] or [Register Name].

### When making settings for the Misc >Snapshot menu

**memory recall buttons:** In the <Snapshot/Effect Display> group, press to select [Register No] or [Register Name].

## Setting the Button Operation Mode

- 1 In the Panel >Operation menu, press [Custom Button].

The Custom Button menu appears.

The status area shows a list of the items with their settings.

- 2 Make the following settings as required.

**Operation mode during an auto transition:** For the operation mode when the [AUTO TRANS] or [TAKE] button is pressed once more during an auto transition, select [Continue] or [Cancel] in the <Auto Trans/Take> group.

- **Continue:** Continue the auto transition.

- **Cancel:** Cancel the auto transition and return to the state before starting the auto transition.

**Operation mode during keyframe execution:** For the operation mode when the [RUN] button is pressed once more during effect execution, select [Continue] or [Cancel] in the <Run> group.

- **Continue:** Continue the execution.

- **Cancel:** Cancel the execution and return to the state before starting the execution.

### Status display for auto transition execution button:

When the [AUTO TRANS] or [TAKE] button is pressed to carry out an auto transition, select whether the button is lit or off in the <Auto Trans/ Take Key On Stats> group.

- **Disable:** Lights amber during the transition, and goes off at the end of the transition.

- **Enable:** Lights green during the transition, and at the end of the transition lights red if on air and amber if not on air.

### Notes

This setting is only valid in the independent key transition execution section of the following control block.

- Downstream key control block (MKS-8032 DSK Fader Module, option)

**Interchanging the [AUTO TRANS] and [CUT] buttons:** To interchange the [AUTO TRANS] and [CUT] buttons in the transition control block, press [Auto Trans/Cut Swap], turning it on.

**Transition preview operation mode:** For the operation mode of the [TRANS PVW] button, select [Lock] or [Hold] in the <Trans Pvw> group. The setting as to whether to use the "One-time mode" in which the transition preview terminates when the transition completes, or to use button control, is made on the switcher side (*see page 549*).

**[KEY] button operation mode for key source bus operations:** For key source bus operations,



specify the operation mode of the [KEY] button in the auxiliary bus control block in the <Key Source Bus Select Mode> group, as follows.

- **Key:** If you select this, the [KEY] button is always unlit, and this mode allows only key signals to be selected with the cross-point buttons.
- **Video & Key:** The [KEY] button is enabled, and either video or key signals can be selected.

**CCP-9000A-specific button settings:** Press [CCP-9000 Button], and skip to step 3.

### 3 If required, make the following settings.

**DME channel selection mode:** To set the mode when one of the [DME1] to [DME4] buttons in the key delegation section is pressed to select the DME channel, select either of the following in the <DME Select> group.

- **Override:** Forcibly select the selected channel. Later selection takes precedence.
- **Pre Select:** It is not possible to select a channel that has already been otherwise selected. Earlier selection takes precedence.

**Operation mode of the [XPT HOLD] button in the key delegation section:** To set the operation mode of the [XPT HOLD] button in the key delegation section, select either of the following in the <Xpt Hold> group.

- **A/B Bus:** When the [XPT HOLD] button is pressed, turning it on, cross-point hold is enabled for the A and B buses only.
- **All Bus:** When the [XPT HOLD] button is pressed, turning it on, cross-point hold is enabled for all buses used on the bank being currently operated.  
A/B buses, Key 1 to Key 8 buses, Utility 1/2 buses, external DME bus, DME Utility 1/2 buses

## Setting the Operation Mode of the [ALL] Button in the Transition Control Block

Specify the next transition selected by pressing the [ALL] button in the transition control block.

### Notes

If everything here is set to Off, then pressing the [ALL] button does not change the specification of the next transition.

- 1 In the Panel >Operation >Custom Button menu, press [Next Trans All].

The Next Trans All menu appears.

- 2 Press the button for the next transition you want to select with the [ALL] button, turning it On.

## Setting Trackball, Joystick, Search Dial, and Double-Click Sensitivity

You can set the operational sensitivity for trackball, joystick and the buttons which recall the relevant menus when pressed twice, and the relation between the rotation angle of the search dial with the playback speed.

- 1 In the Panel >Operation menu, press the [Sensitivity].

The Sensitivity menu appears.

The status area shows a list of the items with their settings.

- 2 Make the following settings as required.

**Trackball and Z-ring sensitivity in normal mode:**

In the <Trackball Normal Mode> group, select [×1], [×2], or [×4].

**Trackball and Z-ring sensitivity in fine mode:** In the

<Trackball Fine Mode> group, select [ $\frac{1}{2}$ ], [ $\frac{1}{4}$ ], or [ $\frac{1}{8}$ ].

**Joystick sensitivity in normal mode:** In the <Joystick

Normal Mode> group, select [×1], [×2], or [×4].

**Joystick sensitivity in fine mode:** In the <Joystick

Fine Mode> group, select [ $\frac{1}{2}$ ], [ $\frac{1}{4}$ ], or [ $\frac{1}{8}$ ].

**Touch sensitivity for recalling menus by double-clicking buttons:** In the <Double Click> group, select [Fast], [Normal], or [Slow].

## Making advanced settings for the search dial

- 1 In the Panel >Operation >Sensitivity menu, press [Search Dial].

The Search Dial menu appears.

The status area shows a list of the settings and their content.

- 2 Set the sensitivity for the search dial in jog mode.

**When operated with the [JOG] button pressed to be lit amber:** In the <Jog Sensitivity> group, press one of [1 (Slow)] to [6 (Fast)].

**When operated with the [JOG] button held down:**

In the <Jog Sensitivity (While pressing [JOG] button)> group, press one of [1 (Slow)] to [6 (Fast)].

**3** In the <SHTL/VAR Dial Range> group, select [Narrow] or [Wide] to set the sensitivity for the search dial in shuttle mode or variable mode.

- Narrow:** The search speed varies in a relatively narrow range.
- Wide:** The search speed varies in a relatively wide range.

For details of search dial operations, see “Controlling the Tape/Disk Transport” (page 373).

## Specifying Main Split Fader

In the <Main Split Fader> group of the Panel >Operation menu, select [Left] or [Right].

### Notes

This setting is disabled for the CCP-9000A.

## Setting the Macro Execution Mode

**1** Press [Macro] in the Panel >Operation menu.

The Macro menu appears.

**2** In the <Macro Execution Mode> group, select the macro execution mode.

- Normal:** normal execution mode
- Step:** step execution mode

**3** In the <Flexi Pad Edit Mode> group, set the macro editing mode of the standard type Flexi Pad to [Pause Only] or [Full Editing].

This enables the standard type Flexi Pad control block to be used for macro editing. Depending on the macro editing mode setting, functions are assigned to the memory recall buttons as shown in the following figure.

When the setting is [Pause Only]

|  |      |             |
|--|------|-------------|
|  |      |             |
|  |      |             |
|  |      |             |
|  | PAUS | STOR<br>xxx |

When the setting is [Full Editing]

|      |             |             |
|------|-------------|-------------|
| EXIT | AUTO<br>INS | STOR<br>xxx |
| PAUS |             | ALL         |
| INS  | MOD         | DEL         |
|      | <<<br>PREV  | >><br>NEXT  |

### Notes

This setting is disabled for the CCP-9000A.

**4** When making a macro attachment setting, select whether or not to enable cross-point button operations in the <Attachment Setting Mode> group.

- With Btn Function:** enable cross-point button operations
- W/o Btn Function:** disable cross-point button operations

**5** Using the <Macro 2nd Recall Mode> group, set the action to occur during macro execution or when a macro is stopped, if the cross-point button with the macro attachment set is pressed again.

- Continue:** Execution of a macro that has been stopped is resumed, and an executing macro continues.
- Cancel:** A stopped macro, or a macro during execution is terminated.

**6** Using the <Macro Recall Override> group buttons, set the action to occur during macro execution or when a macro is stopped, if another macro is recalled.

- Disable:** Ignore the other macro recall.
- Enable:** Execute the other macro.

### To have a cross-point button with a macro attachment set lit continuously

Press [Attchd Btn Indication], turning it on. When the [MCRO ATTCH ENBL] button in the cross-point control block is on, the cross-point button with a macro attachment is constantly lit green.

# Screen Saver and Other Settings (Maintenance Menu)

To make settings relating to the screen saver, etc., use the Panel >Maintenance menu.

- **Screen Saver:** Make the menu display saver settings.
- **LCD Brightness:** Adjust the LCD brightness.
- **LED Brightness:** Adjust the LED brightness.
- **Switch Brightness:** Adjust the switch brightness.
- **Touch Beep:** Select whether or not to sound a beep when a menu operation is carried out.
- **Touch Panel Calibration:** Calibrate the touch panel.
- **Initial Menu Set:** Specify the menu to be displayed at menu startup.
- **Scrl Down = Clockwise/ Scrl Up = Clockwise:** Set the mouse wheel scrolling direction for parameter setting.
- **Mouse Slider Control:** Select the mouse button used for adjusting the bar positions of the knob parameters.

## To display the Maintenance menu

In the Engineering Setup menu, select VF2 'Panel' and HF7 'Maintenance.'

The status area shows a list of the items with their settings.

## Screen Saver Settings

To enable the menu display saver, use the following procedure.

- 1 In the Panel >Maintenance menu, press [Screen Saver], turning it on.
- 2 Adjust the following parameter.

| Knob | Parameter  | Adjustment                               | Setting values     |
|------|------------|--|--------------------|
| 1    | Sleep Time | Time until screen saver starts operation | 1 to 300 (minutes) |

## Adjusting the Brightness

You can adjust the brightness of the following hardware parts.

**LCD:** Adjust the brightness of the source name displays.

**LED:** Adjust the brightness of the LED displays in the numeric keypad control block and so forth.

**Switch:** Adjust the brightness of the panel switches.

The following description takes the LCD brightness as an example. Use a similar process for the other adjustments.

- 1 In the Panel >Maintenance menu, press [LCD Brightness].
- 2 Adjust the following parameter.

| Knob | Parameter  | Adjustment     | Setting values       |
|------|------------|----------------|----------------------|
| 1    | Brightness | LCD brightness | 1 to 5 <sup>a)</sup> |

a) The larger the value, the brighter the screen.

## Setting Whether or not to Sound a Beep when a Touch Operation is Carried Out

In the Panel >Maintenance menu, press [Touch Beep]. Each time you press this button, it toggles the beep setting on and off.

## Calibrating the Touch Panel

- 1 In the Panel >Maintenance menu, press [Touch Panel Calibration].

The following message appears.

"To Perform Calibration, please touch the center of each plus sign."

- 2 Press [Yes].
- 3 Press the center of the plus sign displayed on the screen.

When you press on the plus sign, it disappears and a diagonally opposite plus sign appears.

- 4 Press the center of the plus sign.

A confirmation message appears.

- Select "Yes" to restart the panel reflecting the new setting.
- Select "No" to cancel the setting and return to the Maintenance menu.

## Setting the Menu to be Shown When the Menus Are Started

- 1 In the Panel >Maintenance menu, press [Initial Menu Set].

A popup window appears.

- 2 Enter the page number of the desired menu.

The next time the menus are started, the menu specified by this number appears.

#### Notes

To enable this setting, the initial state of the control panel when powered on must be set to one of the following.

- Set to Resume mode
- Set to Custom mode, with “User” selected in the <Setup> group.

*For details of these settings, see “Selecting the State After Powering On (Start Up Menu)” (page 483).*

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## Setting the Mouse Wheel Scrolling Direction for Parameter Setting

In the <Mouse Wheel Direction> group of the Panel >Maintenance menu, press one of the following buttons.

**Scrl Down = Clockwise:** Turning the mouse wheel in the direction to scroll down is the same as turning the parameter setting knob clockwise.

**Scrl Up = Clockwise:** Turning the mouse wheel in the direction to scroll up is the same as turning the parameter setting knob clockwise.

---

## Selecting the Mouse Button Used for Adjusting the Knob Parameters

In the Panel >Maintenance menu, press either of the following buttons in the <Mouse Slider Control> group.

**Left Button:** Dragging the bar while holding down the left mouse button adjusts the parameter assigned to the knob.

**Right Button:** Dragging the bar while holding down the right mouse button adjusts the parameter assigned to the knob.

#### Notes

When Left Button selected, even pressing one of the knob parameter buttons in the menu control block does not display a numeric keypad window.

## Settings for Switcher Configuration (Config Menu)

To make settings for the switcher processor configuration, use the Switcher >Config menu.

### To display the Config menu

In the Engineering Setup menu, select VF3 'Switcher' and HF1 'Config.'

The status area shows the output signal assignment for each of the M/E and PGM/PST banks.

The following functions are available here.

- **System Phase:** Adjust the switcher internal reference phase.
- **Switching Timing:** Specify the timing of video switching.
- **M/E Config:** Set the configuration for the M/E and PGM/PST outputs.
  - **Standard mode:** Fix the output configuration for the maximum of four outputs (Out1 to 4) as follows.  
 Out1: Program output  
 Out2: Preview output  
 Out3: Clean output  
 Out4: Key preview output <sup>1)</sup>
  - **Multi-program mode:** Increase the number of M/E or PGM/PST programs, and assign any of the following to the maximum of six outputs (Out1 to 6) (M/E Output Assign).  
 Program outputs 1 to 4, preview output, key preview outputs <sup>1)</sup> 1 and 2, clean output.  
 Further, you can select the program background from Clean or Utility2, and change the combination of signals from which the program output is configured (PGM Config).
  - **DSK mode:** Treats PGM/PST as a DSK by assigning one of the Out1 to Out6 outputs of M/E-1 to the background on the PGM/PST program output. You can also change the signals that make up the output signal selection (M/E Output Assign), program output,

and key preview output <sup>1)</sup> using PGM Config and K-PVW-Config.

1) For the key preview output, you can select either video mode (background and key) or key mode (key only), and select the background and key (K-PVW Config).

- **User 1 to 8 Config:** Assign the User regions, being color backgrounds 1 and 2, AUX1 to 48, frame memory 1 to 8, and color correctors 1 and 2, to any of User1 to User8.
- **Logical M/E Assign:** Make settings for handling PGM/PST hardware logically as an M/E.
- **DME Config:** Set the DME channel assignments used on the individual M/E and PGM/PST banks.
- **Side Flags:** Make settings relating to the side flag function (inserting a selected image on both sides of a 4:3 image).

## Adjusting the Reference Phase

To adjust the switcher internal reference phase, in the Switcher >Config menu, set the following parameter.

| Knob | Parameter | Adjustment                        | Setting values   |
|------|-----------|-----------------------------------|------------------|
| 3    | Phase     | Switcher internal reference phase | -32.00 to +96.00 |

## Specifying the Video Switching Timing

- 1 In the Switcher >Config menu, press [Switching Timing].

The Switching Timing menu appears.

- 2 Select any of the following.

**Any:** Not specified

**Field 1:** Field 1 (odd fields)

**Field 2:** Field 2 (even fields)

## Notes

When the signal format is set to 720P, 1080PsF or 1080P, this selection is not possible.

## Setting the Operation Mode

In the <M/E Config> group of the Switcher >Config menu, select the operation mode for each M/E or PGM/PST bank from the following.

- **Standard:** Standard mode
- **Multi Program:** Multi-program mode
- **DSK:** DSK mode (PGM/PST only)

For details of the modes, see the explanation of the M/E Config function (page 535).

## Notes

When Multi Program mode is selected, two or more transition type indication may light. It is also possible that more than one “Transition Type” has been selected in the Misc >Transition menu for each M/E.

## Assigning the output of each bank in Multi Program mode

When you selected [Multi Program] as the operation mode, use the following procedure.

- 1 In the Switcher >Config menu, press [M/E Output Assign].  
The M/E Output Assign menu appears.
- 2 On the list in the status area, select the bank output to be assigned.  
The selected output appears in reverse video.
- 3 In the <M/E Output Assign> group, select the output signal to be assigned.

## Setting the output configuration for each bank

When you selected [Multi Program] or [DSK] as the operation mode, use the following procedure.

- 1 In the Switcher >Config menu, press [PGM Config].  
The PGM Config menu appears.  
The status area shows the background and key configuration assigned to the output of each bank.
- 2 Using either of the following methods, select the output for which you want to make the setting.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment                      | Setting values |
|------|-----------|---------------------------------|----------------|
| 1    | No (PGM)  | Output to which setting applies | 1 to 24        |

The selected output appears in reverse video.

- 3 In the <Bkgd> group, select the background.

In Multi Program mode, select [Clean] or [Utility2], then skip to step 5.

In DSK mode, select one of [Bkgd1] to [Bkgd4].

- 4 In DSK mode, turn the knobs to select the background signal.

| Knob   | Parameter  | Adjustment                  | Setting values        |
|--------|------------|-----------------------------|-----------------------|
| 2 to 5 | Bkgd1 to 4 | Background signal selection | 1 to 30 <sup>a)</sup> |

a) 1 to 6: M/E1 OUT1 to 6  
7 to 12: M/E2 OUT1 to 6  
13 to 18: M/E3 OUT1 to 6  
19 to 24: M/E4 OUT1 to 6  
25 to 30: M/E5 OUT1 to 6

- 5 In each of the <Key1> to <Key8> groups, select [Enable] or [Disable].

## Setting the key preview configuration

You can make this setting at any time, regardless of the operation mode.

- 1 In the Switcher >Config menu, press [K-PVW Config].  
The K-PVW Config menu appears.  
The status area shows the key preview configuration for each bank.
- 2 Using either of the following methods, select the key preview to which the settings apply.

- Press directly on the list in the status area to make the selection.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter  | Adjustment                           | Setting values |
|------|------------|--------------------------------------|----------------|
| 1    | No (K-PVW) | Key preview to which setting applies | 1 to 12        |

The selected key preview appears in reverse video.

**3** In the <Mode> group, select [Video] mode or [Key] mode.

If you select Key mode, skip to step **6**.

**4** In the <Bkgd> group, select the background.

In Standard mode or Multi Program mode, select [Clean] or [Utility2], then skip to step **6**.

In DSK mode, select any of [Bkgd1] to [Bkgd4].

**5** In DSK mode, turn the knobs to select the background signal.

| Knob   | Parameter  | Adjustment                  | Setting values        |
|--------|------------|-----------------------------|-----------------------|
| 2 to 5 | Bkgd1 to 4 | Background signal selection | 1 to 30 <sup>a)</sup> |

a) 1 to 6: M/E1 OUT1 to 6  
 7 to 12: M/E2 OUT1 to 6  
 13 to 18: M/E3 OUT1 to 6  
 19 to 24: M/E4 OUT1 to 6  
 25 to 30: M/E5 OUT1 to 6

**6** In the <Key 1> to <Key 8> groups, select the corresponding key status from the following.

- **Link:** Follow the key on/off setting.
- **On:** Key is always on.
- **Off:** Key is always off.

## Setting User Regions

### Notes

If you change the user region settings, the previously stored snapshot data and keyframe effect data can no longer be used.

**1** In the Switcher >Config menu, press [User1-8 Config].

The User1-8 Config menu appears. The status area shows the region names and assigned user region numbers.

**2** Using any of the following methods, select the region you want to set.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment       | Setting values     |
|------|-----------|------------------|--------------------|
| 1    | Region    | Region selection | 1 to maximum value |

**3** In the <User Region Assign> group, select the user region you want to assign. If you do not want to assign a user region, select [No Assign].

**4** Repeat steps **2** and **3** as required to make the settings for other regions.

**5** To confirm the setting, press [Execute]. To cancel the setting and return to the original state, press [Clear] before pressing [Execute].

When you press [Execute], a confirmation message appears.

**6** Press [Yes].

## Assigning PGM/PST Logically to an M/E

**1** In the Switcher >Config menu, press [Logical M/E Assign].

The Logical M/E Assign menu appears. The status area shows the physical M/E and logical M/E organization.

**2** Select the M/E you want to logically set to the PGM/PST from the <Logical M/E to Physical P/P> group.

**P/P:** Assign the physical PGM/PST as logical PGM/PST.

**M/E-1:** Assign the physical PGM/PST as logical M/E-1.

**M/E-2:** Assign the physical PGM/PST as logical M/E-2.

**M/E-3:** Assign the physical PGM/PST as logical M/E-3.

**M/E-4:** Assign the physical PGM/PST as logical M/E-4.

**M/E-5:** Assign the physical PGM/PST as logical M/E-5.

### Notes

M/E-5 is not displayed on the MVS-8000X.

## Setting the Assignments of DME Channels to Use on the Individual M/E Banks

The Switcher >Config >DME Config menu allows you to select the DME channels to use on the M/E and PGM/PST banks for processed keys or DME wipes.

**1** In the Switcher >Config menu, press [DME Config].

The DME Config menu appears.

- 2** Using either of the following methods, select the M/E or PGM/PST bank for which you want to set a DME channel assignment.
  - Press directly on the list in the status area.
  - Press the arrow keys to scroll the reverse video cursor.
- 3** In the <DME Channel> group, press one of the [Ch1] to [Ch8] buttons turning it on to select the channel which you want to assign to the bank selected in step **2**.
- 4** Repeat steps **2** and **3** to assign DME channels to other banks.

## Setting the Side Flag Video Material and Operation

Make settings relating to the video material (4:3 aspect ratio) for applying side flags.

*For details of side flag operations, see “Side Flag Settings” in Chapter 10 (Volume 1).*

### Setting the aspect ratio (4:3/16:9)

- 1** In the Switcher >Config menu, press [Side Flags].  
The Side Flags menu appears.  
The status area lists the video/key pair numbers, video signal source names, and aspect ratio settings (16:9/4:3).
- 2** Using any of the following methods, select the pair number for which you want to make the setting.
  - Press directly on the list in the status area.
  - Use the arrow keys to scroll the reverse video cursor.
  - Turn the knobs.

| Knob | Parameter   | Adjustment  | Setting values |
|------|-------------|---|----------------|
| 1    | V/K Pair No | Selection of a V/K pair by its number in the list | 1 to 300       |
| 2    | Num         | Selection of number of V/K pairs in the list      | 1 to 300       |

- To select all of the pair numbers, press [ALL].

- 3** In the <Aspect> group, press [4:3].

If you select [16:9], no side flags are applied.

### To set 4:3 video material to have side flags applied automatically

You can make a setting so that when a signal with aspect ratio set to 4:3 is selected in the cross-point control block, side flags are automatically applied.

To do so, in the Switcher >Config >Side Flags menu press [Auto Side Flags]. Pressing this button toggles the setting on and off.

This setting applies to all of the M/E and PGM/PST banks.

### To set to crop to 4:3 when a DME wipe is executed

When side flags are enabled, you can automatically crop an image as set to be a 4:3 image when executing a DME wipe.

To do so, in the Switcher >Config >Side Flags menu press [Auto Crop]. Pressing this button toggles the setting on and off.

This setting applies to all of the M/E and PGM/PST banks.

### Adjusting the width of the side flags

You can adjust the width of the side flags.

- 1** In the Switcher >Config >Side Flags menu, press [Width].
- 2** Adjust the following parameters.

| Knob | Parameter | Adjustment               | Setting values     |
|------|-----------|--------------------------|--------------------|
| 3    | Left      | Width of left side flag  | -100.00 to +100.00 |
| 4    | Right     | Width of right side flag | -100.00 to +100.00 |
| 5    | All       | Width of both side flags | Left value shown   |

### Displaying the menu for enabling/disabling the side flags

In the Switcher >Config >Side Flags menu, press [Misc >Enbl >Side Flags].

### Displaying the menu for assigning the side flags on/off function to a cross-point button

In the Switcher >Config >Side Flags menu, press [Side Flags Button Assign].



# Signal Input Settings (Input Menu)

For setup relating to signal inputs, use the Switcher >Input menu.

## To display the Input menu

In the Engineering Setup menu, select VF3 'Switcher' and HF2 'Input.'

The status area shows source numbers and source names and through mode on/off setting.

The following functions are available here.

- **Through Mode:** Set the through mode for input. You can set this independently for each primary input or premium input.
- **Video Process:** Switch video processing on or off for each input signal, and adjust the brightness, hue and so forth.
- **Matte Illeg. Color Limit:** Switch the illegal limiter on or off for the signal generated by the switcher internal matte generator.
- **FC Input Select:** Select the primary input to be used in the format converter (MVS-7000X only).
- **FC Adjust:** Select the conversion (up-conversion, cross-conversion, or down-conversion) when the format converter is applied to an input.

## Making Through Mode Settings

### Notes

For the format converter dedicated inputs in the MVS-8000X, you cannot set through mode.

For the MVS-7000X, through mode is enabled for the input signals which have been converted in the format converter.

- 1 In the Switcher >Input menu, select the input signal to which the settings apply.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment             | Setting values                      |
|------|-----------|------------------------|-------------------------------------|
| 1    | Src No    | Input signal selection | 1 to maximum value <sup>a) b)</sup> |

- a) The following values apply to the MVS-8000X.  
For primary inputs: 1 to 144  
For premium inputs: 145 to 164 ((PREM1) to (PREM20) indicated after the number)
- b) The values from 1 to 80 apply to the MVS-7000X.

The selected input signal appears in reverse video.

- 2 To enable through mode, press [Through Mode], turning it on.

## Making Video Process Settings

- 1 In the Switcher >Input menu, press [Video Process].

The Video Process menu appears.

The status area shows the source number, source name, and video process adjustment settings.

- 2 Using any of the following methods, select the input signal to which the settings apply.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

Parameter group [2/2]

| Knob | Parameter | Adjustment             | Setting values                      |
|------|-----------|------------------------|-------------------------------------|
| 1    | Src No    | Input signal selection | 1 to maximum value <sup>a) b)</sup> |

- a) The following values apply to the MVS-8000X.  
For primary inputs: 1 to 144  
For premium inputs: 145 to 164 ((PREM1) to (PREM20) indicated after the number)  
For format converter dedicated inputs: 165 to 180 ((FC1) to (FC16) indicated after the number)
- b) The values from 1 to 80 apply to the MVS-7000X.  
For primary inputs: 1 to 80  
Input signals which have been converted in the format converter: 81 to 88

- 3 Press [Video Process], turning it on.

- 4 Adjust the following parameters.

Parameter group [1/2]

| Knob | Parameter   | Adjustment              | Setting values     |
|------|-------------|-------------------------|--------------------|
| 1    | Video Gain  | Video signal gain       | -200.00 to +200.00 |
| 2    | Y Gain      | Y signal gain           | -200.00 to +200.00 |
| 3    | C Gain      | Chrominance signal gain | -200.00 to +200.00 |
| 4    | Hue Delay   | Hue delay               | -180.00 to +180.00 |
| 5    | Black Level | Black level             | -7.31 to +109.59   |

To set the parameter settings to their defaults, press [Unity].

## Enabling the Illegal Color Limiter

To enable the illegal color limiter for the signals generated by the switcher internal matte generator, press [Matte Illeg Col Limit] in the Switcher >Input menu, turning it on.

## Selecting the Primary Input to be Used in the Format Converter

On the MVS-7000X, the primary input used by the format converter must be specified.

### 1 In the Switcher >Input menu, press [FC Input Select].

The FC Input Select menu appears.

The status area shows the format converter list (left) and the primary input number list (right).

### 2 Using any of the following methods, select the number of the FC (format converter) that you want to set from the table on the left.

- Press directly on the list in the status area.
- Turn the knob.

| Knob | Parameter | Adjustment       | Setting values |
|------|-----------|------------------|----------------|
| 1    | FC        | Format converter | 1 to 8         |

### 3 Using any of the following methods, select the primary number.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment                   | Setting values |
|------|-----------|------------------------------|----------------|
| 2    | Primary   | Input signal to be converted | 1 to 80        |

### 4 Press [Set].

### 5 To input the name of the input signal which has been converted in the format converter, press [FC Name].

A keyboard window appears. You can enter a name of not more than 16 characters.

### 6 Press [Enter].

## Setting the Frame Delay Function

### 1 In the Switcher >Input menu, select the input signal for which you want to make the setting.

You can select the input signals for which the frame delay function is enabled in advance.

### 2 Adjust the following parameter.

| Knob | Parameter   | Adjustment   | Setting values                |
|------|-------------|--------------|-------------------------------|
| 2    | Frame Delay | Delay amount | 1 to 8 (frames) <sup>a)</sup> |

a) If the signal format is 720P, the delay (number of frames) is twice the set adjustment value.

## Selecting the Format Converter Conversion

### Selecting the Format Converter Inputs to be Set

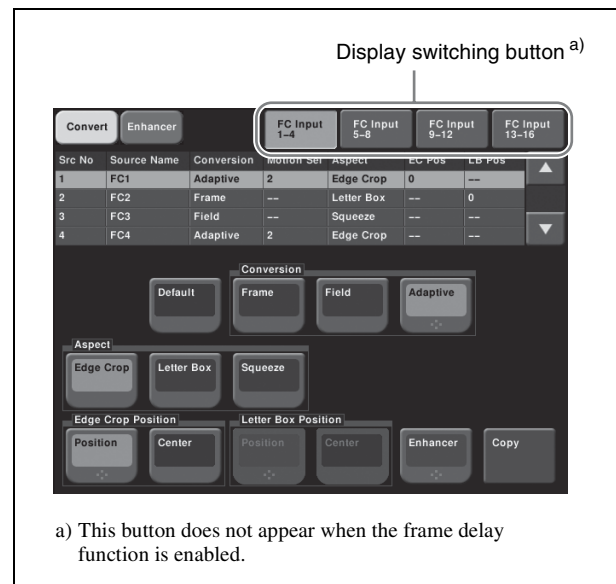
For four groups of FC1 to FC4, FC5 to FC8, FC9 to FC12, and FC13 to FC16, the same setting is applied in units of groups.

#### Notes

The two groups of FC9 to 12 and FC13 to FC16 can be used only on the MVS-8000X.

### 1 Display the Switcher >Input >FC Adjust menu.

The following figure illustrates the case when FC Input 1-4 are set to up-conversion, and FC Input 5-8 are set to cross-conversion.



### 2 Press [FC Input 1-4], [FC Input 5-8], [FC Input 9-12], or [FC Input 13-16] as required.

The list corresponding to the pressed button appears.

### 3 Using any of the following methods, select what the setting applies to.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment      | Setting values                   |
|------|-----------|-----------------|----------------------------------|
| 1    | Source No | Input selection | 1 to maximum value <sup>a)</sup> |

a) The setting values vary with the button pressed in step 2.

## Making detailed settings for up-conversion

- 1 In the Switcher >Input >FC Adjust menu, select the input to which the setting applies.
- 2 In the <Conversion> group, select one of the following.

**Frame:** Conversion in frame units

**Field:** Conversion in field units

**Adaptive:** Automatically switching between the above two modes

When Adaptive is selected, adjust the following parameter.

| Knob | Parameter     | Adjustment                   | Setting values       |
|------|---------------|------------------------------|----------------------|
| 2    | Motion Select | Motion detection sensitivity | 1 to 3 <sup>a)</sup> |

a) 1: Still priority mode, 2: Standard mode, 3: Motion priority mode

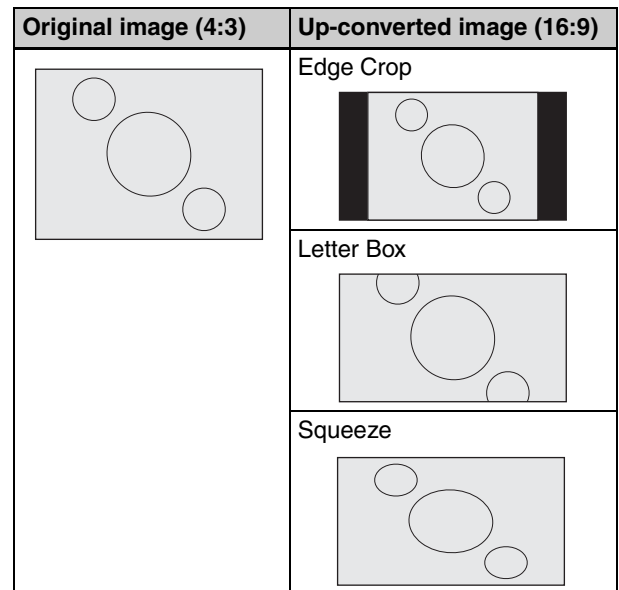
- 3 In the <Aspect> group, select one of the following.

**Edge Crop:** Add black bars on the left and right sides of a 4:3 aspect ratio image to convert it to a 16:9 image.

**Letter Box:** Crop the top and bottom of a 4:3 aspect ratio image to convert it to a 16:9 image.

**Squeeze:** Stretch a 4:3 image horizontally to convert it to a 16:9 image.

For details of the image transformations, see the following figure.



## Setting the image position in edge crop up-conversion mode

- 1 In the <Edge Crop Position> group of the Switcher >Input >FC Adjust menu, press [Position], turning it on.
- 2 Adjust the following parameter.

| Knob | Parameter   | Adjustment                   | Setting format | Setting values |
|------|-------------|------------------------------|----------------|----------------|
| 2    | EC Position | Image position <sup>a)</sup> | 1080           | -120 to +120   |
|      |             |                              | 720            | -80 to +80     |

a) For down-conversion, the value is from -30 to +30 inclusive.

## To return the edge crop image to the center

In the <Edge Crop Position> group, press [Center].

## Setting the image position in letter box up-conversion mode

- 1 In the <Letter Box Position> group of the Switcher >Input >FC Adjust menu, press [Position], turning it on.
- 2 Adjust the following parameter.

| Knob | Parameter   | Adjustment     | Setting format                        | Setting values |
|------|-------------|----------------|---------------------------------------|----------------|
| 2    | LB Position | Image position | 1080i/<br>59.94,<br>1080PsF<br>/29.97 | –31 to +32     |
|      |             |                | 1080i/<br>50,<br>1080PsF<br>/25       | –36 to + 36    |
|      |             |                | 720P/<br>59.94,<br>720P/50            | –30 to +30     |

**To return the letterbox image to the center**  
In the <Letter Box Position> group, press [Center].

## Making enhancer settings

- 1 In the Switcher >Input >FC Adjust menu, press [Enhancer], turning it on.
- 2 Set the following parameters.

Parameter group [1/2]

| Knob | Parameter    | Adjustment   | Setting values |
|------|--------------|--|----------------|
| 2    | Detail Gain  | Adjust the edge enhancement sharpness                                      | 0 to 127       |
| 3    | Limiter      | Adjust the maximum signal level to be added to the original signal         | 0 to 63        |
| 4    | Crisp        | Set the amplitude value for which a low-amplitude signal is not emphasized | 0 to 15        |
| 5    | Level Depend | Set the luminance range for edge enhancement                               | 0 to 15        |

Parameter group [2/2]

| Knob | Parameter | Adjustment   | Setting values |
|------|-----------|--|----------------|
| 2    | Frequency | Set the central frequency for edge enhancement         | 0 to 3         |
| 3    | H/V Ratio | Set the horizontal/vertical ratio for edge enhancement | 0 to 7         |

## Making detailed settings for down-conversion

- 1 In the Switcher >Input >FC Adjust menu, select the input to which the setting applies.
- 2 In the <Aspect> group, select one of the following.

**Edge Crop:** Crop the left and right sides of a 16:9 image to convert it to a 4:3 image.

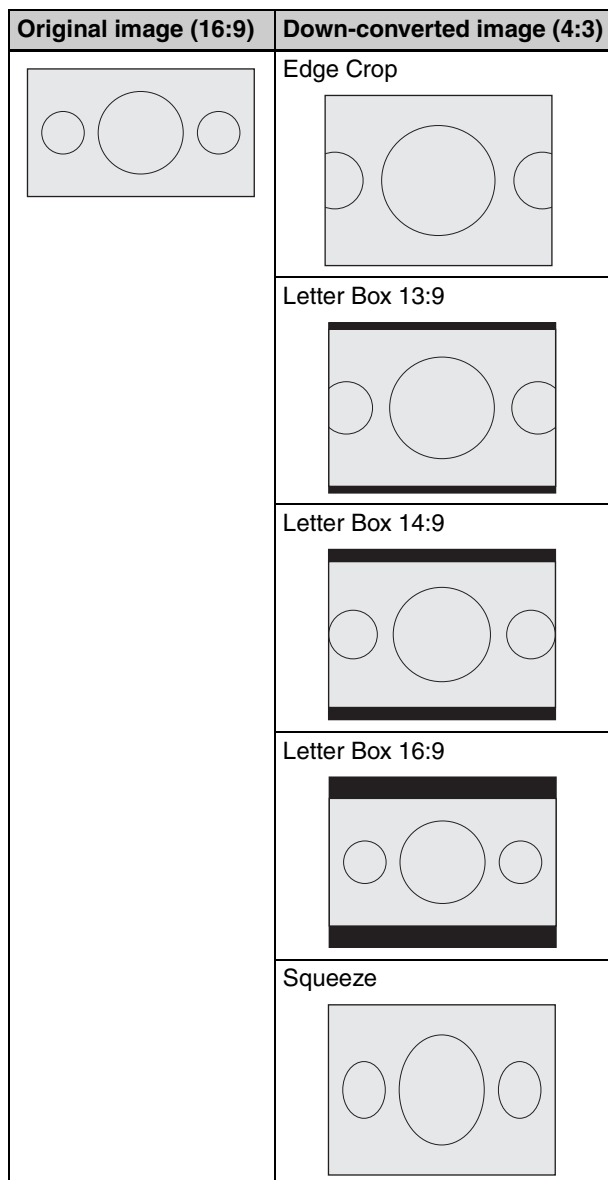
**Letter Box 13:9:** Crop the left and right sides of a 16:9 image to make a 13:9 image and add black bars at the top and bottom of the 13:9 image to make a 4:3 image.

**Letter Box 14:9:** Crop the left and right sides of a 16:9 image to make a 14:9 image and add black bars on the top and bottom of the 14:9 image to make a 4:3 image.

**Letter Box 16:9:** Add black bars on the top and bottom of a 16:9 image to convert it to a 4:3 image.

**Squeeze:** Compress a 16:9 image horizontally to convert it to a 4:3 image.

For details of the image transformations, see the following figure.



For down-conversion, the image position setting in edge crop mode is the same as for up-conversion. The value is from -30 to +30 inclusive.

For details, see “Setting the image position in edge crop up-conversion mode” (page 541).

For down-conversion, the enhancer settings are the same as for up-conversion.

For details, see “Making enhancer settings” (page 542).

## Making cross-conversion settings

To make the cross-conversion settings, carry out steps **1** and **2** described in “Making detailed settings for up-conversion” (page 541). No other settings are required.

## Copying format converter input data

- 1 In the Switcher >Input >FC Adjust menu, press [Copy].

The Copy/Swap >Copy >Format Converter menu appears.

The status area shows lists of the copy source on the left, and the copy destination on the right.

- 2 Select [Input] in the <Data Select> group.

- 3 Using any of the following methods, select the data.

- Press directly on the list.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment                       | Setting values     |
|------|-----------|----------------------------------|--------------------|
| 1    | Left No   | Select the copy source data      | 1 to maximum value |
| 2    | Right No  | Select the copy destination data | 1 to maximum value |
| 3    | Num       | Select the number of items       | 1 to maximum value |

- 4 Press [Copy].

# Signal Output Settings (Output Menu)

For setup relating to signal outputs, use the Switcher >Output menu.

## To display the Output menu

In the Engineering Setup menu, select VF3 'Switcher' and HF3 'Output.'

The status area shows the output signal numbers and names, and output signal phase for the signals output from the Output 1 to 48 connectors.

The following functions are available here.

### Notes

For a format converter dedicated output, Video Clip, V Blank, Through, Safe Title, and 4:3 Crop settings are not possible.

- **Output Assign:** Assign the signals output from the Output 1 to 48 connectors.
- **Video Clip:** Adjust the clip levels (White Clip, Dark Clip, and Chroma Clip) for the output signals from each of the Output 1 to 48 connectors.
- **V Blank:** Adjust the vertical blanking width for the output signals from each of the Output 1 to 48 connectors. The setting is the number of scan lines from the reference blanking position of field 1 for the particular format which should be masked.
- **Through:** Enable or disable through mode. Through mode can be enabled for AUX 1 to 48 outputs, M/E and PGM/PST program outputs, and clean output.
- **Safe Title:** Enable or disable safe title, and carry out settings for box 1 and 2, cross and grid.
- **4:3 Crop:** Set the actual video image to be cropped to a 4:3 aspect ratio when an HD system has a screen aspect ratio of 4:3.
- **FC Adjust:** Set the format converter outputs.
- **Multi Viewer:** Make settings for the two-channel multi viewer.

## Assigning Output Signals

To assign a signal to output from an output connector, use the following procedure.

- 1 In the Switcher >Output menu, press [Output Assign].

The Output Assign menu appears.

The status area shows the output connectors and assigned signals on the left, and a list of signals that can be assigned on the right.

- 2 In the <Output Assign> group, select either of the following.

[Re-Entry Source]: It is possible to make duplicate assignments.

M/E-1 Output 1 to 6 <sup>a)</sup>  
M/E-2 Output 1 to 6 <sup>a)</sup>  
M/E-3 Output 1 to 6 <sup>a)</sup>  
M/E-4 Output 1 to 6 <sup>a)</sup>  
M/E-5 Output 1 to 6 <sup>a)</sup>  
P/P Output 1 to 6 <sup>a)</sup>  
M/E-1 to 5 Proc Video  
P/P Proc Video  
M/E-1 to 5 Proc Key  
P/P Proc Key  
DME Monitor Video  
DME Monitor Key  
Color Corrector 1 and 2  
Undefined  
Color Bkgd 2  
Frame Memory 1 to 8

[Aux Bus]: It is not possible to make duplicate assignments.

Preset  
Edit Preview  
AUX 1 to 48

<sup>a)</sup> M/E output signals selected in the M/E Output Assign menu.

- 3 Using any of the following methods, select the output connector number and signal to be assigned.

- Press directly on the list in the status area to make the selection.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knobs.

| Knob | Parameter | Adjustment                         | Setting values     |
|------|-----------|------------------------------------|--------------------|
| 1    | Output No | Output connector number            | 1 to 48            |
| 2    | Source No | Selection of signal to be assigned | 1 to maximum value |

- For output connectors not to be assigned, press [Inhibit].

The selected signal appears in reverse video.

- 4 Press [Set] to confirm the assignment.

## Setting the Output Signal

In the following adjustment/setting operations, use any of the following methods to select the output signal before making the setting.

- Press directly on the list in the status area.

- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment                        | Setting values |
|------|-----------|-----------------------------------|----------------|
| 1    | Output No | Output connector number selection | 1 to 48        |

The selected output signal appears in reverse video.

## Adjusting the video clip

To adjust the clip value for each of the output signals from the Output 1 to 48 connectors, use the following procedure.

- 1 In the Switcher >Output menu, press [Video Clip].

The Video Clip menu appears.

The status area shows the output connectors and assigned signals, and the white clip, dark clip, and chrominance clip values.

- 2 Adjust the following parameters.

| Knob | Parameter   | Adjustment                        | Setting values  |
|------|-------------|-----------------------------------|-----------------|
| 2    | White Clip  | Luminance signal white clip value | 90.00 to 109.02 |
| 3    | Dark Clip   | Luminance signal dark clip value  | -6.85 to +10.00 |
| 4    | Chroma Clip | Chrominance signal clip value     | 90.00 to 113.17 |

To set the values to the default values, press [Default].

## Making vertical blanking interval adjustment and through mode settings

- 1 In the Switcher >Output menu, press [V Blank/Through].

The V Blank/Through menu appears.

The status area shows the output connectors and the assigned signals, the vertical blanking interval, and the through mode Enable/Disable status.

- 2 Press [V Blank Mask].

- 3 Adjust the parameter.

| Knob | Parameter | Adjustment                                 | Setting values    |
|------|-----------|--|-------------------|
| 2    | Mask End  | Final value for vertical blanking interval | See note a) below |

a) Depending on the signal format, the adjustment range varies as follows.

480i: 10 to 19

576i: 6 to 22

1080i/1080PsF: 7 to 20

720P: 7 to 25

1080P: 15 to 41

To return the values to their defaults, press [Default].

- 4 To enable the through mode, press [Through Mode], setting it to Enable.  
The through mode can be applied to the following outputs.

- Aux 1 to 48 outputs
- Program outputs of the M/E and PGM/PST rows
- Clean outputs of the M/E and PGM/PST rows

## Making safe title settings

- 1 In the Switcher >Output menu, press [Safe Title].

The Safe Title menu appears.

The status area shows the output connectors and the assigned signals, with the box 1, box 2, cross, and grid states.

- 2 To enable the safe title on/off setting made in the Misc menu, press [Safe Title], turning it on.

- 3 Carry out either of the following operations.

**To display a box:** Press [Box1] or [Box2], turning it on.

In this case, carry out the following steps **4** and **5**.

**To display a cross:** Press [Cross], turning it on.

**To display a grid:** Press [Grid], turning it on.

In this case, carry out the following steps **4** and **5**.

- 4 When you selected [Box1] or [Box2] in step **3**, adjust the following parameters.

| Knob | Parameter | Adjustment         | Setting values               |
|------|-----------|--------------------|------------------------------|
| 2    | Box Size  | Box size           | 50.00 to 100.00              |
| 3    | Luminance | Display brightness | 0.00 to 100.00 <sup>a)</sup> |

a) Adjustable for Box2

When in step **3** you selected [Grid], in the <Grid Size> group, select one of the following.

**80.00%:** Set the grid size to 80% of the screen frame

**85.00%:** Set the grid size to 85% of the screen frame

**90.00%:** Set the grid size to 90% of the screen frame

**100.00%:** Set the grid size to the full-screen size (100% of the screen frame)

- 5 When in step **3** you selected [Box1] or [Box2], in the <Box1 Adjust> or <Box2 Adjust> group, select the screen aspect ratio (16:9/14:9/4:3).

When in step **3** you selected [Grid], in the <Grid Adjust> group, select the screen aspect ratio (16:9/4:3).

## Cropping the image to a 4:3 aspect ratio in an HD system

In an HD system, to crop an image having a screen aspect ratio of 16:9 to an aspect ratio of 4:3, use the following procedure.

- 1 In the Switcher >Output menu, press [4:3 Crop].

The 4:3 Crop menu appears.

The status area shows the output connectors and respective 4:3 Crop mode settings.

- 2 Press [4:3 Crop], turning it on.

This enables the crop setting, and this is reflected in the status area.

### Notes

When the screen aspect ratio of 16:9 is selected for all M/E banks in the System >Format >Aspect menu, the setting of 4:3 Crop is disabled.

## Setting the format converter outputs

### To set the format converter

Display the Switcher >Output >FC Adjust menu. The subsequent operations are the same as for the format converter input settings.

For details of the operations, see “Selecting the Format Converter Conversion” (page 540).

### To copy format converter output data

- 1 In the Switcher >Output >FC Adjust menu, press [Copy].

The Copy/Swap >Copy >Format Converter menu appears.

- 2 In the <Data Select> group, press [Output].

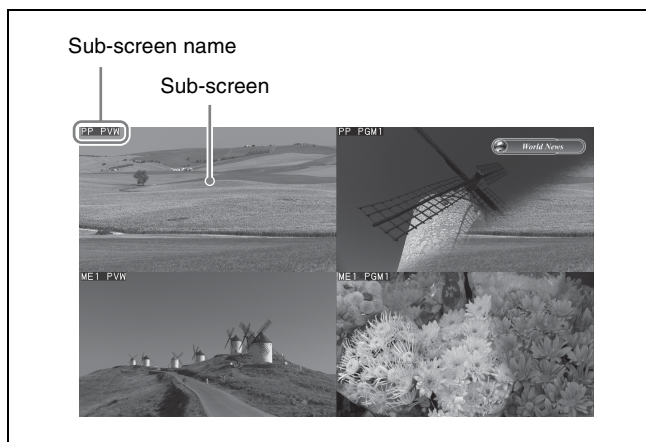
- 3 Use the same operations as in steps 3 and 4 of “Copying format converter input data” (page 543) to copy the data.

## Making settings for the multi viewer

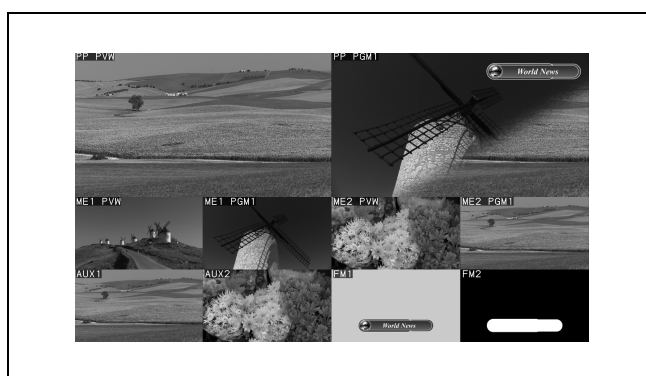
The multi viewer is a function for splitting the screen into some windows and simultaneously displaying multiple images in those windows.

The screen can be split into 4 or 10 windows, which can be individually set for each of 2-channel multi viewers.

### Example of 4-split screen:



### Example of 10-split screen:



In the following description, a split window is referred to as a “sub-screen.”

- 1 In the Switcher >Output menu, press [Multi Viewer].  
The Multi Viewer menu appears.

- 2 In the <Multi Viewer> group, press [1] or [2] to select the setting target.

The status area shows a list of outputs assigned to the sub-screens.

- 3 In the <Split Mode> group, select the number of split windows.

**Split 4:** Split the screen into 4 windows.

**Split 10:** Split the screen into 10 windows.

- 4 To border the sub-screens, press [Border Enable] to turn it on.

### Tally colors

Tallies are shown on the multi viewer screen. In this way, you can see, for example, which input signals are used in the on-air video.

Borders appear in the two following colors.

**Red border:** Video with a red tally.

**Green border:** Video with a green tally.



For details of tally settings, see “Setting the On-Air Tally” (page 529) or “Making New Tally Generation Settings” (page 581).

### Notes

If “Independent” is set in the Engineering Setup >Panel >Operation >Button Tally menu, then tallies are not shown on the multi viewer.

### To specify whether to show or hide the sub-screen names

**1** In the Multi Viewer menu, use any of the following methods to select the target sub-screens.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment           | Setting values |
|------|-----------|----------------------|----------------|
| 1    | Window No | Sub-screen selection | 1 to 10        |

**2** Press [Name Enable] to select either of the following.

**Enable:** Show the sub-screen name.

**Disable:** Hide the sub-screen name.

To make the setting for all of 10 sub-screens in a single operation, turn [All Name Enable] on or off.

**3** To set the name display position, adjust the following parameters.

### Notes

If you change any of the following parameter values, the name display position will change on all sub-screens. You cannot adjust the name display position for each sub-screen.

| Knob | Parameter       | Adjustment          | Setting values |
|------|-----------------|---------------------|----------------|
| 2    | Name Position H | Horizontal position | 0 to 100       |
| 3    | Name Position V | Vertical position   | 0 to 100       |

### To assign outputs to the sub-screens

**1** In the Multi Viewer menu, press [Output Assign].

The Output Assign menu appears.

**2** Use any of the following methods to select the target sub-screens in the list on the left.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.

- Turn the knob.

| Knob | Parameter | Adjustment           | Setting values |
|------|-----------|----------------------|----------------|
| 1    | Window No | Sub-screen selection | 1 to 10        |

**3** Use any of the following methods to select the target outputs in the list on the left.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment       | Setting values        |
|------|-----------|------------------|-----------------------|
| 2    | Output No | Output selection | 1 to 24 <sup>a)</sup> |

a) For Multi Viewer 2, 25 to 48.

### Notes

This selects the sub-screen output from among the signals assigned to numbers 1 to 24 (Multi Viewer 1) and 25 to 48 (Multi Viewer 2).

**4** Press [Set].

## Enabling AUX Mix Transitions

An AUX mix transition is enabled by assigning the combination of AUX buses used in the AUX mix transition to consecutive odd-numbered and even-numbered output connectors.

For details of AUX mix transitions, see “AUX Mix Transitions” in Chapter 3 (Volume 1).

### Notes

When an AUX mix transition is enabled, the video process for the two AUX buses operates with the settings for the odd-numbered bus.

**1** In the Switcher >Output menu, press [Aux Mix].

The Aux Mix menu appears.

**2** In the list on the left, select the target odd-numbered and even-numbered output connectors (for example, 11 and 12).

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment              | Setting values |
|------|-----------|-------------------------|----------------|
| 1    | Output No | Output connector number | 1 to 48        |

**3** In the list on the right, select the AUX bus combination to use.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment          | Setting values |
|------|-----------|---------------------|----------------|
| 2    | Aux Mix   | AUX bus combination | 1 to 25        |

To disable AUX mix transitions, select [Disable].

**4** Press [Set].

To cancel a setting after pressing [Set], press [Clear].

**5** Repeat steps **2** to **4** as required.

**6** Press [Execute].

## Settings Relating to Video Switching (Transition Menu)

For settings relating to video switching, use the Switcher > Transition menu.

### To display the Transition menu

In the Engineering Setup menu, select VF3 'Switcher' and HF4 'Transition.'

The status area shows the transition preview, key transition, bus toggle, and split fader settings for each M/E and PGM/PST bank.

The following functions are available here.

- **Transition Preview:** Specify the operation mode for transition preview for each of the M/E and PGM/PST banks.
- **Key Transition:** Specify the operation mode for independent key transitions.
- **Bus Toggle:** Switch the bus toggle for each of the M/E and PGM/PST banks on or off.
- **Split Fader:** When the bus toggle is off, the split fader settings are enabled. For each of the M/E and PGM/PST banks, select enable or disable.
- **Fade To Black:** Enable or disable fade-to-black for each final program output.
- **Preset Color Mix:** Set the stroke mode for a preset color mix, the key status for a transition including a key, and the mode in which the transition type after a transition ends returns to the previous setting.
- **Transition Curve:** Set the relationship when carrying out a transition, between the fader lever position and the advancement state of the transition.

## Selecting the Bank to Make the Settings

In the Transition menu, using any of the following methods, select the bank to which the settings apply, then make the settings.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment                                   | Setting values |
|------|-----------|--|----------------|
| 1    | Bank      | M/E or P/P selection to which settings apply | 1 to 6         |

The selected bank appears in reverse video.

## Setting the transition preview mode

To select the transition preview mode, in the <Transition Preview> group of the Transition menu, select either of the following.

**One Time:** The transition preview ends after a single transition.

**Normal:** Switching the [TRANS PVW] button on or off switches between the transition preview mode and the normal mode.

## Selecting the transition mode of the independent key transition control block

To select the key transition mode, select either of the following in the <Key Transition> group of the Transition menu.

**Same:** The transition settings for the On and Off directions are the same.

**Independ:** The transition settings for the On and Off directions can be set separately.

## Selecting the background transition flip-flop mode

In the Transition menu, press [Bus Toggle], to switch between on and off.

**On:** Flip-flop mode

**Off:** Bus fixed mode

*For details, see “Fader Lever Operation in Bus Fixed Mode” in Chapter 3 (Volume 1).*

## Setting the split fader to be enabled or disabled

In the Transition menu, press [Split Fader] to switch between Enable and Disable. This setting is only valid when using a simple transition module with Bus Toggle set to Off.

**Enable:** When the fader lever is split, the split fader effect is enabled.

**Disable:** Even when the fader lever is split, the normal fader lever effect is obtained.

### Notes

This setting is disabled for the CCP-9000A.

## Enabling/disabling the fade-to-black function

In the <FTB> group of the Transition menu, press the program output name to toggle between On and Off.

**On:** Enables fade to black.

**Off:** Disables fade to black.

### Notes

The PGM2 to PGM4 settings are only valid in Multi Program mode or DSK mode.

## Setting a preset color mix

- 1 In the Switcher >Transition menu, press [Preset Color Mix].

The Preset Color Mix menu appears.

The status area shows the stroke mode setting for each M/E bank, the setting for whether or not the key status is maintained, and the one-time mode setting.

- 2 In the <Stroke Mode> group, select whether to carry out a transition in one stroke or two strokes.

**Normal:** Carry out a preset color mix with two transition operations.

**Single:** Carry out a preset color mix with a single transition operation.

### Notes

In bus fixed mode (*see page 549*), the setting is fixed to “Single.”

- 3 In the <Non Drop Key> group, select the key setting for a transition including a key.

To carry out the transition with the key state maintained, press [Key1] to [Key8], turning them on.

- 4 If each time a transition ends the transition type is to return to the previous setting, press [One Time Enable].

## Settings relating to fader lever operations

To select the way in which the fader lever position and the transition progress are related, use the following procedure.

- 1 In the Switcher >Transition menu, press [Transition Curve].

The Transition Curve menu appears.

- 2 In the <Fader Curve> group, select the fader lever operation mode.

**Normal:** The transition progress is linear, according to the fader lever position (factory default setting).

**Adv Tally Mode:** When the fader lever is moved from the end of its travel, the tally is output slightly before the transition starts.

# Settings Relating to Keys, Wipes, Frame Memory and Color Correction (Key/Wipe/FM/CCR Menu)

For settings relating to keys, wipes, frame memory and Color Correction, use the Switcher >Key/Wipe/FM/CCR menu.

## To display the Key/Wipe/FM/CCR menu

In the Engineering Setup menu, select VF3 ‘Switcher’ and HF5 ‘Key/Wipe/FM/CCR.’

The status area shows the key memory settings, mask and border processing order, key priority, cross-point hold, pattern limit transition, and wipe edge settings for each of the M/E and PGM/PST banks.

The following functions are available here.

- **Key Memory:** Set the key memory operation mode for each of the M/E and PGM/PST banks.
- **Video Proc Memory:** Enable or disable video process memory.
- **Show Key:** Enable or disable show key for edit preview, M/E and Pvw/K-Pvw of P/P.
- **Key Auto Drop:** For each M/E or PGM/PST bank, specify a key to be turned off automatically when you press a cross-point button for the bus to be output as the background.
- **Mask/Border Process:** Set the processing order of masks and borders for each M/E or PGM/PST bank.
- **Key Priority:** Set the key priority operation mode for each of the M/E and PGM/PST banks. In DSK mode, the key priority is fixed.
- **Xpt Hold mode:** Set the operation mode for the cross-point hold button provided on the key bus for each of the M/E and PGM/PST banks.
- **Pattern Limit Transition:** Set the operation mode when the pattern limit is released for each of the M/E and PGM/PST banks.
- **Wipe Edge Default:** Adjust the wipe edge softness for each of the M/E and PGM/PST banks.
- **CCR Internal Signal Enable:** Select whether signals generated internally to the switcher can be selected as input material to the color corrector.
- **FM Auto Store:** Switch on or off the function to automatically attach a name and save in frame memory.

## Switching Video Process Memory On or Off

In the Switcher >Key/Wipe/FM/CCR menu, press [Video Proc Memory], turning it on.

## Settings for the Show Key Function

- 1 In the Switcher >Key/Wipe/FM/CCR menu, press [Show Key].  
The Show Key menu appears.
- 2 In the <Show Key Enable> group, press the signal for which “show key” is enabled, turning it on.
- 3 To set the time for which “show key” is held, press [Hold Time].
- 4 Adjust the following parameter.

| Knob | Parameter | Adjustment         | Setting values    |
|------|-----------|--------------------|-------------------|
| 1    | Hold Time | Show key hold time | 0 to 999 (frames) |

## Settings for Key Auto Drop Function

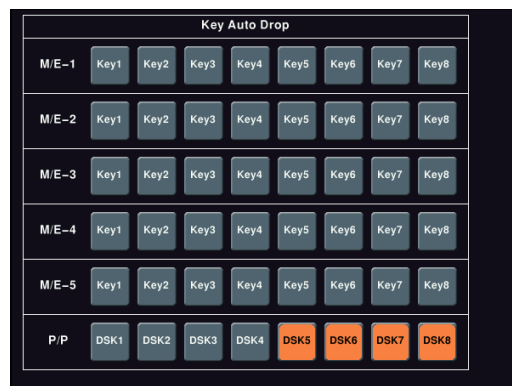
The “key auto drop” function automatically switches off a particular key when you press a cross-point button in a bus that outputs the background on the particular switcher bank (PGM/PST, or M/E-1 to M/E-5).

When the background output bus is in flip-flop mode, this is always the A bus. In bus-fixed mode, it is either the A bus or the B bus depending on the fader lever position.

*For details of bus-fixed mode, see “Executing a Transition” in Chapter 3 (Volume 1).*

- 1 In the Switcher >Key/Wipe/FM/CCR menu, press [Key Auto Drop].

The Key Auto Drop menu appears.



- 2 In the <Key Auto Drop> group, press the name of the keyer for which you want the key to be deleted automatically, turning it on.

# Automatically Naming and Saving to Frame Memory

In the Switcher >Key/Wipe/FM/CCR menu, press [FM Auto Store], turning it on.

## Selecting the Bank to Make the Settings

In the following procedures, select the bank to which the settings apply using any of the following methods, then make the settings.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment                                   | Setting values |
|------|-----------|--|----------------|
| 1    | Bank      | M/E or P/P selection to which settings apply | 1 to 6         |

The selected bank appears in reverse video.

## Selecting the key memory mode

In the <Key Memory> group of the Switcher >Key/Wipe/FM/CCR menu, select one from Full (full mode)/Simple (simple mode)/Off.

For more details, see “Key Memory” in Chapter 4 (Volume 1).

## Selecting the processing order of masks and borders

In the <Mask/Border Process> group of the Switcher >Key/Wipe/FM/CCR menu, select one of the following.

**Mask >Border:** Apply the Mask effect, then apply the Border effect.

**Border >Mask:** Apply the Border effect, then apply the Mask effect.

## Selecting the key priority operation mode

In the <Key Priority> group of the Switcher >Key/Wipe/FM/CCR menu, select one of the following.

**Normal:** The key priority sequence can be varied freely.

**Fix:** Fixed at currently set priority sequence.

## Setting the operation mode of the key bus [XPT HOLD] button

In the <Xpt Hold Mode> group of the Switcher >Key/Wipe/FM/CCR menu, select any of the following. This setting is applied for the attributes of snapshots as well as the operation mode of the [XPT HOLD] button.

**Key Disable:** The [XPT HOLD] button of the key bus functions not only as a cross-point hold button but also as a key disable button. When the [XPT HOLD] button is on, recalling a snapshot or keyframe effect does not reflect the key settings, including the cross-point selection information.

**Key Dsbl with Status:** Same as [Key Disable], and further disables the reflection of the key on/off status.

**Xpt Hold:** The [XPT HOLD] button of the key bus functions as a cross-point hold button. When the [XPT HOLD] is on, recalling a snapshot or keyframe effect does not reflect the cross-point selection information.

## To change the cross-point hold attribute of a snapshot

If you select “Key Disable” above, this also applies key disable to the cross-point hold attribute.

If you select “Key Dsbl with Status,” the key disable function is applied, including the key on/off status.

### Notes

This setting is only reflected in the operation of the [XPT HOLD] button when the [XPT HOLD] button operating mode is set to “All Bus” (see page 531). Note that the snapshot cross-point hold attribute is also valid for settings other than “All Bus.”

## Setting the operation mode when the pattern limit is released

In the <Pattern Limit Transition> group of the Switcher >Key/Wipe/FM/CCR menu, select either of the following operation modes.

**Auto:** When the pattern limit is released, the remainder of the transition is carried out automatically at a special-purpose transition rate.

**Manual:** After the pattern limit is released, the transition waits for the next operation, then executes. Until you move the fader lever or press [AUTO TRANS], the transition is not executed.

## Setting the default wipe edge softness

1 In the Switcher >Key/Wipe/FM/CCR menu, press [Wipe Edge Default], turning it on.

2 Set the following parameter.

| Knob | Parameter | Adjustment                          | Setting values   |
|------|-----------|-------------------------------------|------------------|
| 3    | Soft      | Default value of wipe edge softness | –50.00 to +50.00 |

## Setting the mode in which all signals can be selected for input to the color corrector

Press [CCR Intrnl Signl Enbl] in the Switcher > Key/Wipe/FM/CCR menu, turning it on.

You can select signals generated internally to the switcher as material for input to the color corrector.

### Notes

When you select an M/E reentry signal as material for input to the color corrector, 1H delay occurs to the output signal of M/E.

## Settings Relating to Function Links (Link Menu)

Carry out setup relating to links by displaying the Switcher >Link menu.

### To display the Link menu

In the Engineering Setup menu, select VF3 'Switcher' and HF6 'Link.'

The status area shows the current link information.

The following functions are available here.

- **Internal Bus Link:** Make a setting of the bus link function that links together two buses internal to the switcher.
- **GPI Link:** Make settings for linking any cross-point buttons or [CUT] and [AUTO TRANS] buttons in the cross-point control block and GPI output ports.
- **M/E Link:** Make settings to link together two M/E banks.
- **Key Trans Link:** Make settings to link key transitions.

## Setting a Cross-Point Button Link

To link together two buses internal to the switcher, use the following procedure.

- 1 In the Switcher >Link menu, press [Internal Bus Link].

The Internal Bus Link menu appears.

The status area shows the link source and link destination buses, and link table information.

- 2 Using any of the following methods, select what setting applies to.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment  | Setting values |
|------|-----------|-------------|----------------|
| 1    | Link No   | Link number | 1 to 64        |

- 3 Press [Link Bus Select].

The Link Bus Select menu appears.

The status area lists the current setting status of the selected link and the buses that can be selected.

- 4 In the <Bus Select> group, select [Master Bus] (link source bus).

**5** Using any of the following methods, select the bus to be the link source, and press [Bus Set].

- Press directly on the list appearing in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment    | Setting values                   |
|------|-----------|---------------|----------------------------------|
| 2    | No        | Bus selection | 1 to maximum value <sup>a)</sup> |

a) Only when [Master Bus] is selected, M/E-1 to M/E-5 Trans PGM, and P/P Trans PGM are available.  
Only when [Linked Bus] is selected, AUX 1 to AUX 48 as Key are available.

#### Notes

With one of M/E-1 to M/E-5 Trans PGM and P/P Trans PGM selected for [Master Bus], the link setting become effective as soon as you start moving the fader lever.

**6** In the <Bus Select> group, select [Linked Bus] (link destination bus).

**7** Referring to step **5**, select the bus to be the link destination, and press [Bus Set].

**8** Turn the knob to select the link table, and press [Link Table Set].

| Knob | Parameter     | Adjustment           | Setting values |
|------|---------------|----------------------|----------------|
| 3    | Link Table No | Link table selection | 1 to 8         |

*For more information about link tables, see the following item.*

The selected link table number is confirmed, and this is reflected in the status area.

#### To delete a link

Select the link you want to delete, then press [Clear] in the Switcher >Link >Internal Bus Link menu.

## Making Link Table Settings

**1** In the Switcher >Link >Internal Bus Link menu, press [Link Table Select].

The Link Table Select menu appears.

**2** Using any of the following methods, select the link source and link destination signals.

- Press directly on the list in the status area.

- Press the arrow keys to scroll the reverse video cursor.
- Turn the knobs.

| Knob | Parameter | Adjustment                            | Setting values |
|------|-----------|---------------------------------------|----------------|
| 4    | Main No   | Video/key signal for link source      | 1 to 300       |
| 5    | No        | Video/key signal for link destination | 1 to 300       |

**3** To confirm the selection, press [Link Src Set].

This links the link destination signal to the signal selected as Main No.

#### To initialize the set source address

In the Switcher >Link >Internal Bus Link >Link Table Select menu, press [Init Link Table].

A confirmation message appears; press [Yes].

The source addresses are reassigned, and this is reflected in the status area.

#### To change the link number and link table number

In the Switcher >Link >Internal Bus Link >Link Table Select menu, you can also change the link number and link table number. To do this, turn the knobs as follows to make the setting, then press [Link Table Set].

| Knob | Parameter     | Adjustment                    | Setting values |
|------|---------------|-------------------------------|----------------|
| 1    | Link No       | Link to which setting applies | 1 to 64        |
| 3    | Link Table No | Link table selection          | 1 to 8         |

## Linking Cross-Point Buttons and GPI Output Ports

To link cross-point buttons or the [CUT] and [AUTO TRANS] buttons in the cross-point control block, and GPI output ports, use the following procedure.

**1** In the Switcher >Link menu, press [GPI Link], to display the Switcher >Link >GPI Link menu.

The status area shows the output ports and the link status, and delay value information.

**2** Using any of the following methods, select the GPI output port.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment                | Setting values |
|------|-----------|---------------------------|----------------|
| 1    | GPI Port  | GPI output port selection | 1 to 8         |

### 3 Press [GPI Link Adjust].

The GPI Link Adjust menu appears.

The status area shows the current setting state of the selected link, and a list of the selectable video names or button names, together with the GPI link Enable/Disable setting for each bus.

### 4 Using any of the following methods, select what the setting applies to. For each GPI port there can be up to eight links.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knobs.

| Knob | Parameter        | Adjustment                                     | Setting values                   |
|------|------------------|--|----------------------------------|
| 1    | GPI Port         | GPI output port selection                      | 1 to 8                           |
| 2    | Link No          | Link number selection                          | 1 to 8                           |
| 3    | Video/ Button No | Selection of video or button name to be linked | 1 to maximum value <sup>a)</sup> |

a) These include main pair numbers 1 to 300, and “Cut” and “Auto Trans” on each bank.

### 5 In the <Video/Button> group, press [Select].

The selected video or button name is reflected in the status area.

#### To clear a video/button name link

Make the selection to which the setting applies, then in the <Video/Button> group press [Clear].

### 6 To select for each bus whether the GPI link setting is enabled or disabled, use any of the following methods to select the bus to which the setting applies.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment    | Setting values     |
|------|-----------|---------------|--------------------|
| 4    | Bus       | Bus selection | 1 to maximum value |

### 7 In the <Bus> group, select any of the following.

**Enable:** Enable the GPI link setting for the selected bus.

**Disable:** Disable the GPI link setting for the selected bus.

**All Enable:** Enable the GPI link setting for all buses.

## Setting the delay value

### 1 In the Switcher >Link >GPI Link >GPI Link Adjust menu, turn the knobs to select the output port for which you want to set the delay value, and the corresponding delay value.

| Knob | Parameter | Adjustment                      | Setting values    |
|------|-----------|---------------------------------|-------------------|
| 1    | GPI Port  | GPI output port for the setting | 1 to 8            |
| 5    | Delay     | Delay value for the output port | 0 to 300 (fields) |

### 2 Press [Delay Set].

This confirms the delay value, which is reflected in the status area.

## Setting the reentry button operation mode

When you select a reentry button in the cross-point control block of an M/E block (downstream M/E block), the output of the upstream M/E block is read in. You can set the system so that when a GPI link is set for the cross-point selected on the A bus <sup>a)</sup> of the upstream M/E block this triggers the GPI output.

In the Switcher >Link >GPI Link menu, set [Re-Entry Enable] to On or Off.

When this is On, the GPI is executed upstream.

a) When the bus toggle is set to Off, the applicable bus depends on the position of the fader lever.

#### Notes

- For reentry, “upstream” applies to a single stage only.
- This setting is common to all GPI output ports.
- GPI output execution on the upstream M/E block is only possible on buses for which GPI link is set to “Enable” in the GPI Link Adjust menu.
- GPI output occurs when you press a reentry button, the reentry button is selected by a macro execution, or you press the reentry button on the AUX bus remote panel.

## Making a Setting for Linking Two M/E Banks

You can link any two M/E banks for some operations by using the Switcher >Link >M/E Link menu.

The operations for which you can link two M/E banks are as follows.



- Transition execution (auto transition, cut, and fader lever operation)
- Next transition selection
- Transition type selection

**1** In the Switcher >Link menu, press [M/E Link].

The M/E Link menu appears.

The status area displays a link list showing link source banks (M/E and PGM/PST) and link destination banks, and a selection list.

**2** Using any of the following methods, select the link number you want to set.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment            | Setting values |
|------|-----------|-----------------------|----------------|
| 1    | Link No   | Link number selection | 1 to 8         |

**3** In the <M/E Select> group, select [Master M/E] (link source).

**4** Using any of the following methods, select the M/E or PGM/PST bank you want to be the link source, then press [M/E Set].

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment     | Setting values       |
|------|-----------|----------------|----------------------|
| 2    | No        | Bank selection | 1 to 6 <sup>a)</sup> |

- a) 1: M/E-1  
2: M/E-2  
3: M/E-3  
4: M/E-4  
5: M/E-5  
6: PGM/PST

**5** In the <M/E Select> group, select [Linked M/E] (link destination).

**6** In the same way as in step **4**, select the M/E or PGM/PST bank you want to be the link destination, then press [M/E Set].

**To link the banks not only for transition execution but also for the other operations**

Press [Transition Only] and turn it off.

**To release the link setting**

Use the same operation as in step **2** to select the link number for which you want to release the link setting, then press [Clear].

## Making a Link Setting for Key Transition

You can make a link setting for key transition by using the Switcher >Link >Key Transition Link menu.

The operations for which you can link two banks are the following independent key transition operations.

- Auto transition
- Turning the key on or off
- Fader lever operation (on the downstream key control block)

**1** In the Switcher >Link menu, press [Key Trans Link].

The Key Transition Link menu appears.

The status area displays a link list showing link sources and link destinations, and a key selection list.

**2** Using any of the following methods, select the link number you want to set.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment            | Setting values |
|------|-----------|-----------------------|----------------|
| 1    | Link No   | Link number selection | 1 to 32        |

**3** In the <Key Select> group, select [Master Key] (link source).

**4** Using any of the following, select the key you want to be the link source, then press [Key Set].

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment           | Setting values                   |
|------|-----------|----------------------|----------------------------------|
| 2    | No        | Key number selection | 1 to maximum value <sup>a)</sup> |

a) The keys and their numbers selectable as link source/link destination are as follows.

M/E-x Keyx, DSKx

In M/E-x, the x is the M/E bank number (1 to 5); in DSKx the x is the DSK number (1 to 8); in Keyx the x is the key number (1 to 8).

**5** In the <Key Select> group, select [Linked Key] (link destination).

**6** In the same way as in step **4**, select the key you want to be the link destination, then press [Key Set].

### To release the link setting

Use the same operation as in step 2 to select the link number for which you want to release the link setting, then press [Clear].

## Interfacing With External Devices (Device Interface Menu)

To carry out setup relating to connections with external devices, display the Switcher >Device Interface menu.

### To display the Device Interface menu

In the Engineering Setup menu, select VF3 'Switcher' and HF7 'Device Interface.'

The following functions are available here.

- **Remote Assign:** Set the use of the four 9-pin ports.
- **GPI Input:** Set the GPI input ports and trigger polarities, and make the action settings.
- **GPI Output:** Set the GPI output ports and trigger polarities, and make the action settings.
- **Aux Control:** Set whether operations on the AUX buses from the four 9-pin ports are inhibited.
- **DME Type Setting:** Make DME and interface settings, and for an SDI interface set the AUX bus outputs and reentry inputs.
- **DME SDI Interface:** Make AUX bus output and reentry input settings for connection to a DME.
- **Editor I/F:** Set the key off mode for control from an editor.

## Making 9-Pin Port Device Interface Settings

The description in this section takes the REMOTE1 port as an example. For other REMOTE ports, carry out the same process as required.

- 1 In the Switcher >Device Interface menu, press [Remote Assign].

The Remote Assign menu appears.

- 2 Select the device interface you want to set for the REMOTE1 port from the <Remote1> group.

**Editor A:** assign Editor A to the REMOTE1 port.

**Editor B:** assign Editor B to the REMOTE1 port.

**AUX:** assign AUX to the REMOTE1 port.

The device interfaces which can be selected for REMOTE2 are the same as for REMOTE1. For REMOTE3 you can also select DME1, and for REMOTE4 you can also select DME2.

### Notes

When REMOTE3 and REMOTE4 are respectively assigned to DME1 and DME2, you can switch the AUX

bus from the DME (DME-3000/7000) connected to these ports.

At this time, connect the DME input video signals and key signals as follows.

- DME1 video input: AUX1 output
- DME1 key input: AUX2 output
- DME2 video input: AUX4 output
- DME2 key input: AUX5 output

Note that for a DME external video signal, you can select any of AUX1 to AUX14 on the DME. Connect to the selected AUX bus.

## Making Switcher Processor GPI Input Settings

- 1 In the Switcher >Device Interface menu, press [GPI Input].

The GPI Input menu appears.

- 2 Using any of the following methods, select the settings.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knobs.

| Knob | Parameter | Adjustment                                    | Setting values |
|------|-----------|---|----------------|
| 1    | Port      | Port selection                                | 1 to 8         |
| 2    | No        | Selection of number for action to be assigned | 1 to 8         |

- 3 In the <Trigger Type> group, select the trigger type.

- ☐ (Rising Edge): Apply the trigger on a rising edge of an input pulse.
- ☐ (Falling Edge): Apply the trigger on a falling edge of an input pulse.
- ☐ (Any Edge): Apply the trigger on a change in the polarity of the input signal.
- ☐ (Level): Carry out the specified operation when the input is low or high.

**No Operation:** Apply no trigger on an input pulse.

- 4 In the <Target> group, select the action block.

**M/E-1 to M/E-5, P/P:** Set the action for one of the banks.

**Common/Setup:** Set an action for something other than the above, or a setup action.

- 5 Using any of the following methods, select the action to be set.

- Press directly on the list in the status area.

- Press the arrow keys to scroll the reverse video cursor.
- Turn the knobs.

| Knob | Parameter | Adjustment       | Setting values                                |
|------|-----------|------------------|---|
| 3    | Action    | Action selection | 1 to maximum value <sup>a)</sup>              |
| 4    | Reg No    | Register number  | 1 to 4 <sup>b)</sup><br>1 to 99 <sup>c)</sup> |

a) As for the setting values, see “Selectable actions for various trigger types” (page 557).

b) When knob 3 selection is “Key Snapshot”

c) When knob 3 selection is “Snapshot” or “Effect”

- 6 Press [Action Set] to confirm the action selection.

The selected setting appears in the status area.

### Selectable actions for various trigger types

- **When the trigger type is other than “Level”**

In M/E-x, the x is the M/E bank number (1 to 5); in DSKx the x is the DSK number (1 to 8); in Keyx the x is the key number (1 to 8).

- When Target is M/E-x: Cut, Auto Trans, Keyx Cut, Keyx Auto Trans, SS ? Recall, Keyx SS ? Recall, Effect ? Recall, Effect ? Recall & Run, KF Run, KF Stop, KF Rewind, KF Rev Run, No Action
- When Target is P/P: Cut, Auto Trans, DSKx Cut, DSKx Auto Trans, FTB Cut, FTB Auto Trans, SS ? Recall, DSKx SS ? Recall, Effect ? Recall, Effect ? Recall & Run, KF Run, KF Stop, KF Rewind, KF Rev Run, No Action
- When Target is Common/Setup: FM Src1 Field Freeze, FM Src1 Frame Freeze, FM Src2 Field Freeze, FM Src2 Frame Freeze, FM Src1 Freeze Off, FM Src2 Freeze Off, FM Src1 Clip Record, FM Src1 Clip Stop, FM Src2 Clip Record, FM Src2 Clip Stop, FM1 to FM8 Clip Cueup, FM1 to FM8 Clip Play, FM1 to FM8 Clip Stop, User1 to 8 SS ? Recall, User1 to 8 EFF ? Recall, User1 to 8 EFF ? Recall & Run, User1 to 8 KF Run, User1 to 8 KF Stop, User1 to 8 KF Rewind, User1 to 8 KF Reverse Run, No Action

- **When the trigger type is “Level”**

In M/E-x, the x is the M/E bank number (1 to 5).

- When Target is M/E-x or P/P: Aspect, Bkgd A Side Flags, Bkgd B Side Flags, No Action
- When Target is Common/Setup: Format, Aspect, Level Enable, No Action

### Notes

- “Level Enable” is a function that determines whether GPI inputs are enabled (“Enable”) or disabled (“Disable”) for the “Aspect” and “Format” actions that can be used when the trigger type is Level. When Level Enable is used, if the input is “Disable” then it is not possible to switch “Aspect” or “Format” by GPI input. If a GPI to switch “Aspect” or “Format” occurs when powering the system off, the action triggered by the GPI

may start immediately before the power goes off and the power may go off before the action is completed. This may corrupt the setup settings. It is therefore recommended to use Level Enable to avoid such a situation.

- If “Format” is selected for “Action” when the format converter is used on the switcher, you can set the conversion format of the format converter for “FC Input 1-4,” “FC Input 5-8,” “FC Input 9-12” (MVS-8000X only), “FC Input 13-16” (MVS-8000X only), “FC Output 1-2,” and “FC Output 3-4.”

## Carrying out level settings

To set the low level and high level, first set the trigger type to “Level,” then use the following procedure.

- 1 In the Switcher >Device Interface >GPI Input menu, select the action to be set, and press [H/L Set].

The H/L Set menu appears.

- 2 Using any of the following methods, select the settings.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment                      | Setting values     |
|------|-----------|---------------------------------|--------------------|
| 1    | No        | Selection of setting for action | 1 to maximum value |

- 3 To apply the selection made in step 2 when the input is high, press [H Set]. To apply the selection made in step 2 when the input is low, press [L Set].

This confirms the setting, which appears in the status area.

### Notes

- When the action is “Format,” these settings conflict with the current settings, but after making the settings, agreement is restored after a pulse change or power off/on.
- When the Action is “Bkgd A Side Flags” or “Bkgd B Side Flags,” the levels are fixed, as follows.  
High level: Off  
Low level: On

## To Set the Level for the Format Converter

- 1 Set “Action” to “Format” in step 5 of the procedure in “Making Switcher Processor GPI Input Settings” (page 557).

The format converter list appears.

- 2 Select the format converter that you want to set from the list.
- 3 In the <FC Input/Output> group, press [H Set] or [L Set] to set the high level or low level, respectively.

## Making Switcher Processor GPI Output Settings

- 1 In the Switcher >Device Interface menu, press [GPI Output].

The GPI Output menu appears.

- 2 Using any of the following methods, select the settings.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment     | Setting values |
|------|-----------|----------------|----------------|
| 1    | Port      | Port selection | 1 to 8         |

- 3 In the <Trigger Type> group, select the trigger polarity.

☐ **(Rising Edge):** The trigger causes the relay to open or the output to go high level, and holds this state for the specified pulse width duration.

☐ **(Falling Edge):** The trigger causes the relay to close or the output to go low level, and holds this state for the specified pulse width duration.

☐ **(Any Edge):** When a trigger occurs, the relay opens/closes or the output goes high/low level, switching state.

**Status:** The relay opens/closes or the output goes high/low level in response to the status.

**No Operation:** The trigger has no effect on the output.

- 4 Turn the knobs to select the pulse width and timing to be set.

| Knob | Parameter   | Adjustment    | Setting values       |
|------|-------------|---------------|----------------------|
| 3    | Pulse Width | Pulse width   | 1 to 60 (fields)     |
| 4    | Timing      | Output timing | 1 to 3 <sup>a)</sup> |

a) 1: Field 1, 2: Field 2, 3: Any

When “∞” is selected as the trigger polarity, there is no Pulse Width setting. When “Status” is selected, there is no Pulse Width or Timing setting.

- 5 In the <Source> group, select the action block.

**M/E-1 to M/E-5 and P/P:** Set an action for the M/E or PGM/PST bank.

**Common:** Set an action for error status.

**6** Using any of the following methods, select the action to be set.

- Press directly on the list appearing in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knobs.

| Knob | Parameter | Adjustment       | Setting values                                |
|------|-----------|------------------|---|
| 2    | Action    | Action selection | 1 to maximum value <sup>a)</sup>              |
| 5    | Reg No    | Register number  | 1 to 4 <sup>b)</sup><br>1 to 99 <sup>c)</sup> |

a) **Action list when the trigger type is other than “Status”**

In M/E-x, the x is the M/E bank number (1 to 5); in DSKx the x is the DSK number (1 to 8); in Keyx the x is the key number (1 to 8).

- When Source is M/E-x: Cut, Auto Trans, Keyx Cut, Keyx Auto Trans, Keyx SS ? Recall, Effect ? Recall, Effect ? Recall & Run, KF Run, KF Stop, KF Rewind, No Action

- When Source is P/P: Cut, Auto Trans, DSKx Cut, DSKx Auto Trans, FTB Cut, FTB Auto Trans, DSKx SS ? Recall, Effect ? Recall, Effect ? Recall & Run, KF Run, KF Stop, KF Rewind, No Action

- When Source is Common: No Action

**Action list when the trigger type is “Status”**

In M/E-x, the x is the M/E bank number (1 to 5); in DSKx the x is the DSK number (1 to 8); in Keyx the x is the key number (1 to 8).

- When Source is M/E-x: Keyx On, No Action

- When Source is P/P: DSKx On, No Action

- When Source is Common: Error Make, Error Break, No Action

b) When knob 2 selection is “Key Snapshot”

c) When knob 2 selection is “Snapshot” or “Effect”

**7** Press [Action Set] to confirm the action selection.

The selected setting appears in the status area.

## Test firing the trigger

To test fire the trigger, press [Test Fire].

This outputs a trigger from the selected output port. This is not output when the trigger type is “Status.”

## Enabling or Disabling AUX Bus Control

**1** In the Switcher >Device Interface menu, press [Aux Control].

The Aux Control menu appears.

**2** Select the 9-pin port for the setting, from the <Control> group.

**Remote1:** Make the settings for the REMOTE1 port.

**Remote2:** Make the settings for the REMOTE2 port.

**Remote3:** Make the settings for the REMOTE3 port.

**Remote4:** Make the settings for the REMOTE4 port.

**3** Using any of the following methods, select the AUX bus.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment        | Setting values        |
|------|-----------|-------------------|-----------------------|
| 1    | No        | AUX bus selection | 0 to 48 <sup>a)</sup> |

a) 0: EDIT PVW

1 to 48: AUX1 to AUX48

**4** Select whether to enable or disable AUX bus control from the <Control Mode> group.

**Enable:** enable control of the port selected in step **2**.

**Disable:** disable control of the port selected in step **2**.

**Manual:** make whether control of the port selected in step **2** is possible or not depend on the setting in the Misc menu.

**5** Repeat steps **2** to **4** as required to make the settings for other ports.

## Setting the Interface Between the DME and the Switcher

To set the interface between the DME and the switcher, proceed as follows.

**1** In the Switcher >Device Interface menu, press [DME Type Setting].

The DME Type Setting menu appears.

**2** In the <DME1 Type> group to set DME1 or in the <DME2 Type> group to set DME2, press either of the following, turning it on.

**Dedicated:** The DME has an dedicated interface.

**SDI:** The DME has an SDI interface.

### Notes

If the system signal format is set to 1080P and the DME input/output signal format is set to Dual Link Mode, the SDI interface cannot be selected.

*For details of the connection of DME units and the switcher, see “MVS-8000X-/7000X-C Installation Manual.”*

- 3 To select the number of keys that use DME on an M/E bank, make one of the following selections in the <DME Assignment for Proc Key> group.

**Single DME unit:** Mode in which a processed key operation is carried out only with the dedicated interface DME or the SDI interface DME.

**Dual DME units:** Mode in which two processed key operations with the dedicated interface DME and the SDI interface DME are both possible simultaneously on the same M/E. When this mode is selected, when combined by a processed key with the SDI interface DME, select the material for the second channel not on the DME external video bus, but on the AUX bus.

## Setting the AUX Bus Output and Reentry Input

Select the signal input to the DME (AUX bus output) and the signal returned as the switcher primary input (reentry input) as follows.

- 1 In the Switcher >Device Interface menu, press [DME Type Setting].

The DME Type Setting menu appears.

- 2 Press [DME SDI Interface].

- 3 Using any of the following methods, select the DME channel to which operations apply.

- Press directly on the list on the left of the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment            | Setting values |
|------|-----------|-----------------------|----------------|
| 1    | DME Ch No | DME channel selection | 1 to 24        |

### Notes

When using the MVE-8000A, it is not possible to select any of DME 1 Ext In to DME 8 Ext In.

- 4 In the <Select> group, select the AUX bus or reentry to be assigned to the DME channel.

**Aux Bus:** Set AUX bus.

**Re-Entry:** Set reentry.

- 5 Depending on the selection in step 4, use any of the following methods to make the setting.

- Press directly on the list on the right of the status area.

- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

### When Aux Bus is selected

| Knob | Parameter | Adjustment     | Setting values |
|------|-----------|----------------|----------------|
| 2    | Src No    | AUX bus number | 0 to 48        |

### When Re-Entry is selected

| Knob | Parameter | Adjustment     | Setting values     |
|------|-----------|----------------|--------------------|
| 2    | Src No    | Reentry number | 0 to maximum value |

- 6 Press [Set].

In the list on the right of the status area, the selected content is reflected in the specified DME channel.

Repeat steps 3 to 6 as required.

## Selecting the Mode for Turning Off Keys Upon Receiving the Editor Command

Selects the mode for turning off keys when an “All Stop” command is received from the editor.

- 1 In the Switcher >Device Interface menu, press [Editor I/F].

The Editor I/F menu appears.

- 2 Select one of the following modes.

**All:** When an “All Stop” command is received, all keys for the selected regions are turned off.

**Specified:** When an “All Stop” command is received, among all the keys for the selected regions, only the keys specified by the editor are turned off.

### Notes

When an “All Stop” command is received in the process of a transition, the keys selected for the next transition are also turned off.

# DME Setup (DME)

# Chapter 21

## Settings Relating to Signal Inputs (Input Menu)

To make settings relating to DME input signals, display the DME >Input menu.

### To display the Input menu

In the Engineering Setup menu, select VF4 'DME' and HF1 'Input.'

The status area shows the initial crop information and the DME system phase.

The following functions are available here.

- **Initial Crop:** Make the initial crop setting.
- **Matte Illeg. Color Limit:** Switch the illegal limiter for the signal generated by the DME internal matte generator on or off.
- **System Phase:** Adjust the operation timing of the whole system with respect to the reference signal.
- **TBC Center:** Set the TBC window center position.

When the signal format is 1080P, up to four DMEs can be operated (DME1 to DME4).

In the following description, the settings for DME1 are given by way of example, but the settings for DME2 to DME4 are carried out in a similar way.

### Setting the Initial Crop

- 1 In the DME1 <Aspect> group of the DME >Input menu, select the screen aspect ratio (16:9 or 4:3).
- 2 In the DME1 <Crop> group, press [Initial Crop] and adjust the following parameters.

If you selected 4:3 in step 1

| Knob | Parameter | Adjustment              | Setting values |
|------|-----------|-------------------------|----------------|
| 1    | Top       | Position of top side    | −3.00 to +3.00 |
| 2    | Left      | Position of left side   | −4.00 to +4.00 |
| 3    | Right     | Position of right side  | −4.00 to +4.00 |
| 4    | Bottom    | Position of bottom side | −3.00 to +3.00 |

If you selected 16:9 in step 1

| Knob | Parameter | Adjustment              | Setting values   |
|------|-----------|-------------------------|------------------|
| 1    | Top       | Position of top side    | −9.00 to +9.00   |
| 2    | Left      | Position of left side   | −16.00 to +16.00 |
| 3    | Right     | Position of right side  | −16.00 to +16.00 |
| 4    | Bottom    | Position of bottom side | −9.00 to +9.00   |

To return the parameter values to their default values Press [Unity] in the <Crop> group.

### Setting an Illegal Color Limit for Matte Signals

To enable the illegal color limiter for the signals generated by the DME internal matte generator, press [Matte Illeg Col Limit] for DME1 in the DME >Input menu, turning it on.

### Making DME System Phase Adjustment

To adjust the DME reference phase, use the following procedure.

- 1 In the DME >Input menu, press [System Phase].
- 2 Set the following parameters.

| Knob | Parameter  | Adjustment                   | Setting values   |
|------|------------|------------------------------|------------------|
| 1    | DME1 Phase | DME1 system phase adjustment | -32.00 to +96.00 |
| 2    | DME2 Phase | DME2 system phase adjustment | -32.00 to +96.00 |

## Setting the TBC Window Center Position

- 1 In the DME >Input menu, press [TBC Center].

The TBC Center menu appears.

The status area shows the TBC center position values for DME1, DME2, and external input signals.

### Notes

The TBC center position values for external input signals are shown only when an MVE-9000 or MKS-7470X/7471X is used.

- 2 Using any of the following methods, select the input number for which you want to set the TBC center position.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment             | Setting values |
|------|-----------|------------------------|----------------|
| 1    | No        | Input number selection | 1 to 8         |

- 3 In the <Video/Key> group (when SDI-interfaced MVE-8000A/9000 is used) or <External Video> group (when MVE-9000 or MKS-7470X/7471X is used), press the desired button, and set the TBC center position to 0H, 0.5H, or 1H.

## Settings Relating to Signal Outputs (Output Menu)

To make settings relating to DME output signals, display the DME >Output menu.

You can select the signals output from the four monitor output connectors.

### To display the Output menu

In the Engineering Setup menu, select VF4 'DME' and HF3 'Output.'

The following functions are available here.

- **Clip Adjust:** Adjust the video clip levels of DME1 and DME2 outputs. These settings are possible only when the DME is an MVE-9000 or SDI-interfaced MVE-8000A.
- **Monitor Output:** Set the signals output from the four monitor output connectors.

## Adjusting the DME1 and DME2 Output Video Clip Levels

When the MVE-8000A/MVE-9000 is connected through SDI interface, you can adjust both DME1 and DME2 output video clip levels.

Use the following procedure (DME 1 is taken by way of example).

- 1 In the <DME1 (Ch1-Ch4)> group of the DME >Output menu, press [Clip Adjust], turning it on.
- 2 Set the following parameters.

| Knob | Parameter   | Adjustment             | Setting values  |
|------|-------------|------------------------|-----------------|
| 1    | White Clip  | White clip adjustment  | 90.00 to 109.02 |
| 2    | Dark Clip   | Dark clip adjustment   | -6.85 to +10.00 |
| 3    | Chroma Clip | Chroma clip adjustment | 90.00 to 113.17 |

### To return the setting to the default value

In the DME >Output menu, press [Default].

## Setting the Monitor Output

To set the signals output from the four monitor output connectors, use the following procedure.

- 1 In the DME >Output menu, press [Monitor Output].



The Monitor Output menu appears.

- 2 In the <Select> group, select the DME to which the setting applies.  
**DME1:** Select DME1.  
**DME2:** Select DME2.  
 When the signal format is 1080P, you can also select DME3 or DME4 similarly.
- 3 In the list on the left of the status area, press directly on the monitor output for which you want to make setting.

#### Notes

On the MVE-8000A, when the signal format is 1080P, you cannot select MONI OUT#2 and MONI OUT#4.

- 4 In the list on the right of the status area, press directly on the signal you want to output.
- 5 Press [Set].

The selection is reflected in the monitor output.

## Interfacing With External Devices (Device Interface Menu)

To carry out setup relating to DME connections with external devices, display the DME >Device Interface menu.

### To display the Device Interface menu

In the Engineering Setup menu, select VF4 'DME' and HF4 'Device Interface.'

The following functions are available here.

- **Editor Protocol:** Set the protocol to be used on the Editor port.
- **Editor Port Setting:** Make settings relating to the control of the four editor ports installed in the DME.
- **GPI Input:** Set the GPI input ports and trigger polarities, and make the action settings.
- **GPI Output:** Set the GPI output ports and trigger polarities, and make the action settings.

When the signal format is 1080P, up to four DMEs can be operated (DME1 to DME4).

In the following description, the settings for DME1 are given by way of example, but the settings for DME2 to DME4 are carried out in a similar way.

#### Notes

On the MVE-8000A, when GPI Input and GPI Output are set, the settings apply to Ch1/Ch2 for DME1/DME3, and Ch3/Ch4 for DME2/DME4.

### Setting the editor protocol

In the <DME1 Editor Protocol> group of the DME >Device Interface menu, press the following buttons to make the setting.

**DME:** Control by DME protocol through the editor port.

**VTR:** Control by VTR protocol through the editor port.

#### Notes

This setting is disabled for the MKS-7470X/7471X.

### Making editor port settings

In the <DME1 Editor Port Setting> group of the DME >Device Interface menu, press either of the following to select the way in which the editor ports are used.

**Common:** Control all of channels 1 to 4 through editor ports 1 to 4.

**Independ:** Control channels 1 to 4 individually through Editor ports 1 to 4.

## Notes

This setting is disabled for the MKS-7470X/7471X.

## Making DME GPI Input Settings

- 1 In the DME >Device Interface menu, press [DME1 GPI Input].

The DME1 GPI Input menu appears.

- 2 Using any of the following methods, select the settings.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knobs.

| Knob | Parameter | Adjustment                                    | Setting values |
|------|-----------|---|----------------|
| 1    | Port      | Input port selection                          | 1 to 8         |
| 2    | No        | Selection of number for action to be assigned | 1 to 8         |

- 3 In the <Trigger Type> group, select the trigger polarity.

- ☐ **(Rising Edge):** Apply the trigger on a rising edge of an input pulse.
- ☐ **(Falling Edge):** Apply the trigger on a falling edge of an input pulse.
- ☒ **(Any Edge):** Apply the trigger on a change in the polarity of the input signal.
- ☐ **(Level):** Carry out the specified operation when the input is low or high.

**No Operation:** Apply no trigger on an input pulse.

- 4 In the <Target> group, select what this applies to (channels 1 to 4, or Proc).

- 5 Using any of the following methods, select the action to be set.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knobs.

| Knob | Parameter | Adjustment       | Setting values                                  |
|------|-----------|------------------|---|
| 3    | Action    | Action selection | 1 to maximum value <sup>a)</sup>                |
| 4    | Reg No    | Register number  | 1 to 99 <sup>b)</sup><br>1 to 399 <sup>c)</sup> |

a) As for the setting values, see “Selectable actions for various trigger types” (page 564).

- b) When knob 3 selection is “Snapshot”
- c) When knob 3 selection is “Effect”

- 6 Press [Action Set] to confirm the action selection.

The selected setting appears in the status area.

### Selectable actions for various trigger types

- **When the trigger type is other than “Level”**  
When Target is Ch1, Ch2, Ch3, or Ch4: Freeze, SS ? Recall, Effect ? Recall, Effect ? Recall & Run, KF Run, KF Stop, KF Rewind, KF Reverse Run, No Action  
When Target is Proc: No Action
- **When the trigger type is “Level”**  
When Target is Ch1, Ch2, Ch3, or Ch4: Aspect, No Action  
When Target is Proc: Format Aspect, Level Enable, No Action

## Notes

- “Level Enable” is a function that determines whether GPI inputs are enabled (“Enable”) or disabled (“Disable”) for the “Aspect” and “Format” actions that can be used when the trigger type is Level. When Level Enable is used, if the input is “Disable” then it is not possible to switch “Aspect” or “Format” by GPI input. If a GPI to switch “Aspect” or “Format” occurs when powering the system off, the action triggered by the GPI may start immediately before the power goes off and the power may go off before the action is completed. This may corrupt the setup settings. It is therefore recommended to use Level Enable to avoid such a situation.
- When the DME is an MKS-7470X/7471X, “Format” is disabled.

## Carrying out level settings

To set the low level and high level, first set the trigger type to “Level,” then use the following procedure.

- 1 In the DME >Device Interface >DME1 GPI Input menu, select the action to be set, and press [H/L Set].

The H/L Set menu appears.

- 2 Using any of the following methods, select the settings.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment                                   | Setting values     |
|------|-----------|--|--------------------|
| 1    | No        | Signal format/ screen aspect ratio selection | 1 to maximum value |

- 3** To apply the selection made in step **2** when the input is high, press [H Set]. To apply the selection made in step **2** when the input is low, press [L Set].

This confirms the setting, which appears in the status area.

## Making DME GPI Output Settings

- 1** In the DME >Device Interface menu, press [DME1 GPI Output].

The DME1 GPI Output menu appears.  
The output port selection is fixed at 1.

- 2** In the <Trigger Type> group, select the trigger polarity.

**Status:** The relay opens/closes or the output goes high/low level in response to the status.

**No Operation:** The trigger has no effect on the relay state or output level.

- 3** Using any of the following methods, select the action you want to set.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment       | Setting values       |
|------|-----------|------------------|----------------------|
| 2    | Action    | Action selection | 1 to 3 <sup>a)</sup> |

a) Error Make, Error Break, No Action

- 4** Press [Action Set] to confirm the action selection.

The selected setting appears in the status area.

## Setup Relating to DCU

In DCU setup, carry out settings particular to the DCU. You can make the following settings.

- **Input Config:** Assign GPI inputs to Parallel input ports.
- **GPI Input Assign:** Make GPI input settings.
- **Output Config:** Assign GPI outputs to parallel output ports inserted in an option slot.
- **GPI Output Assign:** Make GPI output settings.
- **Serial Port Assign:** Set the protocol to match the devices connected to a 9-pin serial port. You can also select the control panel used to control each device.

### Notes

For setup relating to DCU, it is necessary to make the same settings on multiple control panels (maximum three units) that are sharing the DCU. After carrying out the DCU setup on one control panel, make the same settings on the other control panels.

## Settings Relating to Parallel Inputs (Input Config Menu)

To assign GPI inputs to DCU parallel input ports, display the DCU >Input Config menu.

The DCU parallel input ports are assigned with the following priority sequence.

1. When external boxes are set in the Router/Tally >Router>External Box Assign menu, the parallel inputs are assigned to the external box inputs in order.
2. When tally settings are carried out in the Router/Tally >Tally Enable menu, tally inputs are assigned automatically.

In this menu, you set only the input ports which are unused after making the above assignments.

### To display the Input Config menu

In the Engineering Setup menu, select VF5 'DCU' and HF1 'Input Config.'

The status area shows input port information.

## Assigning a GPI Input Port

- 1 In the DCU >Input Config menu, select what the setting applies to (DCU1 or DCU2) from the <DCU Select> group.
- 2 In the <Parallel Input Assign> group, press [GPI Input].
- 3 Using any of the following methods, assign the number of the GPI input to the input port.
  - Press directly on the list in the status area.
  - Press the arrow keys to scroll the reverse video cursor.
  - Turn the knobs.

| Knob | Parameter      | Adjustment | Setting values         |
|------|----------------|------------|------------------------|
| 1    | Parallel Input | Input port | 1 to 102 <sup>a)</sup> |
| 3    | GPI Input      | GPI input  | 1 to 50                |

a) When the MKS-2700 is connected, select a value in the range 1 to 34.

- 4 To confirm the assignment in step 3, press [GPI Input Set].

This assigns the GPI input, and this is reflected in the status area.

## Releasing the Assignment of a GPI Input Port

- 1 In the DCU >Input Config menu, select what the setting applies to (DCU1 or DCU2) from the <DCU Select> group.
- 2 In the <Parallel Input Assign> group, if [GPI Input] is on, press it to turn it off.
- 3 Turn the knobs to adjust the following parameters.

| Knob | Parameter | Adjustment        | Setting values |
|------|-----------|-------------------|----------------|
| 1    | From No   | First port number | 1 to To No     |
| 2    | To No     | Last port number  | From No to 102 |

- 4 In the <Parallel Input Assign> group, press [No Assign].

## GPI Input Setting (GPI Input Assign Menu)

To set the trigger type and so on for each GPI input, display the DCU >GPI Input Assign menu.

### To display the GPI Input Assign menu

In the Engineering Setup menu, select VF5 'DCU' and HF2 'GPI Input Assign.'

The GPI input port setting status appears in the status area.

## Making DCU GPI Input Settings

- 1 In the DCU >GPI Input Assign menu, using any of the following methods select what the setting applies to.
  - Press directly on the list in the status area.
  - Press the arrow keys to scroll the reverse video cursor.
  - Turn the knob.

| Knob | Parameter | Adjustment | Setting values |
|------|-----------|------------|----------------|
| 1    | No        | GPI input  | 1 to 50        |

- 2 In the <Trigger Type> group, select the trigger polarity.
  - ☐ **(Rising Edge):** Apply the trigger on a rising edge of an input pulse.
  - ☐ **(Falling Edge):** Apply the trigger on a falling edge of an input pulse.
  - ☐ **(Any Edge):** Apply the trigger on a change in the polarity of the input signal.
  - ☐ **(Level):** Carry out the specified operation when the input is low or high.

**No Operation:** Apply no trigger on an input pulse.

- 3 In the <Target Device> group, select the control panel to handle the GPI input.

**SCU1:** ID1 control panel (PNL1)

**SCU2:** ID2 control panel (PNL2)

**SCU3:** ID3 control panel (PNL3)

The action set in the following step 4 is executed for the switcher and DME controlled by the selected control panel.

- 4 Using any of the following methods, select the action you want to set.
  - Press directly on the list in the status area.
  - Press the arrow keys to scroll the reverse video cursor.
  - Turn the knobs.

| Knob | Parameter  | Adjustment              | Setting values  |
|------|------------|-------------------------|---|
| 2    | Action     | Action selection        | 1 to maximum value <sup>a)</sup>  |
| 4    | Aux Bus No | AUX bus selection       | 1 to 48 <sup>b)</sup>   |
| 5    | Reg No     | Register number         | 1 to 4 <sup>c)</sup><br>1 to 99 <sup>d)</sup><br>1 to 250 <sup>e)</sup><br>1 to 399 <sup>f)</sup> |
| 5    | Src No     | Source signal selection | 1 to maximum value <sup>b) g) h)</sup>  |

- a) As for the setting values, see “Selectable actions for various trigger types” (page 568)
- b) When knob 2 selection is “Aux ? O’ride Src ??”
- c) When knob 2 selection is “Key Snapshot”
- d) When knob 2 selection is “Snapshot” or “Shotbox”
- e) When knob 2 selection is “Macro”
- f) When knob 2 selection is “Effect”
- g) The following values apply to the MVS-8000X.  
For primary inputs: 1 to 144  
For premium inputs: 145 to 164 ((PREM1) to (PREM20) indicated after the number)  
For format converter dedicated inputs: 165 to 180 ((FC1) to (FC16) indicated after the number)
- h) The values from 1 to 80 apply to the MVS-7000X.

## 5 To confirm the setting in step 4, press [Action Set].

This confirms the setting, which appears in the status area.

### Selectable actions for various trigger types

#### • When the trigger type is other than “Level”

In M/E-x, the x is the M/E bank number (1 to 5); in DSKx the x is the DSK number (1 to 8); in Keyx the x is the key number (1 to 8).

M/E-x Cut, M/E-x Auto Trans, P/P Cut, P/P Auto Trans, M/E-x Keyx Cut, M/E-x Keyx Auto Trans, P/P DSKx Cut, P/P DSKx Auto Trans, FTB Auto Trans, FTB Cut, Master SS ? Recall, SS ? Recall, M/E-x Keyx SS ? Recall, P/P DSKx SS ? Recall, Master Effect ? Recall, Effect ? Recall, Effect ? Recall & Run, KF Run, KF Stop, KF Rewind, FM Src1 Field Freeze, FM Src1 Frame Freeze, FM Src1 Freeze Off, FM Src2 Field Freeze, FM Src2 Frame Freeze, FM Src2 Freeze Off, FM Src1 Clip Record, FM Src1 Clip Stop, FM Src2 Clip Record, FM Src2 Clip Stop, FM1 to FM8 Clip Cueup, FM1 to FM8 Clip Play, FM1 to FM8 Clip Stop, Shotbox ? Recall, Macro Take, Macro ? Recall, No Action

#### • When the trigger type is only “Rising Edge” or “Falling Edge”

Aux? O’ride Src ??

#### • When the trigger type is “Level”

In M/E-x, the x is the M/E bank number (1 to 5).  
System Format, System Aspect, M/E-x Aspect, P/P Aspect, DME Ch1 Aspect, DME Ch2 Aspect, DME Ch3 Aspect, DME Ch4 Aspect, DME Ch5 Aspect, DME Ch6 Aspect, DME Ch7 Aspect, DME Ch8 Aspect, Level Enable, Panel Status, No Action

### Notes

- “Level Enable” is a function that determines whether GPI inputs are enabled (“Enable”) or disabled (“Disable”) for the “System Aspect” and “System Format” actions that can be used when the trigger type is Level. When Level Enable is used, if the input is “Disable” then it is not possible to switch “System Aspect” or “System Format” by GPI input. If a GPI to switch “System Aspect” or “System Format” occurs when powering the system off, the action triggered by the GPI may start immediately before the power goes off and the power may go off before the action is completed. This may corrupt the setup settings. It is therefore recommended to use Level Enable to avoid such a situation.
- As for “Aux ? O’ride Src ??,” when “Rising Edge” is selected, on a rising edge the set AUX bus input is used. On a falling edge, the original state of the cross-point is restored. If the GPI trigger is applied repeatedly at short intervals (0.5 second or less), the cross-point switching may not be carried out correctly. In this case, apply the GPI trigger again.
- If “System Format” is selected for “Action” when the format converter is used on the switcher, you can set the conversion format of the format converter for “FC Input 1-4,” “FC Input 5-8,” “FC Input 9-12” (MVS-8000X only), “FC Input 13-16” (MVS-8000X only), “FC Output 1-2,” and “FC Output 3-4.”
- In Dual Simul mode, you can select the target switcher for the panel status display using “Panel Status” (H=SWR1, L=SWR2).

### Carrying out level settings

To set the low level and high level, first set the trigger type to “Level,” then use the following procedure.

- 1 In the DCU>GPI Input Assign menu, select the action to be set, and press [H/L Set].

The H/L Set menu appears.

- 2 Using any of the following methods, select the settings.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment   | Setting values        |
|------|-----------|--|-----------------------|
| 1    | No        | Signal format/<br>screen aspect<br>ratio selection | 1 to maximum<br>value |

- 3 To apply the selection made in step 2 when the input is the GPI high level, press [H Set]. To apply the

selection made in step **2** when the input is low, press [L Set].

This confirms the setting, which appears in the status area.

### To Set the Level for the Format Converter

- 1** Set “System Format” for “Action” using the same operation in Step **4** of “*Making DCU GPI Input Settings*” (page 567).  
The format converter list appears.
- 2** Select the format converter that you want to set from the list.
- 3** In the <FC Input/Output> group, press [H Set] or [L Set] to set the high level or low level, respectively.

## Parallel Output Settings (Output Config Menu)

For the DCU parallel output ports, after carrying out tally settings in the Router/Tally >Tally Enable menu, you can assign GPI outputs to output ports that are still unused. To assign DCU outputs to DCU parallel output ports, display the DCU >Output Config menu.

### To display the Output Config menu

In the Engineering Setup menu, select VF5 ‘DCU’ and HF3 ‘Output Config.’

The status area shows output port information.

### Assigning a GPI Output Port

- 1** In the DCU >Output Config menu, select what the setting applies to (DCU1 or DCU2) from the <DCU Select> group.
- 2** In the <Parallel Output Assign> group, press [GPI Output].
- 3** Using any of the following methods, select the output port and GPI output number.
  - Press directly on the list in the status area.
  - Press the arrow keys to scroll the reverse video cursor.
  - Turn the knobs.

| Knob | Parameter            | Adjustment       | Setting values        |
|------|----------------------|------------------|-----------------------|
| 1    | Parallel Output Slot | Output port slot | 2 to 6 <sup>a)</sup>  |
| 2    | Parallel Output Port | Output port      | 1 to 54 <sup>b)</sup> |
| 5    | GPI Output           | GPI output       | 1 to 50               |

a) When the MKS-2700 is connected, select 2.

b) When the MKS-2700 is connected, select a value in the range 1 to 36.

- 4** To confirm the selected setting, press [GPI Output Set].

This confirms the selection, which is reflected in the status area.

## Releasing the Assignment of a GPI Output Port

- 1 In the DCU >Output Config menu, select what the setting applies to (DCU1 or DCU2) from the <DCU Select> group.
- 2 In the <Parallel Output Assign> group, if [GPI Output] is on, press it to turn it off.
- 3 Turn the knobs to select the slot and port to which the setting applies.

| Knob | Parameter | Adjustment        | Setting values |
|------|-----------|-------------------|----------------|
| 1    | From Slot | First port slot   | 2 to 6         |
| 2    | From Port | First port number | 1 to 54        |
| 3    | To Slot   | Last port slot    | 2 to 6         |
| 4    | To Port   | Last port number  | 1 to 54        |

- 4 In the <Parallel Output Assign> group, press [No Assign].

## GPI Output Settings (GPI Output Assign Menu)

To set the trigger type and so on for each GPI output, display the DCU >GPI Output Assign menu.

### To display the GPI Output Assign menu

In the Engineering Setup menu, select VF5 'DCU' and HF4 'GPI Output Assign.'

The GPI output port setting status appears in the status area.

## Making DCU GPI Output Settings

- 1 In the DCU >GPI Output Assign menu, using any of the following methods select what the setting applies to.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment | Setting values |
|------|-----------|------------|----------------|
| 1    | No        | GPI output | 1 to 50        |

- 2 In the <Trigger Type> group, select the trigger polarity.

☐ **(Rising Edge):** The trigger causes the relay to open or the output to go high level, and holds this state for the specified pulse width duration.

☐ **(Falling Edge):** The trigger causes the relay to close or the output to go low level, and holds this state for the specified pulse width duration.

☐ **(Any Edge):** When a trigger occurs, the relay opens/closes or the output goes high/low level, switching state.

**Status:** The relay opens/closes or the output goes high/low level in response to the status.

**No Operation:** The trigger has no effect on the relay state or output level.

- 3 Turning the knobs, select the pulse width and timing to be set.

| Knob | Parameter   | Adjustment    | Setting values       |
|------|-------------|---------------|----------------------|
| 3    | Pulse Width | Pulse width   | 1 to 60 (fields)     |
| 4    | Timing      | Output timing | 1 to 3 <sup>a)</sup> |

a) 1: Field 1, 2: Field 2, 3: Any



When “∞” is selected as the trigger polarity, there is no Pulse Width setting. When “Status” is selected, there is no Pulse Width or Timing setting.

- 4** In the <Source Device> group, select the control panel or DCU to handle the GPI output.

**SCU1:** ID1 control panel (PNL1)

**SCU2:** ID2 control panel (PNL2)

**SCU3:** ID3 control panel (PNL3)

**DCU1:** ID1 DCU

**DCU2:** ID2 DCU

When the action set in the following step **5** is carried out on the control panel selected here, this causes a GPI output. It is also possible to output error information. When the DCU is selected, you can output error information by means of the action set in step **5**.

- 5** Using any of the following methods, select the action you want to set.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knobs.

| Knob | Parameter | Adjustment               | Setting values                   |
|------|-----------|--------------------------|----------------------------------|
| 2    | Action    | Action selection         | 1 to maximum value <sup>a)</sup> |
| 5    | Reg No    | Snapshot register number | 1 to 4 <sup>b)</sup>             |
| 5    | GPI No    | GPI number selection     | 1 to 32 <sup>c)</sup>            |

**a) Action list when the trigger type is other than “Status”**

In M/E-x, the x is the M/E bank number (1 to 5); in Keyx the x is the key number (1 to 8); in DSKx the x is the DSK number (1 to 8).

When Source Device is SCU: M/E-x Keyx SS ? Recall, P/P DSKx SS ? Recall, Editor GPI-?? (only when BZS-8050 license is valid), No Action

When Source Device is DCU: No Action

**Action list when the trigger type is “Status”**

In M/E-x, the x is the M/E bank number (1 to 5); in Keyx the x is the key number (1 to 8); in DSKx the x is the DSK number (1 to 8).

When Source Device is SCU: M/E-x Keyx SS ? Recall, P/P DSKx SS ? Recall, M/E-x Keyx On, P/P DSKx On, Error Make, Error Break, Keep Make, Keep Break, Device Recording, No Action

When Source Device is DCU: Error Make, Error Break, No Action

b) When knob 2 selection is “Key Snapshot”

c) When knob 2 selection is “GPI”

- 6** To confirm the selection, press [Action Set].

This confirms the selection, which appears in the status area.

## Test firing the trigger

In the DCU >GPI Output menu press [Test Fire].

This outputs a trigger from the selected output port. This is not output when the trigger type is “Status.”

# Serial Port Settings (Serial Port Assign Menu)

To set the protocol to match a device connected to a 9-pin serial port, display the DCU >Serial Port Assign menu.

## To display the Serial Port Assign menu

In the Engineering Setup menu, select VF5 ‘DCU’ and HF5 ‘Serial Port Assign.’

The serial port setting status appears in the status area.

## Making Serial Port Settings

- 1** In the DCU >Serial Port Assign menu, select the target for the setting (DCU1 or DCU2) from the <DCU Select> group.

- 2** Using any of the following methods, select the serial port.

- Press directly on the list on the left of the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment  | Setting values                   |
|------|-----------|-------------|----------------------------------|
| 1    | Port No   | Serial port | 1 to maximum value <sup>a)</sup> |

a) The setting value range depends on the DCU port setting. When the MKS-2700 is connected, select 2 for the slot and a value in the range 1 to 6 for the port.

- 3** Using any of the following methods, select the protocol for the connected device.

- Press directly on the list on the right of the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter   | Adjustment         | Setting values        |
|------|-------------|--------------------|-----------------------|
| 2    | Device Type | Protocol selection | 1 to 10 <sup>a)</sup> |

- a) 1. No Assign: nothing is connected to the serial port.  
 2. P-Bus: P-Bus device.  
 3. VTR: VTR  
 4. DDR SD9P: disk recorder (Sony disk 9-pin protocol)  
 5. DDR VDCP: disk recorder (video disk communication protocol)  
 6. Simple VDCP: disk recorder with low-performance communications (video disk communications protocol)  
 7. DDR Odetics: disk recorder (Odetics protocol)  
 8. Extended VTR (Abekas A53 protocol)  
 9. Mixer ESAM-II  
 10. AS ES-BUS: device supporting the AS ES bus protocol

**Notes**

Mixer ESAM-II cannot be operated from this system. It can only be operated from an editing keyboard.

**4** Press [Device Type Set].

The selected protocol is reflected on the left of the status area.

**5** To enter the name of the serial port, press [Set] in the <Name> group.

A keyboard window appears. You can enter a name of not more than 16 characters.

If no name is set for the serial port, it is displayed as "DCUd\_PORTS-p."

**d:** 1 or 2 (DCU No.)

**s:** 2 to 6 (Slot No.)

**p:** 1 to 6 (Port No.)

**6** Press [Enter].**To return the set name to the default name**

Press [Clear] in the <Name> group.

**7** From the <SCU Select> group, select the control panel (SCU1, SCU2 or SCU3) assigned to operations on the external device connected to the serial port.**Deleting the serial port assignment****1** In the DCU >Serial Port Assign menu, select the target for the setting (DCU1 or DCU2) from the <DCU Select> group.**2** Using any of the following methods, specify the serial port.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment  | Setting values                   |
|------|-----------|-------------|----------------------------------|
| 1    | Port No   | Serial port | 1 to maximum value <sup>a)</sup> |

a) The range of setting values depends on the DCU port setting. When the MKS-2700 is connected, select 2 for the slot and a value in the range 1 to 6 for the port.

**3** Press [Clear].**Making Detailed Settings on the External Device Connected to the Serial Port**

After setting the external device for each serial port, it is necessary to make further detailed settings for operation of the external device.

**Making detailed settings for a P-Bus device****1** In the DCU >Serial Port Assign menu, select the setting target (DCU1 or DCU2) from the <DCU Select> group.**2** Using any of the following methods, select the serial port connected to the P-Bus device for which you want to make the settings.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment         | Setting values                   |
|------|-----------|--------------------|----------------------------------|
| 1    | Port No   | Serial port number | 1 to maximum value <sup>a)</sup> |

a) The range of setting values depends on the DCU port setting. When the MKS-2700 is connected, select 2 for the slot and a value in the range 1 to 6 for the port.

**3** Press [Port Setting].

The DCU >Serial Port Assign >P-Bus Setting menu appears.

At the top of the status area, the relevant serial port, slot number, protocol, serial port name, and SCU number appear. In the lower part of the status area, the device name and response speed settings appear.

**4** Using any of the following methods, select the ID for which you want to make a device name setting.

- Press directly on the device name list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment   | Setting values |
|------|-----------|--------------|----------------|
| 1    | ID        | ID selection | 0 to 23        |

**5** In the <Name> group, press [Set] to display a numeric keypad window.**6** Input the desired name, and press [Enter].

The input device name appears in the device name list.

### To return the device name for the selected ID to the default name

Press [Clear] in the <Name> group.

- 7** Using any of the following methods, specify the command to which the response speed setting applies.

- Press directly on the delay list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment               | Setting values |
|------|-----------|--------------------------|----------------|
| 2    | No        | Command number selection | 1 to 18        |

- 8** Turn the knob to set the response speed (in field units) of the device.

| Knob | Parameter | Adjustment             | Setting values |
|------|-----------|------------------------|----------------|
| 3    | Delay     | Response speed setting | 0 to 60        |

- 9** Press [Delay Set].

- 10** Repeat steps **4** to **9** as required to make the settings for other commands.

## Making detailed settings for a VTR

- 1** In the <DCU Select> group of the DCU >Serial Port Assign menu, select the target for the setting (DCU1 or DCU2).

- 2** Using any of the following methods, select the serial port connected to the VTR for which you want to make the settings.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment  | Setting values                   |
|------|-----------|-------------|----------------------------------|
| 1    | Port No   | Serial port | 1 to maximum value <sup>a)</sup> |

a) The range of setting values depends on the DCU port setting. When the MKS-2700 is connected, select 2 for the slot and a value in the range 1 to 6 for the port.

- 3** Press [Port Setting].

The DCU >Serial Port Assign >VTR Setting menu appears.

At the top of the status area, the relevant serial port, slot number, protocol, serial port name, SCU number,

and timecode source appear. In the lower part of the status area, the VTR constants appear.

- 4** In the <TC Source> group, select the timecode source (reference signal for determining the tape position) from the following.

**LTC (Longitudinal Time Code):** Use LTC. When interpolation data is returned from a VTR, use that interpolation data.

**LTC: VITC (Vertical Interval Time Code):**

Normally use LTC, but when the tape is moving at speeds at which LTC cannot be read, use VITC.

When interpolation data is returned from a VTR, use that interpolation data.

**VITC:** Use VITC.

**CTL (Control):** CTL pulses or timer counter pulses are used. Use this only for a tape on which no timecode is recorded.

The displayed tape position is based on the reference signal specified here.

- 5** Using any of the following methods, specify the VTR constants.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment     | Setting values |
|------|-----------|----------------|----------------|
| 1    | Item      | Item selection | 1 to 16        |

- 6** Press [Set].

A numeric keypad window for hexadecimal input appears.

- 7** Set the VTR constants using values in the range 00 to FF.

| Block   | Byte | Setting item                   |
|---------|------|--------------------------------|
| BLOCK 1 | 1    | HI-BYTE (DEVICE TYPE)          |
|         | 2    | LO-BYTE (DEVICE TYPE)          |
|         | 3    | HI-BYTE (FRAME) (PREROLL TIME) |
|         | 4    | LO-BYTE (FRAME) (PREROLL TIME) |
|         | 5    | EDIT DELAY (FRAME)             |
|         | 6    | EE DELAY (FRAME)               |
|         | 7    | OVER RUN (FRAME)               |
|         | 8    | TRAJECTORY                     |

| Block   | Byte | Setting item                |
|---------|------|-----------------------------|
| BLOCK 2 | 1    | TC READ DELAY (FRAME)       |
|         | 2    | START DELAY (FRAME)         |
|         | 3    | AFTER SYNC DELAY–           |
|         | 4    | AFTER SYNC DELAY+           |
|         | 5    | MODE1                       |
|         | 6    | MODE2                       |
|         | 7    | MAX PRRL SPEED              |
|         | 8    | QUICK PVW PRRL TIME (FRAME) |

**8** Press [Enter].

**9** Repeat steps **5** to **8** as required to set other VTR constants.

### Making detailed settings for a disk recorder (Sony disk 9-pin protocol)

**1** In the <DCU Select> group of the DCU >Serial Port Assign menu, select the target for the setting (DCU1 or DCU2).

**2** Using any of the following methods, select the serial port connected to the disk recorder for which you want to make the settings.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment  | Setting values                   |
|------|-----------|-------------|----------------------------------|
| 1    | Port No   | Serial port | 1 to maximum value <sup>a)</sup> |

a) The range of setting values depends on the DCU port setting. When the MKS-2700 is connected, select 2 for the slot and a value in the range 1 to 6 for the port.

**3** Press [Port Setting].

The DCU >Serial Port Assign >DDR SD9P Setting menu appears.

At the top of the status area, the relevant serial port, slot number, protocol, serial port name, SCU number, and disk recorder type appear. In the lower part of the status area, the response speed settings appear.

**4** Using any of the following methods, specify the item to which the response speed setting applies.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment     | Setting values       |
|------|-----------|----------------|----------------------|
| 1    | Item No   | Item selection | 1 to 4 <sup>a)</sup> |

- a) 1. Maximum Open Delay: maximum time required to open a file  
 2. Maximum Cueup Delay: maximum time required to cue up a file  
 3. Play After Cueup Delay: delay time from the cued-up state to begin playback  
 4. Play After Open Next Delay: delay time from the Open Next state to begin playback

**5** Turn the knob to set the disk recorder response speed.

| Knob | Parameter | Adjustment             | Setting values |
|------|-----------|------------------------|----------------|
| 2    | Setting   | Response speed setting | 0 to 255       |

**6** Press [Set].

**7** Repeat steps **4** to **6** as required to make the settings for other items.

### Making detailed settings for a disk recorder (video disk communications protocol)

**1** In the <DCU Select> group of the DCU >Serial Port Assign menu, select the target for the setting (DCU1 or DCU2).

**2** Using any of the following methods, select the serial port connected to the disk recorder for which you want to make settings.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment  | Setting values                   |
|------|-----------|-------------|----------------------------------|
| 1    | Port No   | Serial port | 1 to maximum value <sup>a)</sup> |

a) The range of setting values depends on the DCU port setting. When the MKS-2700 is connected, select 2 for the slot and a value in the range 1 to 6 for the port.

**3** Press [Port Setting].

When “DDR VDCP” is selected as the protocol, the DCU >Serial Port Assign >DDR VDCP Setting menu appears.



When “Simple VDCP” is selected as the protocol, the Simple VDCP Setting menu appears.



- 4 In the <DDR Type> group, select the type of disk recorder.

**Player:** Functioning as a player.

**Recorder:** Functioning as a recorder.

- 5 In the <Name Mode> group, select the file name character count mode.

**Fixed 8 Character:** Use 8-character file names.

**Variable Length:** Use variable-length file names. The file name is limited to 23 characters.

- 6 In the <TC Sense> group, select the type of timecode sensing.

**Zero based:** Mode in which timecode is sensed (detected) taking the first frame of the recalled file as 00:00:00:00.

**SOM based:** Mode in which timecode saved in the recalled file is detected.

### Notes

The details of the above operation modes depend on the connected device. For more information, consult the documentation for the connected device.

- 7 When using a disk recorder that does not support the timecode drop frame bit, in the <Frame Control

Mode> group, select the drop frame mode or non-drop frame mode.

**Drop Frame:** Drop frame mode.

**Non Drop Frame:** Non-drop frame mode.

### Notes

This setting is only valid when the system field frequency is one of the following values.  
29.97, 30, 59.94, 60

- 8 Using any of the following methods, specify the item to which the video port number or response speed setting applies.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment     | Setting values  |
|------|-----------|----------------|---|
| 1    | Item No   | Item selection | <b>DDR VDCP</b><br><b>Setting menu: 1 to 8 <sup>a)</sup></b><br><b>Simple VDCP</b><br><b>Setting menu: 1 to 9 <sup>a)</sup></b> |

- a) 1. Video Port: Number of the video port associated with the serial port to which the setting applies  
For a player, the output port setting  
For a recorder, the input port setting
2. Maximum Open Delay: maximum time required to open a file
3. Maximum Cueup Delay: maximum time required to cue up a file
4. Play After Cueup Delay: delay time from the cued-up state to begin playback
5. Stop Delay: delay time from issuing the Stop command until actually stopping
6. Still Delay: delay time from issuing the Still command until actually stopping
7. Continue Delay: delay time from issuing the Continue command until actually stopping
8. Idle Delay: delay time from unloading a file until entering the idle state (the idle state is a state wherein a file has been unloaded but a new file has not been loaded yet, that is, a state wherein no file is loaded).
9. Status Sense Interval: time until the next Status Sense command is issued (Simple VDCP Setting menu only)

- 9 Turn the knob to set the disk recorder video port number or response speed.

### When setting the video port number

| Knob | Parameter | Adjustment        | Setting values         |
|------|-----------|-------------------|------------------------|
| 2    | Setting   | Video port number | 0 to 127 <sup>a)</sup> |

a) 0: No assignment

### When setting the response speed

| Knob | Parameter | Adjustment             | Setting values         |
|------|-----------|------------------------|------------------------|
| 2    | Setting   | Response speed setting | 0 to 255 <sup>b)</sup> |

b) Status Sense Interval: 1 to 10

**10** Press [Set].

**11** If required, repeat steps **8** to **10**, to set other items.

### To enable or disable the loop and recue functions

Press [Loop] and [Recue], respectively.

**Loop:** Replay the recalled file in a continuous loop.

**Recue:** After playing the recalled file, recue to the beginning and then stop.

## Making detailed settings for a disk recorder (Odetics protocol)

**1** In the DCU >Serial Port Assign menu, select the target for the setting (DCU1 or DCU2) from the <DCU Select> group.

**2** Using any of the following methods, select the serial port connected to the disk recorder for which you want to make the settings.

- Directly press the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment  | Setting values                   |
|------|-----------|-------------|----------------------------------|
| 1    | Port No   | Serial port | 1 to maximum value <sup>a)</sup> |

a) The range of the setting value depends on the DCU port settings.  
When the MKS-2700 is connected, select 2 for the slot and a value in the range 1 to 6 for the port.

**3** Press [Port Setting].

The DCU >Serial Port Assign >DDR Odetics Setting menu appears.

The target serial port and slot number, protocol, serial port name, and SCU number are displayed at the top of the status area. The setting status is displayed in the lower part of the status area.

**4** In the <TC Sense> group, select the type of timecode sensing.

**Zero based:** Mode in which timecode is sensed (detected) taking the first frame of the recalled file as 00:00:00:00.

**SOM based:** Mode in which timecode saved in the recalled file is sensed.

### Notes

The details of the above operation modes depend on the connected device. For more information, consult the documentation for the connected device.

**5** Using any of the following methods, specify the item to which the setting applies.

- Directly press the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment     | Setting values        |
|------|-----------|----------------|-----------------------|
| 1    | Item No   | Item selection | 1 to 12 <sup>a)</sup> |

- a) 1. Maximum Open Delay: Maximum time required to open a file  
2. Maximum Cueup Delay: Maximum time required to cue up a file  
3. Play After Cueup Delay: Delay time from the cued-up state to begin playback  
4. Stop Delay: Delay time from issuing the Stop command until actually stopping  
5. Still Delay: Delay time from issuing the Still command until actually stopping  
6. Command Delay (Auto Mode): Delay time from issuing the Auto Mode On/Off command until the command takes effect.  
7. Command Delay (Out Preset): Delay time from issuing the Out Preset command until the command takes effect.  
8. Command Delay (Preview In Preset): Delay time from issuing the Preview In Preset command until the command takes effect.  
9. Internal Parameter (1): For future expansion (set to "255")  
10. Internal Parameter (2): For future expansion (set to "255")  
11. Internal Parameter (3): For future expansion (set to "255")  
12. Internal Parameter (4): For future expansion (set to "255")

**6** Turn the knob to set the value.

| Knob | Parameter | Adjustment             | Setting values |
|------|-----------|------------------------|----------------|
| 2    | Setting   | Response speed setting | 0 to 255       |

**7** Press [Set].

**8** Repeat steps **5** to **7** as required to make the settings for other items.

## Making detailed settings for an Extended VTR

**1** In the DCU >Serial Port Assign menu, select the setting target (DCU1 or DCU2) from the <DCU Select> group.

**2** Using any of the following methods, select the serial port connected to the Extended VTR for which you want to make the settings.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment         | Setting values                   |
|------|-----------|--------------------|----------------------------------|
| 1    | Port No   | Serial port number | 1 to maximum value <sup>a)</sup> |

- a) The range of setting values depends on the DCU port setting. When the MKS-2700 is connected, select 2 for the slot and a value in the range 1 to 6 for the port.

### 3 Press [Port Setting].

The DCU >Serial Port Assign >Extended VTR Setting menu appears.

At the top of the status area, the relevant serial port, slot number, protocol, serial port name, and SCU number appear. In the lower part of the status area, the response speed settings appear.

### 4 Using any of the following methods, specify the item to which the response speed setting applies.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment     | Setting values       |
|------|-----------|----------------|----------------------|
| 1    | Item No   | Item selection | 1 to 4 <sup>a)</sup> |

- a) 1. Maximum Open Delay: maximum time required to open a file  
 2. Maximum Cueup Delay: maximum time required to cue up a file  
 3. Play After Cueup Delay: maximum delay time from the cued-up state to begin playback  
 4. Stop Delay: delay time from issuing the Stop command until actually stopping

### 5 Turn the knob to set the response speed of the Extended VTR.

| Knob | Parameter | Adjustment             | Setting values |
|------|-----------|------------------------|----------------|
| 2    | Setting   | Response speed setting | 0 to 255       |

### 6 Press [Set].

### 7 Repeat steps 4 to 6 as required to make the settings for other items.

# Setup Relating to Router Interface and Tally (Router/Tally)

## Chapter

# 23

## Router Interface Settings (Router Menu)

In this system, the interface with a router (routing switcher) uses the S-Bus protocol. It is therefore necessary to assign inputs and outputs of the switcher and so on to an S-Bus space.

To carry out this assignment, use the Router/Tally >Router menu. The assignment is common to the parallel and serial tallies.

### To display the Router menu

In the Engineering Setup menu, select VF6 'Router/Tally' and HF1 'Router.'

The status area shows the device names to be assigned to the S-Bus space, the matrix size, source address, destination address, and level.

The following functions are available here.

- **Matrix Size:** Assign the switcher matrix of each switcher processor to S-Bus space, and select the matrix size and positioning level, source address settings, and so on.
- **External Box:** To obtain the signal selection status of external devices with a parallel input, assign a matrix as an external selector in the S-Bus space. Make the matrix size, assignment level, source address, and other settings.
- **Alias Name Gp:** Set the group number for an S-Bus description name to be displayed in the source name displays for a cross-point operation.

## Assigning Switcher Inputs and Outputs to S-Bus Space

- 1 In the <Device> group of the Router/Tally >Router menu, select the device to which the settings apply.

**SWR1:** Settings apply to switcher 1.

**SWR2:** Settings apply to switcher 2.

### Notes

When there are two switchers on the same network, the SWR2 (second switcher) settings are required. If there is only one switcher, the settings are not required.

- 2 In the <Matrix Size> group, select the matrix size.

**320 × 348 (Standard):** Assign to S-Bus space with the switcher input/output at 320×348 size.

**272 × 274:** Assign to S-Bus space with the switcher input/output at 272×274 size.

**182 × 256:** Assign to S-Bus space with the switcher input/output at 182×256 size.

**136 × 138:** Assign to S-Bus space with the switcher input/output at 136×138 size.

**128 × 128:** Assign to S-Bus space with the switcher input/output at 128×128 size.

- 3 Turn the knobs to set the parameters for the following items.

**Source:** Specify the start address of the matrix source.

**Destination:** Specify the start address of the matrix destination.

**Level:** Specify the level in the S-Bus space.

| Knob | Parameter   | Adjustment                | Setting values                   |
|------|-------------|---------------------------|----------------------------------|
| 1    | Source      | Source start address      | 1 to maximum value <sup>a)</sup> |
| 2    | Destination | Destination start address | 1 to maximum value <sup>b)</sup> |
| 3    | Level       | Level                     | 1 to 8                           |

a) The maximum setting values for each matrix size:

705 for [320×348 (Standard)], 753 for [272×274], 843 for [182×256], 889 for [136×138], 897 for [128×128]

b) The maximum setting values for each matrix size:

677 for [320×348 (Standard)], 751 for [272×274], 769 for [182×256], 887 for [136×138], 897 for [128×128]



## Setting External Boxes 1 to 12

- 1 In the Router/Tally >Router menu, press [External Box Assign].  
The External Box Assign menu appears.
- 2 In the <Device> group, select what the setting applies to (one of External Box 1 to 12).

- 3 In the <Matrix Size> group, select the number of inputs for the external box.

**No Assign:** Do not use.

**4×1:** 4 inputs and 1 output.

**8×1:** 8 inputs and 1 output.

**16×1:** 16 inputs and 1 output.

**32×1:** 32 inputs and 1 output.

### Notes

The maximum total number of inputs for all 12 external boxes is 102.

- 4 Turn the knobs to make adjustments.

| Knob | Parameter   | Adjustment                | Setting values  |
|------|-------------|---------------------------|---|
| 1    | Source      | Source start address      | 1 to 1021 <sup>a)</sup><br>1 to 1017 <sup>b)</sup><br>1 to 1009 <sup>c)</sup><br>1 to 993 <sup>d)</sup> |
| 2    | Destination | Destination start address | 1 to 1024   |
| 3    | Level       | Level                     | 1 to 8  |

a) When Matrix Size is 4×1

b) When Matrix Size is 8×1

c) When Matrix Size is 16×1

d) When Matrix Size is 32×1

## Coupling external boxes

By coupling a number of external boxes, the number of inputs can be increased.

Here the example of coupling External Box1 and External Box2 is described.

- 1 In the Router/Tally >Router >External Box Assign menu, select [External Box1] from the <Device> group.
- 2 In the <Matrix Size> group, select [8×1].
- 3 Turn the knobs to make adjustments.

| Knob | Parameter   | Adjustment                | Setting values |
|------|-------------|---------------------------|----------------|
| 1    | Source      | Source start address      | 1 to 1017      |
| 2    | Destination | Destination start address | 1 to 1024      |
| 3    | Level       | Level                     | 1 to 8         |

- 4 In the <Device> group, select [External Box2].

- 5 In the <Matrix Size> group, select [32×1].

- 6 Turn the knobs to make adjustments.  
At this point make the settings of Destination and Level the same as in step 3.

This automatically couples External Box1 and External Box2, forming an external box with 40 (8+32) inputs.

## Setting the group number of an S-Bus description name

- 1 In the <Alias Name Gp> group of the Router/Tally >Router menu, press [Gp No].
- 2 Turn the knob to set the following parameter.

| Knob | Parameter | Adjustment                             | Setting values       |
|------|-----------|--|----------------------|
| 1    | Gp No     | Group number of S-Bus description name | 0 to 7 <sup>a)</sup> |

a) When a setting value of 1 to 7 is selected: If the name is not set, the description name for "0" appears.

If the description name for "0" is not registered either, the Type and No values appear.

- 3 In the <Alias Name Gp> group, press [Set].

This confirms the setting, which is reflected in the status area.

### Notes

Transmit the description name selected here from the router.

## Tally Group Settings (Group Tally Menu)

With the S-Bus protocol, tally control is possible for groups 1 to 8, but in this system you can use either groups 1 to 4 or groups 5 to 8.

You can also select whether or not to transfer the tally information over the S-Bus.

To select the tally groups, use the Router/Tally >Group Tally menu.

### To display the Group Tally menu

In the Engineering Setup menu, select VF6 'Router/Tally' and HF2 'Group Tally.'

The following functions are available here.

- **Tally Group:** Select the group tally (Gp1 to 4 or Gp5 to 8) which can be used. For the parallel tally, all groups can be used regardless of this setting.
- **SBus Tally Enable:** Specify S-Bus tally enabled or disabled.

### Setting the tally groups

- 1 To select a consecutive sequence of groups from each of groups 1 to 4 and groups 5 to 8, set [All Group Enable] to On in the Group Tally menu.
- 2 In the <Tally Group> group, select the desired groups.

## Wiring Settings (Wiring Menu)

When configuring a system in which the switcher inputs and outputs are connected to a router, setting this connection configuration (referred to as "wiring") in the S-Bus space, or inputting the information which specifies the physical wiring, is necessary.

To make the wiring settings, use the Router/Tally >Wiring menu. The settings are common to the parallel and serial tallies.

### To display the Wiring menu

In the Engineering Setup menu, select VF6 'Router/Tally' and HF3 'Wiring.'

The status area shows the wiring settings.

## Making New Wiring Settings

- 1 In the Router/Tally >Wiring menu, press [New].

The New menu appears.

- 2 With a knob or menu operation, set the destination.

When switcher inputs and outputs are connected to the router in a group, you can specify the start and end destination addresses.

**Destination From:** Specify the start destination address for the wiring configuration.

**Destination To:** When the wiring configuration is multiple, specify the end destination address. For a single wiring connection, this setting is not required.

**Destination Level:** Specify the destination level of the wiring configuration.

| Knob | Parameter           | Adjustment                | Setting values             |
|------|---------------------|---------------------------|----------------------------|
| 1    | Destination (From)  | Destination start address | 1 to 1024                  |
| 2    | Destination (To)    | Destination end address   | From start address to 1024 |
| 3    | Destination (Level) | Destination level         | 1 to 8                     |

- 3 Set the source.

**Source From:** Specify the source start address for the wiring configuration.

**Source Level:** Specify the source level for the wiring configuration.

| Knob | Parameter      | Adjustment           | Setting values |
|------|----------------|----------------------|----------------|
| 4    | Source (From)  | Source start address | 1 to 1024      |
| 5    | Source (Level) | Source level         | 1 to 8         |

#### 4 Press [Execute].

This makes the wiring setting according to the specifications in steps **2** and **3**.

## Changing the Wiring Settings

#### 1 In the Router/Tally >Wiring menu, press [Modify].

The Modify menu appears.

#### 2 Referring to steps **2** and **3** in the preceding section “Making New Wiring Settings,” change the parameters as required. In this case, however, it is not possible to specify multiple destinations in a single operation, and a single “Destination Address” must be specified.

#### 3 Press [Execute].

## Deleting Wiring Settings

#### 1 In the Router/Tally >Wiring menu, using either of the following methods, select the wiring whose settings you want to delete.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.

#### 2 Press [Delete].

## Sorting Wiring Settings

In the Router/Tally >Wiring menu, press [Sort].  
The sorting of wiring settings is executed in the following order.

Destination level order (ascending)→Destination address order (ascending)→Source level order (ascending)

# Tally Generation Settings (Tally Enable Menu)

For settings relating to tally generation, use the Router/Tally >Tally Enable menu.

Specify the destination to be the reference for tally generation, and make various settings.

The settings are common to the parallel and serial tallies.

### To display the Tally Enable menu

In the Engineering Setup menu, select VF6 ‘Router/Tally’ and HF4 ‘Tally Enable.’

The status area shows the tally generation settings.

The following functions are available here.

- **Tally Type:** Specify the tally type.
- **Destination:** Specify the address and level.
- **Tally Enable:** Specify the timing at which a tally is enabled.
  - **Enable:** Always enabled.
  - **Disable:** Always disabled.
  - **Tally Input:** Follow the tally input status.

## Making New Tally Generation Settings

#### 1 In the Router/Tally >Tally Enable menu, press [New].

The New menu appears.

#### 2 Turn the knobs to set the following parameters.

| Knob | Parameter           | Adjustment          | Setting values        |
|------|---------------------|---------------------|-----------------------|
| 1    | Destination Address | Destination address | 1 to 1024             |
| 2    | Destination Level   | Destination level   | 1 to 8                |
| 3    | Tally Type          | Tally type          | 1 to 16 <sup>a)</sup> |

a) 1:R1, 2:G1, 3:R2, 4:G2, 5:R3, 6:G3, 7:R4, 8:G4, 9:R5, 10:G5, 11:R6, 12:G6, 13:R7, 14:G7, 15:R8, and 16:G8 (R is an abbreviation of “Red Tally,” and G of “Green Tally”).

#### 3 In the <Tally Enable> group, specify the tally generation mode.

**Enable:** Always generate a tally.

**Disable:** Never generate a tally.

**Tally Input:** Generate a tally from the tally input state.

#### 4 When you selected Tally Input as the tally generation mode in step **3**, select either of the following in the <Tally Input> group.

**DCU1:** Generate tally with reference to signal input to DCU1 port. Set the port number with the knob.

**DCU2:** Generate tally with reference to signal input to DCU2 port. Set the port number with the knob.

- 5** Turn the knob to select the tally input port number.

| Knob | Parameter | Adjustment              | Setting values |
|------|-----------|-------------------------|----------------|
| 5    | Input No  | Tally input port number | 1 to 102       |

- 6** Press [Execute].

This sets the settings made in steps **2** to **5** as the settings for tally generation.

## Modifying Tally Generation

- 1** In the Router/Tally >Tally Enable menu, press [Modify].

The Modify menu appears.

- 2** With reference to steps **2** to **5** in the preceding section “Making New Tally Generation Settings,” change the parameters as required.

- 3** Press [Execute].

## Deleting Tally Generation Settings

- 1** Using either of the following methods in the Router/Tally >Tally Enable menu, select the tally generation entry you want to delete.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.

- 2** Press [Delete].

# Tally Copy Settings (Tally Copy Menu)

You can copy the tally information pertaining to a particular source to a different source.

For settings relating to the tally copy function, use the Router/Tally >Tally Copy menu. The settings are common to the parallel and serial tallies.

### To display the Tally Copy menu

In the Engineering Setup menu, select VF6 ‘Router/Tally’ and HF5 ‘Tally Copy.’

The status area shows the tally copy status.

## Making New Tally Copy Settings

- 1** In the Router/Tally >Tally Copy menu, select [New].

The New menu appears.

- 2** Turn the knob to select the copy-from source. When setting more than one tally copy, you can specify the copy-from source start and end addresses.

| Knob | Parameter        | Adjustment                     | Setting values |
|------|------------------|--------------------------------|----------------|
| 1    | Copy From (From) | Copy-from source start address | 1 to 1024      |
| 2    | Copy From (To)   | Copy-from source end address   | 1 to 1024      |

- 3** Specify the copy-to source address.

| Knob | Parameter      | Adjustment                     | Setting values |
|------|----------------|--------------------------------|----------------|
| 3    | Copy To (From) | Copy-to source (start) address | 1 to 1024      |
| 4    | Copy To (To)   | Copy-to source (end) address   | 1 to 1024      |

- 4** Press [Execute].

This makes the tally copy setting according to the specifications in steps **2** and **3**.

## Modifying Tally Copy Settings

- 1** In the Router/Tally >Tally Copy menu, press [Modify].

The Modify menu appears.

- 2** Use the knobs to select the copy source and copy destination.

| Knob | Parameter | Adjustment       | Setting values |
|------|-----------|------------------|----------------|
| 1    | Copy From | Copy-from source | 1 to 1024      |
| 2    | Copy To   | Copy-to source   | 1 to 1024      |

- 3 Press [Execute].

## Deleting Tally Copy Settings

- 1 In the Router/Tally >Tally Copy menu, using any of the following methods, select the tally copy whose settings you want to delete.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment                                | Setting values     |
|------|-----------|---|--------------------|
| 1    | Copy No   | Tally copy setting selection for deletion | 1 to maximum value |

- 2 Press [Delete].

## Parallel Tally Settings (Parallel Tally Menu)

For settings relating to parallel tally, use the Router/Tally >Parallel Tally menu.

Make the parallel port settings for output of tally information pertaining to sources and destinations.

For each of the tally output terminal numbers, specify the tally type, and source address or destination level and address.

### To display the Parallel Tally menu

In the Engineering Setup menu, select VF6 'Router/Tally' and HF6 'Parallel Tally.'

The status area shows the parallel tally settings.

## Making or Modifying Parallel Tally Settings

- 1 In the <Device> group of the Router/Tally >Parallel Tally menu, select DCU1 or DCU2.

- 2 Using any of the following methods, select the slot number and port number.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knobs.

| Knob | Parameter | Adjustment                 | Setting values        |
|------|-----------|----------------------------|-----------------------|
| 1    | Slot No   | Parallel tally slot number | 2 to 6 <sup>a)</sup>  |
| 2    | Port No   | Parallel tally port number | 1 to 54 <sup>b)</sup> |

a) When the MKS-2700 is connected, select 2 for the slot.

b) When the MKS-2700 is connected, select a value in the range 1 to 36.

- 3 Press [Set].

The Set menu appears.

- 4 In the <Source/Destination> group, select the tally type.

**Src:** Return a tally to all sources output to the destination.

**Dest:** Return a tally to the destination outputting the source to which a source tally is returned.

- 5 Set the destination address and level.

The level setting is only required when in step 4 you selected Destination.

| Knob | Parameter | Adjustment          | Setting values |
|------|-----------|---------------------|----------------|
| 1    | Address   | Destination address | 1 to 1024      |
| 2    | Level     | Destination level   | 1 to 8         |

- 6** When setting the tally type, set the following parameter.

| Knob | Parameter | Adjustment | Setting values        |
|------|-----------|------------|-----------------------|
| 3    | Type      | Tally type | 1 to 16 <sup>a)</sup> |

a) 1:R1, 2:G1, 3:R2, 4:G2, 5:R3, 6:G3, 7:R4, 8:G4, 9:R5, 10:G5, 11:R6, 12:G6, 13:R7, 14:G7, 15:R8, and 16:G8 (R is an abbreviation of “Red Tally,” and G of “Green Tally”).

- 7** Press [Execute].

This makes the parallel tally settings, in accordance with the settings in steps **1** to **6**.

## Deleting Parallel Tally Settings

- 1** In the Router/Tally >Parallel Tally menu, using any of the following methods, select the parallel tally whose settings you want to delete.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knobs.

| Knob | Parameter | Adjustment                 | Setting values |
|------|-----------|----------------------------|----------------|
| 1    | Slot No   | Parallel tally slot number | 2 to 6         |
| 2    | Port No   | Parallel tally port number | 1 to 54        |

- 2** Press [Clear].

## Serial Tally Settings (Serial Tally Menu)

To make serial tally settings, display the Router/Tally >Serial Tally menu.

Make the serial tally settings, including tally type and source address for each serial tally port.

### To display the Serial Tally menu

In the Engineering Setup menu, select VF6 ‘Router/Tally’ and HF7 ‘Serial Tally.’

The serial tally settings appear in the status area.

## Setting or Changing the Serial Tally Settings

- 1** In the <Serial Tally Port> group of the Router/Tally >Serial Tally menu, select the port to which the setting applies.
- 2** In the <Tally Group> group, select the tally group.
- 3** In the <Tally Type> group, press the tally types to select. You can select up to four.

### Notes

The selectable tally types depend on the settings in step **2**.

- 4** In the <Tally Data Size> group, press one of the following to select the data size.

**128 Bit:** 128 bits

**256 Bit:** 256 bits

## Making the Serial Tally Source Address Settings

To set the serial tally source address for each port, use the following procedure.

- 1** In the Router/Tally >Serial Tally menu, press [Source Assign].

The Source Assign menu appears.

In the status area, the tally types and source address set for the serial tally port appear.

- 2** In the <Serial Tally Port> group, select the port to which the setting applies.

**3** Using any of the following methods, select the port bit number.

- Press directly on the list on the left of the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter | Adjustment    | Setting values     |
|------|-----------|---------------|--------------------|
| 1    | Bit No    | Bit selection | 1 to maximum value |

**4** Turn the knob to select the source address.

| Knob | Parameter   | Adjustment               | Setting values |
|------|-------------|--------------------------|----------------|
| 2    | Source Addr | Source address selection | 1 to 1024      |

**5** Press [Source Address Set].

## Clearing a Source Address Setting

### To clear a source address setting for a particular bit

In the Router/Tally >Serial Tally >Source Assign menu, select the serial tally port and bit number (*see steps 2 and 3 in the previous item*), then press [Clear].

This clears the source address setting for the selected bit.

### To clear all source address settings

In the Router/Tally >Serial Tally >Source Assign menu, select the serial tally port, then press [All Clear].

A confirmation message appears.

- If you select “Yes,” this clears all source address settings for the selected serial tally port.
- If you select “No,” the clear operation is canceled.

### To return all source address settings to the default

In the Router/Tally >Serial Tally >Source Assign menu, select the serial tally port, then press [Default Recall].

A confirmation message appears.

- If you select “Yes,” this returns all source address settings for the selected serial tally port to the default.
- If you select “No,” the operation is canceled.

## Source Patch

The source patch is a function whereby signal pairs recorded in applicable data are automatically converted to use key snapshots, snapshots, and keyframes in different switcher systems as is.

## Sequence of Source Patch Operations

In the following description, two different switcher systems are referred to as Switcher A and Switcher B.

In Switcher A, assign a name (user source name) to each signal pair.

Export the user source name file to a memory card.

In Switcher B, import the user source names from the memory card.

Create a signal pairs conversion correspondence table (patch table).

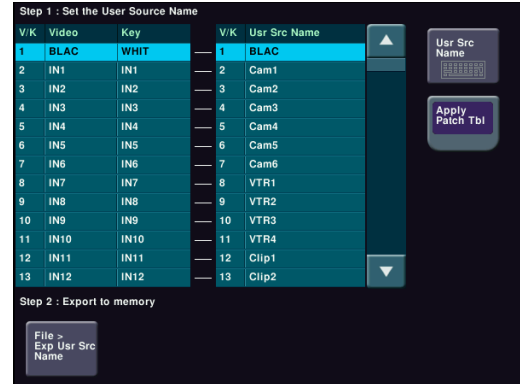
In Switcher B, recall the snapshot, key snapshot, or keyframe file created in Switcher A (signal pairs are replaced according to the patch table).

## Exporting a User Source Name File to the Memory Card

In Switcher A, use the following procedure.

- 1 In the User Setup menu, select VF1 'Source Patch' and HF1 'User Source Name.'

The User Source Name menu appears.



- 2 Use either of the following methods to select the target pair in the list on the left.
  - Press directly on the list in the status area.
  - Press the arrow keys to scroll the reverse video cursor.
  - Turn the knob.

| Knob | Parameter   | Adjustment            | Setting values     |
|------|-------------|-----------------------|--------------------|
| 1    | V/K Pair No | Signal pair selection | 1 to maximum value |

- 3 Press [Usr Src Name] outside the list.  
The keyboard window appears.
- 4 Enter a name of not more than 16 characters, and press [Enter].  
The name you have entered is reflected in the Usr Src Name area.
- 5 Repeat steps 2 to 4, to set all of the necessary names.
- 6 Press [File >Exp Usr Src Name].  
The Export Usr Src Name menu appears.
- 7 Select Memory Card as the destination, and press [→ Export].



The user source name file is exported to the memory card.

## To apply the signal pairs in the patch table to this menu

Press [Apply Patch Tbl].

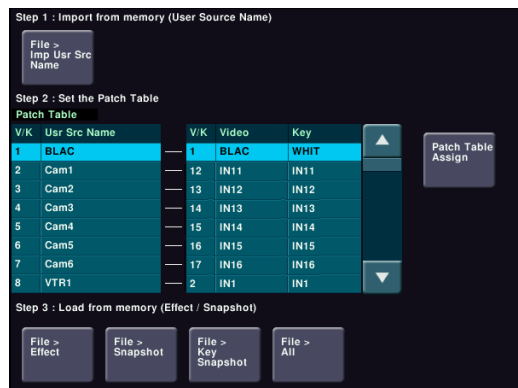
For more information about the patch table, see the following item.

## Creating a Patch Table (Conversion Table)

Load the memory card created in Switcher A to Switcher B, and use the following procedure in Switcher B.

- 1 In the User Setup menu, select VF1 'Source Patch' and HF2 'Patch Table.'

The Patch Table menu appears.



- 2 Press [File >Imp Usr Src Name].

The Import Usr Src Name menu appears.

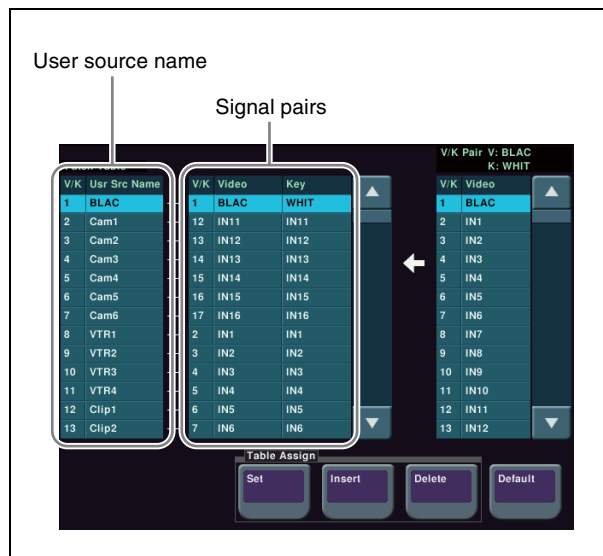
- 3 Select Memory File Card as the import source, and press [← Import].

The user source name file is loaded from the memory card.

- 4 Press [Patch Table Assign].

The Patch Table Assign menu appears.

The user source names in Switcher A imported by step 3 are listed on the left and the pairs of videos and keys set in Switcher B are listed on the right.



- 5 Using either of the following methods, select the target user source name from the list on the left.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter   | Adjustment                 | Setting values     |
|------|-------------|----------------------------|--------------------|
| 1    | User Source | User source name selection | 1 to maximum value |

- 6 Using either of the following methods, select the video signal that you want to assign from the list on the right.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

| Knob | Parameter   | Adjustment            | Setting values     |
|------|-------------|-----------------------|--------------------|
| 2    | V/K Pair No | Signal pair selection | 1 to maximum value |

- 7 In the <Table Assign> group, press [Set].

The video/key signal name selected in the list on the right is reflected in the list on the left.

- 8 Repeat steps 5 to 7 to create a patch table.

It is also possible to execute the following editing operations using the buttons in the <Table Assign> group.

- Press [Insert] to insert a signal name above the signal name selected in the list on the left.
- Press [Delete] to delete the signal name selected in the list on the left.

## Replacing Signal Pairs Using the Patch Table

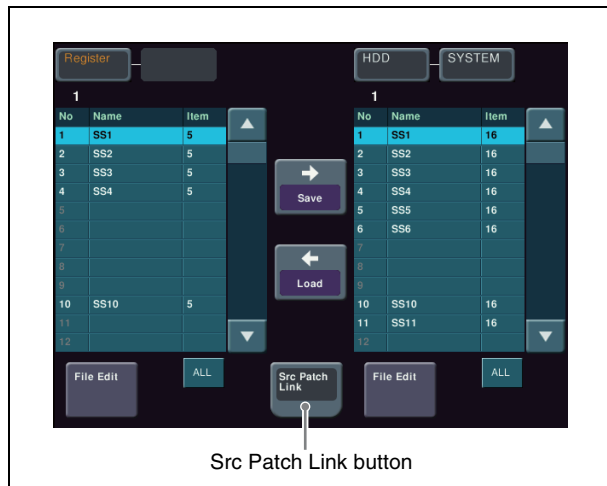
The source patch is effective for key snapshots, snapshots, and keyframes.

The following describes the operation for a snapshot as an example.

Copy a snapshot file created in Switcher A to the memory card in advance.

- 1 In the Patch Table menu, press [File > Snapshot].

The File menu appears.



- 2 In the list on the right, select the file you want to recall to the register.
- 3 Press [Src Patch Link] to turn it on.
- 4 Press [← Load].

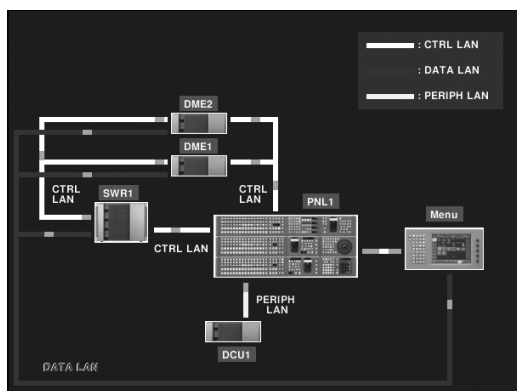
The snapshot of which signal pairs have been replaced according to the patch table is recalled to Switcher B.

## Checking the Communications Status

In the Diagnosis menu, you can check the communications status of the control LAN and data LAN within the system.

### Communications Status Display

To display the communications status, in the Diagnosis menu select VF3 'System Info' and HF1 'LAN Status'. The following communications status screen appears.



Devices constituting the system only appear if they are connected.

You can check connection information in the Engineering Setup >System >System Config menu (*see page 477*).

Even if a DCU is connected, if there is a communications error, it does not appear.

The LAN communications status is shown as follows.

- Control LAN (CTRL LAN)
  - **When connected:** White
  - **When not connected:** Red and white flashing
- Data LAN (DATA LAN)
  - **When connected:** Blue
  - **When not connected:** Red and blue flashing
- Peripheral LAN (PERIPH LAN)

- **When connected:** Amber
- **When not connected:** Not shown

If the connection between the menu panel and another panel is broken, it does not appear.

# Appendix (Volume 2)

## Simple Connection of the MKS-8080/8082 AUX Bus Remote Panel

### Procedure for Simple Connection

To connect the MKS-8080/8082 AUX Bus Remote Panel to the center control panel using an S-Bus data link requires a BKPF-R70A Routing Switcher Controller Board or similar primary station and various settings for connection.

However, using a simple connection, the need for an S-Bus data link primary station is avoided, and direct connection to the MKS-8080/8082 is possible.

A simple connection is possible if the following conditions are met:

- There are no devices other than the center control panel and MKS-8080/8082 connected on the S-Bus data link.
- There are no more than 16 MKS-8080/8082 units connected on the S-Bus data link.

To carry out simple connection of the MKS-8080/8082 AUX Bus Remote Panel, use the following procedure. For settings on the MKS-8080/8082, see the section “Making the Setting With Buttons (Setup Function)” in the Operation Manual for the MKS-8080/8082.

- 1** Carry out initialization of the MKS-8080/8082 settings.  
This can be done on the MKS-8080/8082 separately.
- 2** Set the MKS-8080/8082 station number in the range 2 to 17.  
This can be done on the MKS-8080/8082 separately.
- 3** Set the S-Bus data link primary station to the center control panel by setting the STATION ID switches on the front of the board in the SCU SLOT 1 to 001 (switch 1 only to the OPEN position).

| System control unit | Board  | STATION ID switches |
|---------------------|--------|---------------------|
| MKS-9011A/9012A     | FP-141 | S108                |

- 4** In the Engineering Setup >System >Initialize menu, select PNL, and carry out a reset.

This carries out a restart, and when the restart is completed connection to the MKS-8080/8082 is possible.

- 5** In the Engineering Setup >Router/Tally >Router menu, set the position of the MVS-8000X/7000X system in S-Bus space.

Select the setting from SWR1 and SWR2, and set each of Source, Destination, and Level to 1.

### Setting Status of the MKS-8080/8082 in Simple Connection

As a result of making the simple connection, the MKS-8080/8082 operates in AUX bus mode, and the settings are the following factory defaults.

With regard to the meaning of the following settings, see the section “Menu Operations” in the Operation Manual for the MKS-8080/8082.

#### C: SET SWITCHER ID (for AUX mode)

This is set to 001, which is the station number of the center control panel.

#### D: SET AUX DESTINATION/SOURCE (for AUX mode)

The source is set to IN001 and following, and destination is set to OUT001 and following.

#### H: SET PHANTOM TABLE (for Router mode)

This is not set, since the unit does not operate in router mode.

#### N: SET PANEL TABLE (for Router mode)

The source is set to IN001 and following, and destination is set to OUT001 and following. However, since the unit

does not operate in router mode, these settings are not used.

### R: SET ROUTE

Since when using the simple connection the switcher and router cannot be connected in cascade, no route setting is required, and this is not set.

### O: SET AVAILABLE SOURCE/DESTINATION

Set the source and destination ranges so that the MVS-8000X/7000X inputs and outputs can be selected.

### Y: SET DISPLAY MODES

The DISPLAY MODES/PANEL FUNCTION setting is set to NORMAL.

The TALLY GROUP setting is set to be the same as the setting in Engineering Setup >Router/Tally >Tally Group on the MVS-8000X/7000X.

### Z: SET PANEL STATUS

The various settings are the same as the factory default settings.

# Macro File Editing Rules

When editing a macro file, follow the rules described below.

## Macro File Syntax

The macro file syntax is as follows.

### File format

The file is in CSV (comma-separated value) format.

### Newline code

CR (ASCII code 0D), LF (ASCII code 0A), or CRLF may be used.

### Statement syntax

There are four types of statement, each terminated by a newline code.

**File header:** This must always appear as the first line of the file. It comprises 28 characters, as follows.

Example: PNL (space)

0001PNL\_rrrr.PMRnnnnnnnnn

rrrr: macro register number (0001 to 0099)

nnnnnnnn: In a file created on the switcher, this is a register name automatically set by the switcher.

When creating a new file, it is recommended to set this to be the same as the file name (*see page 592*).

The name is limited to eight characters.

The following characters may not be used.

space, \, /, :, ;, , (comma), . (period), <, >, \*, ?, ", |

**Comment:** Begins with “#”. The content of the line following the “#” up to the next newline has no effect on macro execution, and can be used as a comment.

### Notes

You can only use comments in files saved to the hard disk or a memory card. When you load a macro file into a register, the comments are discarded.

**Event statement:** Begins with “Event?”, and defines the macro event.

*For details, see next item, “Syntax of Event and Continue Statements.”*

**Continue statement:** Begins with “Continue?”, and defines the macro event.

*For details, see next item, “Syntax of Event and Continue Statements.”*

Some events cannot be used (*see page 593*).

## Syntax of Event and Continue Statements

An event can be written with an Event statement only, or with an Event statement followed by any number of Continue statements. The Event statements and Continue statements have the following syntax.

### Word separator character

Use “;” (comma).

### Ignored

Spaces and tabs are ignored. There is no distinction between lowercase and uppercase. If two or more separator characters appear consecutively, later ones are ignored. Separator characters at the beginning of a line are also ignored.

### Content of line

Must begin with “Event?” or “Continue?”, followed by symbols and parameters.

Event?,[symbol], [parameter], [parameter], ...  
Continue?,[symbol], [parameter], [parameter], ...  
**symbol:** ASCII character string showing the type of event (see page 593).

**parameter:** Shows details of an event. Consists of parameter names and arguments, and these must appear in pairs. The number and type of parameters depends on the event (see page 594).  
If the same parameter appears twice or more, the last occurrence is valid.

## How to use Continue statements

When a single parameter has more than one argument, use a Continue statement. The following example is of a snapshot event.

An event to recall a snapshot in region M/E-1 is written as:  
Event?,Snapshot,Region?,ME1,Register?,1,Attribute?,Off,Time?,Current

In the Event statement, only one region can be specified. To specify both regions M/E-1 and DME1, use a Continue statement, thus:

Event?,Snapshot,Region?,ME1,Register?,1,Attribute?,Off,Time?,Current  
Continue?,Snapshot,Region?,DME1,Register?,1,Attribute?,Off,Time?,Current

To specify more than one argument for a region parameter, follow the Event statement by a Continue statement on the next line.

## File Name

Set the file name as follows.

**Example:** nnnnnnnn.PNL\_rrrr.PMR

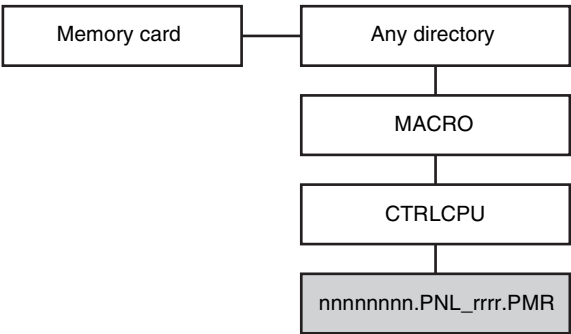
**nnnnnnnn:** In a file created on the switcher, this is a register name automatically set by the switcher. The name is limited to eight characters. The following characters may not be used.  
space, \, /, :, ;, , (comma), . (period), <, >, \*, ?, ", |  
**rrrr:** macro register number (0001 - 0099)

## Saving and Recalling a File

For a newly created file, if you create a directory on the memory card (see figure below), and move the file to the prescribed location, you can then recall it in the File >All, External File menu.

### Notes

When amending a file saved on the switcher, be sure to save it in the original directory.



Path example: Memory Card\Sample\MACRO\CTRLCPU\nnnnnnnn.PNL\_rrrr.PMR

## Errors

If any of the following problems occur, it is not possible to recall the file. Attempting to recall the file will produce an error message (see page 608).

- If there is a syntax error.
- If a required parameter is not present.

## Correspondence Between Events and Symbols

For details of events, see “Events” (page 435).

| Event   | Symbol                   | Using Continue |
|---|--------------------------|----------------|
| Cross-point selection in the auxiliary bus control block                        | AuxXpt                   | No             |
| Cross-point selection in the auxiliary bus control block in router control mode | RouterXpt                | Yes            |
| Cross-point selection in the cross-point control block                          | MEXpt                    | Yes            |
| Auto transition and take in the transition execution section                    | MEAutoTransition         | Yes            |
| Cut in the transition execution section   | MECut                    | No             |
| Transition type selection   | TransitionType           | No             |
| Next transition setting   | NextTransition           | No             |
| Pattern limit on/off  | PatternLimit             | No             |
| Fade-to-black execution   | FadeToBlack              | No             |
| Auto transition and take in the independent key transition execution section    | KeyAutoTransition        | Yes            |
| Key insertion and deletion in the independent key transition execution section  | KeyCut                   | Yes            |
| Independent key transition type selection                                       | KeyTransitionType        | No             |
| VTR/DDR/clip start point setting  | StartTc                  | Yes            |
| VTR/DDR/clip playback   | Play                     | Yes            |
| VTR/DDR/clip stop   | Stop                     | Yes            |
| VTR/DDR/clip cue-up   | Cue                      | Yes            |
| VTR/DDR/clip fast forward   | FF                       | Yes            |
| VTR/DDR/clip rewind   | Rewind                   | Yes            |
| Disk recorder/Extended VTR file recall  | DiskFileLoad             | No             |
| Recall snapshot   | Snapshot                 | Yes            |
| Recall key snapshot   | KeySnapshot              | Yes            |
| Recall wipe snapshot  | WipeSnapshot             | Yes            |
| Recall DME wipe snapshot  | DMEWipeSnapshot          | Yes            |
| Recall shotbox  | Shotbox                  | No             |
| Recall master snapshot  | MasterSnapshot           | No             |
| Recall master timeline  | MasterTimelineRecall     | No             |
| Recall effect   | TimelineRecall           | Yes            |
| Execute effect  | TimelineRun              | Yes            |
| Rewind keyframe   | TimelineRewind           | Yes            |
| Fast forward effect   | TimelineFF               | Yes            |
| Effect execution direction selection (normal)                                   | TimelineDirectionNormal  | Yes            |
| Effect execution direction selection (reverse)                                  | TimelineDirectionReverse | Yes            |
| Effect execution direction selection (normal/reverse on)                        | TimelineNormalReverseOn  | Yes            |
| Effect execution direction selection (normal/reverse off)                       | TimelineNormalReverseOff | Yes            |
| Pause <sup>a)</sup>   | Pause                    | No             |
| Recall of function assigned to memory recall button/user preference button      | UtilityButton            | No             |
| Recall of function assigned to the key 2 row cross-point buttons                | Key Bus Utility Button   | No             |
| Frame memory clip loop on/off   | FMLoop                   | Yes            |
| Menu macro recall and execution   | MenuMacroRun             | No             |
| Recall of frame memory clip   | ClipRecall               | No             |

| Event                     | Symbol       | Using Continue |
|---------------------------|--------------|----------------|
| Record with device        | DeviceRecord | Yes            |
| AUX mix transition on/off | AuxMix       | No             |

a) For details of pause events, see “Macro Execution” (page 437).

## Symbols and Parameters

n: indicates a numeral 0 to 9.

x: indicates an alphanumeric character.

| Symbol           | Parameter name | Arguments  | Description   |
|------------------|----------------|--|---|
| MEXpt            | ME?            | ME1 to ME5, PP   | Control blocks on the applicable bank   |
|                  | MEBus?         | A, B, Key1 to Key8, Key1Source to Key8Source, Utility1, Utility2, DMEExternalVideo   | Applicable bus  |
|                  | Xpt?           | 1 to 300   | Main table cross-point button number set in the Xpt Assign menu   |
|                  | VideoKey?      | Video, Key   | Signal type selected on the applicable bus (video signal or key signal)   |
| AuxXpt           | AuxBus?        | EditPreview, AUX1 to AUX48, FrameMemory1, FrameMemory2, DME1Video to DME8Video, DME1Key to DME8Key, DME1Video2nd to DME8Video2nd (a), DME1Key2nd to DME8Key2nd (b), DMEUtility1, DMEUtility2, CCR1, CCR2 | Applicable AUX bus<br>(a): DMEVideo2nd= Bus for selecting back video signal of DME channel (n=1 to 8),<br>(b): DMEKey2nd= Bus for selecting back key signal of DME channel (n=1 to 8)                 |
|                  | Xpt?           | 1 to 300   | Cross-point button number in the main table set in the Xpt Assign menu  |
|                  | VideoKey?      | Video, Key   | Type of signal (video signal or key signal) to be selected on the applicable bus  |
| MEAUTOTransition | ME?            | ME1 to ME5, PP   | Control blocks on the applicable bank   |
|                  | Time?          | Current (a), 0 to 999  | Transition rate (number of frames)<br>(a): Mode in which the current value set on the transition control block is used  |
|                  | ABusXpt?       | Current (a), 1 to 300  | A bus or B bus cross-point button number. Use the button number of the main table set in the Xpt Assign menu.<br>(a): Mode in which the cross-point number set for the current A bus or B bus is used |
|                  | BBusXpt?       | Current (a), 1 to 300  |   |
| MECut            | ME?            | ME1 to ME5, PP   | Control blocks on the applicable bank   |



| Symbol            | Parameter name | Arguments   | Description   |
|-------------------|----------------|---|---|
| KeyAutoTransition | ME?            | ME1 to ME5, PP                                      | Control blocks on the applicable bank   |
|                   | Key?           | Key1 to Key8  | Key of the applicable independent key transition control block  |
|                   | Time?          | Current (a), 0 to 999                               | Transition rate (number of frames)<br>(a): Mode in which the current value set on the independent key transition control block is used  |
|                   | Direction?     | ToOn (a),<br>ToOff (b),<br>Any (c)                  | Transition execution mode<br>(a): Key is inserted<br>(b): Key is deleted<br>(c): Transition is always executed  |
| KeyCut            | ME?            | ME1 to ME5, PP                                      | Control blocks on the applicable bank   |
|                   | Key?           | Key1 to Key8  | Key of the applicable independent key transition control block  |
|                   | Direction?     | ToOn (a),<br>ToOff (b),<br>Any (c)                  | Transition execution mode<br>(a): Key is inserted<br>(b): Key is deleted<br>(c): Transition is always executed  |
| Play              | Device?        | 1 to 12,<br>FrameMemory1Clip to<br>FrameMemory8Clip | Applicable device   |
|                   | Mode?          | Normal (a),<br>Recue (b),<br>Loop (c)               | Playback mode<br>(a): Normal mode<br>As for Frame Memory 1 Clip to Frame Memory 8 Clip, settings are ignored and operation mode is fixed to "Normal."<br>(b): Recue mode<br>(c): Loop mode  |
| Cue               | Device?        | 1 to 12,<br>FrameMemory1Clip to<br>FrameMemory8Clip | Applicable device   |
|                   | Timecode?      | Current (a), hh:mm:ss:ff                            | Start point timecode<br>hh=hours (00 to 23)<br>As for Frame Memory 1 Clip to Frame Memory 8 Clip, hh is fixed to "01."<br>mm=minutes (00 to 59)<br>ss=seconds (00 to 59)<br>ff=frames (00 to 29)<br>(a): Mode in which the currently set timecode is used |
| Stop              | Device?        | 1 to 12,<br>FrameMemory1Clip to<br>FrameMemory8Clip | Applicable device   |
| FF                | Device?        | 1 to 12,<br>FrameMemory1Clip to<br>FrameMemory8Clip | Applicable device   |
| Rewind            | Device?        | 1 to 12,<br>FrameMemory1Clip to<br>FrameMemory8Clip | Applicable device   |
| DiskFileLoad      | Device?        | 1 to 12   | Applicable device   |
|                   | FileName?      | File Name   | Name of file being set (max. 23 characters)   |

| Symbol               | Parameter name     | Arguments   | Description   |
|----------------------|--------------------|---|---|
| Snapshot             | Region?            | ME1 to ME5, PP, User1 to User8, DME1 to DME8, Router                                      | Applicable region   |
|                      | Register?          | 1 to 99   | Applicable register number  |
|                      | Attribute?         | Off, Dissolve, AutoTransition, Dissolve&AutoTransition                                    | Applicable snapshot attributes  |
|                      | Time?              | Current (a), 0 to 999   | Duration of effect dissolve (number of frames)<br>(a): Mode in which the currently set value is used                                    |
| KeySnapshot          | ME?                | ME1 to ME5, PP  | Control blocks on the applicable bank   |
|                      | Key?               | Key1 to Key8  | Applicable key  |
|                      | Register?          | 1 to 4  | Applicable register number  |
| WipeSnapshot         | ME?                | ME1 to ME5, PP  | Control blocks on the applicable bank   |
|                      | Register?          | 1 to 10   | Applicable register number  |
| DMEWipeSnapshot      | ME?                | ME1 to ME5, PP  | Control blocks on the applicable bank   |
|                      | Register?          | 1 to 10   | Applicable register number  |
| TimelineRecall       | Region?            | ME1 to ME5, PP, User1 to User8, DME1 to DME8, PBus, Device1 to Device12, GPI              | Applicable region   |
|                      | Register?          | 1 to 399  | Applicable register number  |
| TimelineRun          | Region?            | ME1 to ME5, PP, User1 to User8, DME1 to DME8, PBus, Device1 to Device12, GPI, Current (a) | Applicable region<br>(a): Mode in which operation takes place in the region currently specified in the numeric keypad control block     |
| TimelineRewind       | Region?            | ME1 to ME5, PP, User1 to User8, DME1 to DME8, PBus, Device1 to Device12, GPI, Current (a) | Applicable region<br>(a): Mode in which operation takes place in the region currently specified in the numeric keypad control block     |
| TimelineFF           | Region?            | ME1 to ME5, PP, User1 to User8, DME1 to DME8, PBus, Device1 to Device12, GPI, Current (a) | Applicable region<br>(a): Mode in which operation takes place in the region currently specified in the numeric keypad control block     |
| Shotbox              | Register?          | 1 to 99   | Applicable register number  |
| Pause                | Time?              | 0 to 999  | Time for which macro is paused (number of frames)   |
| StartTc              | Device?            | 1 to 12, FrameMemory1Clip to FrameMemory8Clip   | Applicable device   |
| MasterSnapshot       | Register?          | 1 to 99   | Applicable register number  |
| MasterTimelineRecall | Register?          | 1 to 99   | Applicable register number  |
| RouterXpt            | DestinationButton? | 1 to 128  | Router cross-point button   |
|                      | Source?            | 1 to 1024   | Router source number  |
|                      | Level?             | 1 to 8  | Router level selection  |
| PatternLimit         | ME?                | ME1 to ME5, PP  | Control blocks on the applicable bank   |
|                      | Status?            | ToOn (a), ToOff (b), Any (c)  | Pattern limit status<br>(a): Pattern limit applies<br>(b): Pattern limit does not apply<br>(c): The pattern limit status always changes |

| Symbol                   | Parameter name     | Arguments   | Description   |
|--------------------------|--------------------|---|---|
| TransitionType           | ME?                | ME1 to ME5, PP  | Control blocks on the applicable bank   |
|                          | TransitionType?    | Mix, NAM, SuperMix, PresetColorMix, Wipe, DMEWipe, FM1&2Clip, FM3&4Clip, FM5&6Clip, FM7&8Clip | Transition type   |
| KeyTransitionType        | ME?                | ME1 to ME5, PP  | Control blocks on the applicable bank   |
|                          | Key?               | Key1 to Key8  | Key of the applicable independent key transition control block  |
|                          | Direction?         | On (a),<br>Off (b),<br>Any (c)  | Independent key transition execution mode<br>(a): Key is inserted<br>(b): Key is deleted<br>(c): Transition is always executed      |
|                          | KeyTransitionType? | Mix, Wipe, DMEWipe, Cut   | Transition type of the independent key transition control block   |
| NextTransition           | ME?                | ME1 to ME5, PP  | Control blocks on the applicable bank   |
|                          | All?               | On, Off   | Applicable next transition  |
|                          | KeyPriority?       | On, Off   | Applicable next transition  |
|                          | BKGD?              | On, Off   | Applicable next transition  |
|                          | Key1? to Key8?     | On, Off   | Applicable next transition  |
| FadeToBlack              | Time?              | Current (a), 1 to 999   | Transition rate (number of frames)<br>(a): Mode in which the current value set for fade to black is used                            |
| TimelineDirectionNormal  | Region?            | ME1 to ME5, PP, User1 to User8, DME1 to DME8, PBus, Device1 to Device12, GPI, Current (a)     | Applicable region<br>(a): Mode in which operation takes place in the region currently specified in the numeric keypad control block |
| TimelineDirectionReverse | Region?            | ME1 to ME5, PP, User1 to User8, DME1 to DME8, PBus, Device1 to Device12, GPI, Current (a)     | Applicable region<br>(a): Mode in which operation takes place in the region currently specified in the numeric keypad control block |
| TimelineNormalReverseOn  | Region?            | ME1 to ME5, PP, User1 to User8, DME1 to DME8, PBus, Device1 to Device12, GPI, Current (a)     | Applicable region<br>(a): Mode in which operation takes place in the region currently specified in the numeric keypad control block |
| TimelineNormalReverseOff | Region?            | ME1 to ME5, PP, User1 to User8, DME1 to DME8, PBus, Device1 to Device12, GPI, Current (a)     | Applicable region<br>(a): Mode in which operation takes place in the region currently specified in the numeric keypad control block |
| UtilityButton            | UtilityModule?     | UserPrefs, UtilityBox   | Applicable control block  |
|                          | Button?            | 1 to 96   | Applicable button   |
|                          | UtilityStatus?     | On, Off, Current (a)  | Status of function assigned to button<br>(a): Operates according to currently assigned function                                     |
| FMLoop                   | Device?            | FrameMemory1Clip to FrameMemory8Clip  | Applicable clip   |
|                          | FMLoopMode?        | On (a),<br>Off (b)  | Frame memory clip loop on/off<br>(a): Loop is enabled<br>(b): Loop is disabled  |
| MenuMacroRun             | Register?          | 1 to 99   | Applicable register number  |



# About the Macro Attachment List Display

The Button column in the macro attachment list displayed in the status area of the Macro >Attachment menu screen shows character strings which identify macro attachment assigned buttons. Each of these character strings is in fact a combination of characters shown in the Button (1), Button (2), and Button (3) columns in the following tables. For example, if Block and Button (1) to Button (3) are combined as:

Block: P/P XPT

Button(1): UTIL1 Bus

Button(2): V

Button(3): XPT2

The Button column in the macro attachment list in the Macro >Attachment menu screen shows “UTIL1 Bus V XPT2,” which means “utility 1 bus, video signal, cross-point number 2.”

## M/E and PGM/PST Banks

The following table shows only the macro attachment assignable buttons in the PGM/PST bank.

For the M/E-1 (M/E-2 to M/E-5) bank, “P/P” in the Block Select and Block columns changes to “M/E-1” (“M/E-2” to “M/E-5”) and “DSK” in the Button (1) and Button (2) columns changes to “KEY.” The contents of the Button (3) column do not change.

## Block Select: P/P, Block: P/P XPT

| Button (1)   | Button (2)                   | Button (3)            |
|--|------------------------------|-----------------------|
| A Bus<br>B Bus<br>DSK1 Bus<br>:<br>DSK8 Bus  | (nothing)<br>Shift           | XPT 1<br>:<br>XPT 128 |
| DSK1 Src Bus<br>:<br>DSK8 Src Bus  | V<br>K<br>V Shift<br>K Shift |                       |
| Sub A Bus<br>Sub B Bus<br><br>Sub DSK1 Bus<br>:<br>Sub DSK8 Bus<br><br>Main&Sub A Bus<br>Main&Sub B Bus<br><br>Main&Sub DSK1 Bus<br>:<br>Main&Sub DSK8 Bus         | (nothing)<br>Shift           |                       |
| Sub DSK1 Src Bus<br>:<br>Sub DSK4 Src Bus<br><br>Main&Sub DSK1 Src Bus<br>:<br>Main&Sub DSK8 Src Bus   | V<br>K<br>V Shift<br>K Shift |                       |
| UTIL1 Bus<br>UTIL2 Bus<br>EXT DME Bus<br><br>Sub UTIL1 Bus<br>Sub UTIL2 Bus<br>Sub EXT DME Bus<br>Main&Sub UTIL1 Bus<br>Main&Sub UTIL2 Bus<br>Main&Sub EXT DME Bus | (nothing)<br>Shift           |                       |
| EDIT PVW<br>AUX 1<br>:<br>AUX 48<br>FM1<br>FM2   | V<br>K<br>V Shift<br>K Shift |                       |
| DMEUtility1<br>DMEUtility2   | V<br>K<br>V Shift<br>K Shift |                       |
| DME1V<br>:<br>DME8V<br>DME1K<br>:<br>DME8K   | (nothing)<br>Shift           |                       |
| CCR1<br>CCR2   | V<br>K<br>V Shift<br>K Shift |                       |

| Button (1)   | Button (2)                   | Button (3)            |
|--|------------------------------|-----------------------|
| P/P UTIL1<br>P/P UTIL2<br>M/E-1 UTIL1<br>M/E-1 UTIL2<br>M/E-2 UTIL1<br>M/E-2 UTIL2<br>M/E-3 UTIL1<br>M/E-3 UTIL2<br>M/E-4 UTIL1<br>M/E-4 UTIL2<br>M/E-5 UTIL1<br>M/E-5 UTIL2   | V<br>K<br>V Shift<br>K Shift | XPT 1<br>:<br>XPT 128 |
| DSK1<br>:<br>DSK8<br><br>M/E-1 KEY1<br>:<br>M/E-1 KEY8<br>M/E-2 KEY1<br>:<br>M/E-2 KEY8<br>M/E-3 KEY1<br>:<br>M/E-3 KEY8<br>M/E-4 KEY1<br>:<br>M/E-4 KEY8<br>M/E-5 KEY1<br>:<br>M/E-5 KEY8   | V<br>V Shift                 |                       |
| DSK1 Src<br>:<br>DSK8 Src<br><br>M/E-1 KEY1 Src<br>:<br>M/E-1 KEY8 Src<br>M/E-2 KEY1 Src<br>:<br>M/E-2 KEY8 Src<br>M/E-3 KEY1 Src<br>:<br>M/E-3 KEY8 Src<br>M/E-4 KEY1 Src<br>:<br>M/E-4 KEY8 Src<br>M/E-5 KEY1 Src<br>:<br>M/E-5 KEY8 Src<br>P/P EXT DME<br>M/E-1 EXT DME<br>M/E-2 EXT DME<br>M/E-3 EXT DME<br>M/E-4 EXT DME<br>M/E-5 EXT DME | V<br>K<br>V Shift<br>K Shift |                       |

## Block Select: P/P, Block: P/P Trans

| Button (1)  | Button (2)  | Button (3) |
|---|---|------------|
| (blank)<br>DSK1<br>:<br>DSK8<br><br>Sub<br><br>Sub DSK1<br>:<br>Sub DSK8<br><br>Main&Sub<br><br>Main&Sub DSK1<br>:<br>Main&Sub DSK8 | MIX <sup>a)</sup><br>NAM <sup>a)</sup><br>SUPER MIX <sup>a)</sup><br>PST COLOR MIX <sup>a)</sup><br>WIPE <sup>a)</sup><br>DME <sup>a)</sup><br>AUTO TRANS<br>CUT<br>ALL <sup>a)</sup><br>KEY PRIOR <sup>a)</sup><br>BKGD <sup>a)</sup><br>DSK1 <sup>a)</sup><br>:<br>DSK4 <sup>a)</sup><br>NORM <sup>a)</sup><br>NORM/REV <sup>a)</sup><br>REV <sup>a)</sup><br>PTN LIMIT <sup>a)</sup><br>LIMIT SET <sup>a)</sup><br>KF <sup>a)</sup><br>Fader<br>PRIOR SET <sup>a)</sup><br>TRANS PVW <sup>a)</sup> | (nothing)  |

a) These buttons can be assigned with their functions in the setup menu. They can be assigned with any of the following functions: transition type selection (MIX, NAM, SUPER MIX, PST COLOR MIX, WIPE, DME, FM1&2, FM3&4, FM5&6, FM7&8), next transition selection (BKGD, DSK1 to DSK8, PRIOR, ALL), wipe direction selection (NORM, NORM/REV, REV), PLAY, CUE, STOP, and PTN LIMIT.

## Other Blocks

### Block Select: Others, Block: Keyframe

| Button (1)                                     | Button (2) | Button (3) |
|--|------------|------------|
| RUN<br>REWIND<br>FF<br>NORM<br>REV<br>NORM/REV | (nothing)  | (nothing)  |

### Block Select: Others, Block: Joystick, Trackball

| Button (1) | Button (2)   | Button (3) |
|------------|--|------------|
| DEV        | CLR WORK BUFR<br>(CUEUP)<br>Y (PLAY)<br>TRGT (STOP)<br>AXIS LOC (START TC) | (nothing)  |

### Block Select: Others, Block: Device Control

| Button (1) | Button (2)                        | Button (3) |
|------------|-----------------------------------|------------|
| (nothing)  | CUEUP<br>PLAY<br>STOP<br>START TC | (nothing)  |

**Block Select: Others, Block: Utility Box 1, Utility Box 2, Menu**

| Button (1)                   | Button (2) | Button (3) |
|------------------------------|------------|------------|
| Utility 1<br>:<br>Utility 96 | (nothing)  | (nothing)  |

**Block Select: Others, Block: DSK Fader 1 to DSK Fader 4**

| Button (1)                                  | Button (2)        | Button (3)                                  |
|---|-------------------|---|
| P/P<br>M/E1<br>M/E2<br>M/E3<br>M/E4<br>M/E5 | KEY1<br>:<br>KEY8 | MIX<br>WIPE<br>DME<br>CUT<br>TAKE<br>KEY_ON |

# Menu Operations Not Recorded in a Menu Macro

The menu operations not recorded in a menu macro comprise some operations common to all menus and some operations inhibited in individual menus.

**Operations not recorded in menu macros, common to all menus**

- Recalling a menu
- Delegation operations: region selection, channel delegation, operations assigning a parameter to a knob, and so forth
- Parameter setting operations using the knobs, trackball, or joystick (value input operations from the numeric keypad are recorded)

**Operations not recorded in menu macros, in individual menus**

| Menu number  | Menu including operations not recorded                |
|--------------|---|
| 0011 to 0023 | All menus under Home                                  |
| 2541         | Frame Memory >File >Pair Recombination                |
| 2542         | Frame Memory >File >Auto Extraction                   |
| 2544         | Frame Memory >File >Move                              |
| 2545         | Frame Memory >File >Delete                            |
| 2546         | Frame Memory >File >Rename                            |
| 2551         | Frame Memory >File >Folder                            |
| 2561         | Frame Memory >External Device >Ext HDD Format         |
| 2562         | Frame Memory >External Device >Ext HDD Backup/Restore |
| 5333         | Device >DDR/VTR >File List                            |
| 5412 to 5441 | All menus under Macro                                 |
| 7111 to 7173 | All menus under File                                  |
| 7311 to 7317 | All menus under Engineering Setup >System             |
| 7327         | Engineering Setup >Panel >Maintenance                 |

# Data Saved by [Setup Define] and [Initial Status Define]

This section lists the data saved in the Engineering Setup >System >Start Up menu, by each of [Setup Define] and [Initial Status Define].

## Data Saved by [Setup Define]

### Included in Panel Setup

| Menu number | Menu path  | Saved data   |
|-------------|--|--|
| 0022        | Home >Favorites >Group Edit  | All data relating to Group Edit menu                                   |
| 0023        | Home >Favorites >Button Edit   | All data relating to Button Edit menu                                  |
| 7321        | Engineering Setup >Panel >Config   | All data relating to Config menu                                       |
| 7321.1      | Engineering Setup >Panel >Config >DSK Fader Assign                       | All data relating to DSK Fader Assign menu                             |
| 7321.2      | Engineering Setup >Panel >Config >Link/Program Button >Key Trans Link    | All data relating to Key Trans Link menu                               |
| 7321.3      | Engineering Setup >Panel >Config >Link/Program Button >External Bus Link | All data relating to External Bus Link menu                            |
| 7321.7      | Engineering Setup >Panel >Config >10 Key Region Assign                   | All data relating to 10 Key Region Assign menu                         |
| 7321.8      | Engineering Setup >Panel >Config >Link/Program Button                    | All data relating to Link/Program Button menu                          |
| 7321.11     | Engineering Setup >Panel >Config >MP2 Main/Sub Assign                    | All data relating to MP2 Main/Sub Assign menu                          |
| 7321.15     | Engineering Setup >Panel >Config >Compact Key Module Assign              | All data relating to Compact Key Module Assign menu                    |
| 7321.26     | Engineering Setup >Panel >Config >M/E Operation Inhibit                  | All data relating to M/E Operation Inhibit menu                        |
| 7321.31     | Engineering Setup >Panel >Config >JS/TB User Setting                     | All data relating to JS/TB User Setting menu                           |
| 7322        | Engineering Setup >Panel >Xpt Assign                                     | Data relating to Table assignments for each bus [Audio Follow] setting |
| 7322.1      | Engineering Setup >Panel >Xpt Assign >Table Button Assign                | All data relating to Table Button Assign menu                          |
| 7322.5      | Engineering Setup >Panel >Xpt Assign >Main, V/K Pair Assign              | <Xpt Shift Mode> And <Display Shift Mode> Group Data                   |
| 7322.10     | Engineering Setup >Panel >Side Flags Button Assign                       | All data relating to Side Flags Button Assign menu                     |
| 7322.11     | Engineering Setup >Panel >Xpt Assign >Mixer Xpt Assign                   | All data relating to Mixer Xpt Assign menu                             |
| 7323        | Engineering Setup >Panel >Aux Assign                                     | Data relating to bus assignment to AUX delegation buttons              |
| 7323.1      | Engineering Setup >Panel >Aux Assign >RTR Mode Setting                   | All data relating to RTR Mode Setting menu                             |
| 7324        | Engineering Setup >Panel >Prefs/Utility                                  | All data relating to function assignment to user preference buttons    |



| Menu number  | Menu path  | Saved data  |
|--------------|--|---|
| 7324.1       | Engineering Setup >Panel >Prefs/Utility >Utility Module Assign         | All data relating to function assignment to utility/shotbox control block   |
| 7324.2       | Engineering Setup >Panel >Prefs/Utility >Key 2/4 Bus Button Assign     | All data relating to utility/shotbox assignment to cross-point buttons in the key 2 row   |
| 7325         | Engineering Setup >Panel >Device Interface                             | All data relating to Device Interface menu  |
| 7325.1       | Engineering Setup >Panel >Device Interface >GPI Input                  | All data relating to GPI Input menu   |
| 7325.3       | Engineering Setup >Panel >Device Interface >GPI Output                 | All data relating to GPI Output menu  |
| 7325.4       | Engineering Setup >Panel >Device Interface >DCU Serial Port/MPE Assign | All data relating to DCU Serial Port/MPE Assign menu  |
| 7326         | Engineering Setup >Panel >Operation                                    | All data relating to Operation menu   |
| 7326.2       | Engineering Setup >Panel >Operation >Effect Mode                       | All data relating to Effect Mode menu (excluding [Default KF Duration] setting values)  |
| 7326.3       | Engineering Setup >Panel >Operation >Flexi Pad Mode                    | All data relating to Flexi Pad Mode menu  |
| 7326.4       | Engineering Setup >Panel >Operation >Custom Button                     | All data relating to Custom Button menu   |
| 7326.5       | Engineering Setup >Panel >Operation >Sensitivity                       | All data relating to Sensitivity menu   |
| 7326.6       | Engineering Setup >Panel >Operation >Macro                             | All data relating to Macro menu   |
| 7326.9       | Engineering Setup >Panel >Operation >ButtonTally                       | All data relating to ButtonTally menu   |
| 7326.12      | Engineering Setup >Panel >Operation >Key Row Operation                 | All data relating to Key Row Operation menu   |
| 7327         | Engineering Setup >Panel >Maintenance                                  | <ul style="list-style-type: none"> <li>Setting data for the following buttons: <ul style="list-style-type: none"> <li>- [Screen Saver]</li> <li>- [LCD Brightness]</li> <li>- [LED Brightness]</li> <li>- [Switch Brightness]</li> <li>- [Touch Beep]</li> </ul> </li> <li>Setting data for Initial Menu</li> </ul> |
| 7351 to 7355 | Engineering Setup >DCU   | All data relating to DCU  |
| 7361 to 7367 | Engineering Setup >Router/Tally  | All data relating to router interface and tally interface   |
| 7371 to 7373 | Engineering Setup >MPE   | All data relating to MPE  |
| —            | —  | Data of Color Palette window  |

## Included in Switcher Setup

| Menu number                        | Menu path  | Saved data  |
|------------------------------------|--|---|
| 3221                               | Misc >Safe Title   | All data relating to Safe Title menu  |
| 7322.5                             | Engineering Setup >Panel >Xpt Assign >Main, V/K Pair Assign  | Cross-point assignment settings (excluding <Xpt Shift Mode> and <Display Shift Mode> groups)  |
| 7322.6                             | Engineering Setup >Panel >Xpt Assign >Src Name/LCD Color   | <ul style="list-style-type: none"> <li>Names of source signals</li> <li>Color of source name display for each source signal</li> </ul>  |
| 7326.2                             | Engineering Setup >Panel >Operation >Effect Mode   | Setting of [Default KF Duration] for switcher keyframes   |
| 7331<br>7331.1<br>7331.2<br>7331.3 | <ul style="list-style-type: none"> <li>Engineering Setup &gt;Switcher &gt;Config</li> <li>Engineering Setup &gt;Switcher &gt;Config &gt;M/E Output Assign</li> <li>Engineering Setup &gt;Switcher &gt;Config &gt;PGM Config</li> <li>Engineering Setup &gt;Switcher &gt;Config &gt;K-PVW Config</li> </ul> | <ul style="list-style-type: none"> <li>All data relating to Config menu</li> <li>All data relating to M/E Output Assign menu</li> <li>All data relating to PGM Config menu</li> <li>All data relating to K-PVW Config menu</li> </ul> |

| Menu number | Menu path   | Saved data   |
|-------------|---|--|
| 7331.4      | Engineering Setup >Switcher >Config >User1-8 Config             | All data relating to User1-8 Config menu                                   |
| 7331.5      | Engineering Setup >Switcher >Config >Logical M/E Assign         | All data relating to Logical M/E Assign menu                               |
| 7331.6      | Engineering Setup >Switcher >Config >DME Config                 | All data relating to DME Config menu                                       |
| 7331.7      | Engineering Setup >Switcher >Config >Side Flags                 | All data relating to Side Flags menu                                       |
| 7331.8      | Engineering Setup >Switcher >Config >Switch Timing              | All data relating to Switch Timing menu                                    |
| 7331.9      | Engineering Setup >Switcher >Config >3D Config                  | All data relating to 3D Config menu  |
| 7332        | Engineering Setup >Switcher >Input                              | All data relating to Input menu  |
| 7332.1      | Engineering Setup >Switcher >Input >Video Process               | All data relating to Video Process menu                                    |
| 7332.2      | Engineering Setup >Switcher >Input >FC Adjust                   | All data relating to FC Adjust menu  |
| 7332.3      | Engineering Setup >Switcher >Input >FC Input Select             | All data relating to FC Input Select menu                                  |
| 7333.1      | Engineering Setup >Switcher >Output >Output Assign              | All data relating to Output Assign menu                                    |
| 7333.2      | Engineering Setup >Switcher >Output >Video Clip                 | All data relating to Video Clip menu                                       |
| 7333.3      | Engineering Setup >Switcher >Output >V Blank/ Through           | Setting of [V Blank Mask], and [Through Mode] setting data for each output |
| 7333.4      | Engineering Setup >Switcher >Output >Safe Title                 | All data relating to Safe Title menu                                       |
| 7333.5      | Engineering Setup >Switcher >Output >4:3 Crop                   | All data relating to 4:3 Crop menu   |
| 7333.6      | Engineering Setup >Switcher >Output >FC Adjust                  | All data relating to FC Adjust menu  |
| 7333.9      | Engineering Setup >Switcher >Output >Multi Viewer               | All data relating to Multi Viewer menu                                     |
| 7333.12     | Engineering Setup >Switcher >Output >Aux Mix                    | All data relating to AUX Mix menu  |
| 7334        | Engineering Setup >Switcher >Transition                         | All data relating to Transition menu                                       |
| 7334.1      | Engineering Setup >Switcher >Transition >Preset Color Mix       | All data relating to Preset Color Mix menu                                 |
| 7334.2      | Engineering Setup >Switcher >Transition >Transition Curve       | Setting data for <Fader Curve> group                                       |
| 7335        | Engineering Setup >Switcher >Key/Wipe/FM/CCR                    | All data relating to Key/Wipe/FM/CCR menu                                  |
| 7335.1      | Engineering Setup >Switcher >Key/Wipe/FM/CCR >Show Key          | All data relating to Show Key menu   |
| 7335.2      | Engineering Setup >Switcher >Key/Wipe/FM/CCR >Key Auto Drop     | All data relating to Key Auto Drop menu                                    |
| 7336.1      | Engineering Setup >Switcher >Link >Internal Bus Link            | All data relating to Internal Bus Link menu                                |
| 7336.4      | Engineering Setup >Switcher >Link >GPI Link                     | All data relating to GPI Link menu   |
| 7336.6      | Engineering Setup >Switcher >Link >M/E Link                     | All data relating to M/E Link menu   |
| 7336.7      | Engineering Setup >Switcher >Link >Key Transition Link          | All data relating to Key Transition Link menu                              |
| 7337.1      | Engineering Setup >Switcher >Device Interface >Remote Assign    | All data relating to Remote Assign menu                                    |
| 7337.2      | Engineering Setup >Switcher >Device Interface >GPI Input        | All data relating to GPI Input menu  |
| 7337.4      | Engineering Setup >Switcher >Device Interface >GPI Output       | All data relating to GPI Output menu                                       |
| 7337.5      | Engineering Setup >Switcher >Device Interface >AUX Control      | All data relating to AUX Control menu                                      |
| 7337.6      | Engineering Setup >Switcher >Device Interface >DME Type Setting | All data relating to DME Type Setting menu                                 |

| Menu number | Menu path   | Saved data                           |
|-------------|---|--------------------------------------|
| 7337.8      | Engineering Setup >Switcher >Device Interface >Editor I/F | All data relating to Editor I/F menu |

## Included in DME Setup

| Menu number | Menu path   | Saved data  |
|-------------|---|---|
| 7326.2      | Engineering Setup >Panel >Operation >Effect Mode          | <ul style="list-style-type: none"> <li>Settings relating to [Default KF Duration] for DME keyframes</li> <li>Setting data for [Effect Auto Save]</li> </ul> |
| 7341        | Engineering Setup >DME >Input                             | All data relating to Input menu   |
| 7343.1      | Engineering Setup >DME >Output >Monitor Output            | All data relating to Monitor Output menu  |
| 7344        | Engineering Setup >DME >Device Interface                  | All data relating to Device Interface menu  |
| 7344.1      | Engineering Setup >DME >Device Interface >DME1 GPI Input  | All data relating to DME1 GPI Input menu  |
| 7344.3      | Engineering Setup >DME >Device Interface >DME1 GPI Output | All settings relating to DME1 GPI Output menu   |
| 7344.4      | Engineering Setup >DME >Device Interface >DME2 GPI Input  | All settings relating to DME2 GPI Input menu  |
| 7344.6      | Engineering Setup >DME >Device Interface >DME2 GPI Output | All settings relating to DME2 GPI Output menu   |

## Data Saved by [Initial Status Define]

### Included in Panel

| Menu number | Menu path                         | Saved data  |
|-------------|-----------------------------------|---|
| —           | —                                 | Setting data and LCD displays for the following panel buttons <ul style="list-style-type: none"> <li>Key Control Block:               <ul style="list-style-type: none"> <li>Delegation buttons, [AUTO DELEG]</li> </ul> </li> <li>Numeric Keypad Control Block:               <ul style="list-style-type: none"> <li>Mode selection buttons, [TC], [RCALL], [STORE]</li> </ul> </li> <li>Menu Control Block:               <ul style="list-style-type: none"> <li>User preference buttons assigned for Plug-in Editor Enbl and System Manager Enbl functions</li> </ul> </li> <li>[SUB MENU SITE]</li> <li>Utility/Shotbox Control Block:               <ul style="list-style-type: none"> <li>[BANK1] to [BANK4], memory recall button</li> </ul> </li> <li>Downstream Key Control Block:               <ul style="list-style-type: none"> <li>[DSK1] to [DSK4], [K-SS], key source name display/key snapshot buttons</li> </ul> </li> <li>CCP-9000A:               <ul style="list-style-type: none"> <li>AUX delegation buttons, bank selection buttons, mode selection buttons, [EDIT ENBL], key row delegation buttons</li> </ul> </li> </ul> |
| 3211        | Misc >Enable >Port Enable         | Setting of [System Manager]   |
| 3212        | Misc >Enable >Plug-In Editor      | All data relating to Plug-In Editor menu  |
| 6351        | Snapshot >Key Snapshot >Attribute | Settings of <Recall Mode> group   |

## Included in Switcher (Same as data saved in Snapshots)

### Notes

In Multi Program 2 mode, M/E Config settings are saved in a snapshot when [Recall M/E Config] is set to ON, but are not saved by [Initial Status Define].

| Menu number | Menu path                 | Saved data  |
|-------------|---------------------------|---|
| —           | —                         | <ul style="list-style-type: none"> <li>For each M/E, setting data relating to the following: cross-points, transitions, Key1 to Key8 (including settings in the independent key transition control block), wipes, DME wipes, video processing</li> <li>Color backgrounds 1/2</li> <li>Frame memory</li> <li>AUX bus (including video processing and AUX mix transition settings)</li> </ul> |
| 3211        | Misc >Enable >Port Enable | Setting data for <Switcher> group   |
| 3213        | Misc >Enable >Side Flags  | All data relating to Side Flags menu  |

## Included in DME

| Menu number              | Menu path  | Saved data                                 |
|--------------------------|--|--|
| 3211                     | Misc >Enable >Port Enable  | <DME1> and <DME2> group data               |
| 4100                     | DME >Status  | Three-dimensional transformation data      |
| 4111                     | DME >Edge >Border/Crop   | All data relating to Border/Crop menu      |
| 4112                     | DME >Edge >Beveled Edge  | All data relating to Beveled Edge menu     |
| 4121 to 4124             | DME >Video Modify  | All data relating to Video Modify menu     |
| 4131                     | DME >Freeze >Freeze  | All data relating to Freeze menu           |
| 4141 (4141.1 to 4141.28) | DME >Non Linear/Corner Pin >Non Linear   | All data relating to Non Linear menu       |
| 4151                     | DME >Light/Trail >Lighting   | All data relating to Lighting menu         |
| 4152                     | DME >Light/Trail >Trail  | All data relating to Trail menu            |
| 4153                     | DME >Light/Trail >Motion Decay   | All data relating to Motion Decay menu     |
| 4154                     | DME >Light/Trail >KF Strobe  | All data relating to KF Strobe menu        |
| 4161                     | DME >Input/Output >Bkgd  | All data relating to Bkgd menu             |
| 4162                     | DME >Input/Output >Video/Key   | All data relating to Video/Key menu        |
| 4163                     | DME >Input/Output >Process   | All data relating to Process menu          |
| 4164                     | DME >Input/Output >Graphic   | All data relating to Graphic menu          |
| 4211, 4221               | Global Effect >Ch1-Ch4 >Combine Priority<br>Global Effect >Ch5-Ch8 >Combine Priority | All data relating to Combine Priority menu |
| 4212, 4222               | Global Effect >Ch1-Ch4 >Brick<br>Global Effect >Ch5-Ch8 >Brick                       | All data relating to Brick menu            |
| 4213, 4223               | Global Effect >Ch1-Ch4 >Shadow<br>Global Effect >Ch5-Ch8 >Shadow                     | All data relating to Shadow menu           |
| 4113                     | DME >Edge >Key Border  | All data relating to Key Border menu       |
| 4114                     | DME >Edge >Art Edge  | All data relating to Art Edge menu         |
| 4115                     | DME >Edge >Flex Shadow   | All data relating to Flex Shadow menu      |
| 4116                     | DME >Edge >Wipe Crop   | All data relating to Wipe Crop menu        |
| 4117                     | DME >Edge >Color Mix   | All data relating to Color Mix menu        |
| 4127                     | DME >Video Modify >Mask  | All data relating to Mask menu             |
| 4155                     | DME >Light/Trail >Wind   | All data relating to Wind menu             |

| Menu number | Menu path                              | Saved data                              |
|-------------|--|---|
| 4156        | DME >Light/Trail >Spot Lighting        | All data relating to Spot Lighting menu |
| 4171        | DME >Enhanced Video Modify >Sketch     | All data relating to Sketch menu        |
| 4172        | DME >Enhanced Video Modify >Metal      | All data relating to Metal menu         |
| 4173        | DME >Enhanced Video Modify >Dim & Fade | All data relating to Dim & Fade menu    |
| 4174        | DME >Enhanced Video Modify >Glow       | All data relating to Glow menu          |

# Error Messages

Error messages appear in the following three formats.

- A list display in the Error Status menu (7411)/Error Log menu (7412)
- Message boxes
- List based on the Error Information menu (9900)

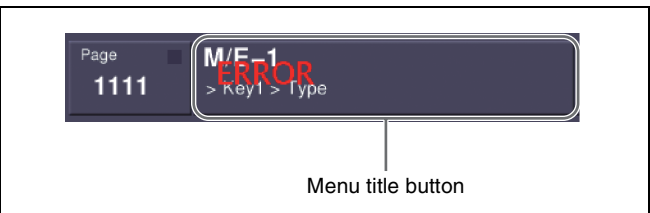
## Error Messages Displayed in the Error Status/Error Log Menu

When an error occurs, the word “ERROR” appears in red on the menu title button.

When “ERROR” is displayed, pressing the menu title button displays the Error Status menu or Error Log menu.

**When an error is current effective:** the Error Status menu appears (*see page 608*).

**When an error has already been cleared:** the Error Log menu appears (*see page 608*).



You can select whether or not to indicate the occurrence of an error by the word “ERROR” shown on the menu title button, by setting [Error Popup] in the Error Status menu or Error Log menu.

**To display the error status or error log regardless of whether there is currently an error**

**1** Carry out either of the following.

- Press the [DIAG] button of the top menu selection buttons.
- Press the menu page number button at the upper left of the menu screen, to display the top menu window, then enter 7411 or 7412, and press [Enter].

The Diagnostic menu appears.

**2** Press VF1 ‘Error Info.’

The error information menu appears.

**3** Press either of the following buttons.

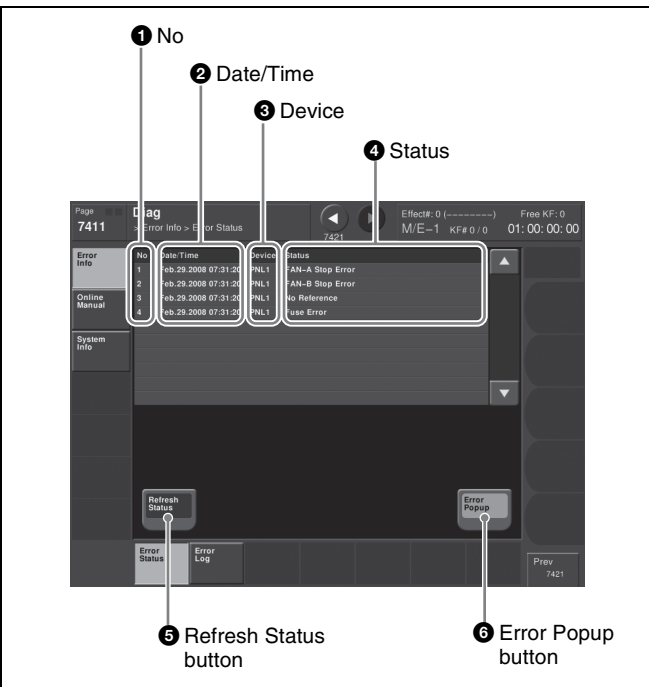
**HF1 ‘Error Status’:** display the Error Status menu

**HF2 ‘Error Log’:** display the Error Log menu

## Error Status menu

The Error Status menu lists currently occurring error information, listed with the most recent information at the top.

When an error has been cleared, the error disappears from the list.



**1 No**

This is a sequential number assigned to the error status.

**2 Date/Time**

This shows the date and time the error occurred.

**3 Device**

This shows the device on which the error occurred.

**4 Status**

This shows the details of the error.

**5 Refresh Status button**

This refreshes the list display.

**6 Error Popup button**

This selects whether or not to display “ERROR” on the menu title button when an error occurs. This button is linked to [Error Popup] in the error log menu.

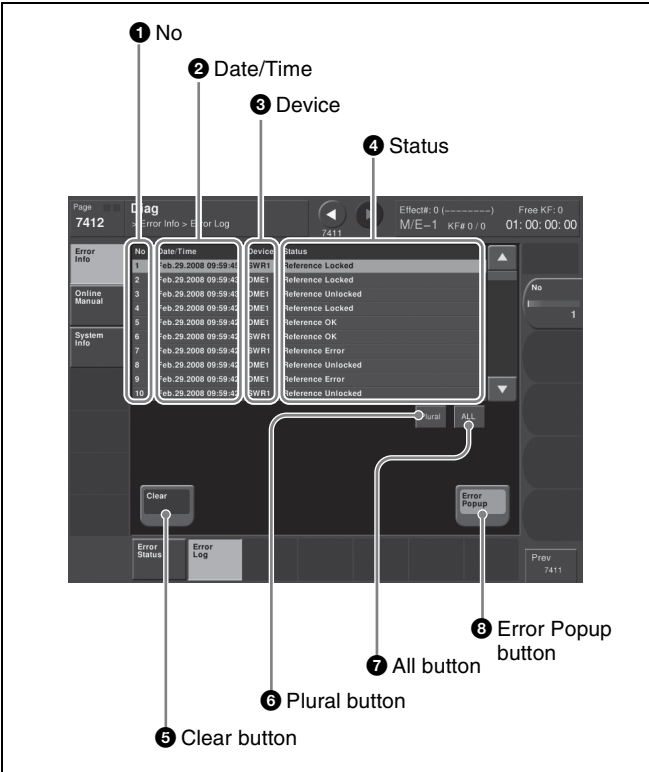
**On:** if a device error occurs, display “ERROR” on the menu title button.

**Off:** if a device error occurs, do not display “ERROR” on the menu title button.

## Error Log menu

The Error Log menu lists changes in the error status from the time that the menu display in the menu operating

section is started up, listed with the most recent information at the top.  
 A maximum of 1024 error status changes appear, and when the number exceeds 1024, the oldest items disappear from the list.



#### 1 No

This is a sequential number assigned to the items in the error log.

#### 2 Date/Time

This shows the date and time the status change occurred.

#### 3 Device

This shows the device on which the status change occurred.

#### 4 Status

This shows the details of the status change.  
 If you press on the list, this switches the display to reverse video, and selects the item. You can also select items in the error log by turning the knob.

#### 5 Clear button

This deletes the selected error log item from the list.

#### 6 Plural button

When this is on, you can select more than one error log. To cancel the selection, press once again to return to the normal display.

#### 7 All button

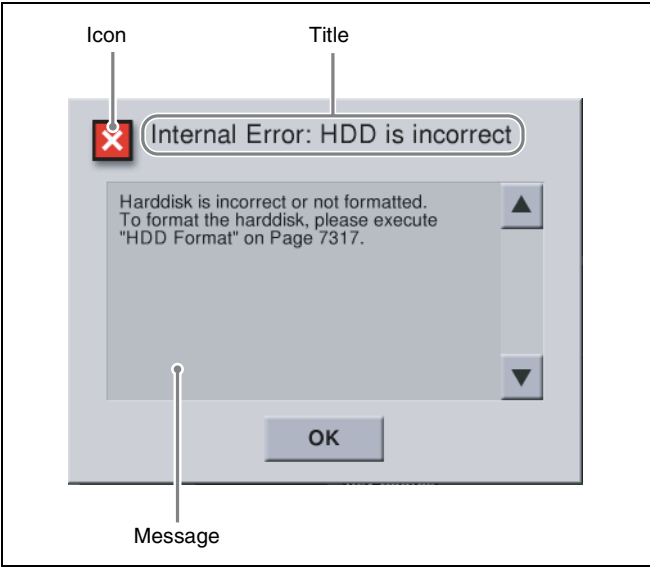
When this is on, all error log items are selected. To cancel the selection, press once again to return to the normal display.



#### 8 Error Popup button

This selects whether or not to display "ERROR" on the menu title button when an error occurs. This button is linked to [Error Popup] in the error status menu.  
**On:** if a device error occurs, display "ERROR" on the menu title button.  
**Off:** if a device error occurs, do not display "ERROR" on the menu title button.







## Error Messages Appearing in a Message Box

Corresponding to the content of the message, an icon appears.










| Icon  | Message  | Description   |
|---|--|---|
| <b>Activate License</b>   |  |   |
|  | License key was successfully entered. The license will be activated after rebooting your system. | 7316.7: Engineering Setup >System >Install/Unit Config >License >License Management<br>The Activate License procedure was completed successfully.   |
|  | The license key you entered is invalid. Please check and enter again.                            | 7316.7: Engineering Setup >System >Install/Unit Config >License >License Management<br>The Activate License procedure failed because the entered information was incorrect. Check the license key, and enter again. |

## Append Key Frame

|   |   |   |
|---|---|---|
|    | [Append Key Frame] cannot be executed.<br>FMx is not assigned to a user region.       | 2515: Frame Memory >Still >Create Key Frame<br>When [Append Key Frame] was pressed, the frame memory output (FMx) was not assigned to a User region. Assign the output in menu 7331.4 (Engineering Setup >Switcher >Config >User1–8 Config), and try again.                         |
|    | [Append Key Frame] cannot be executed.<br>Key Frame Register is locked. (UserX)       | 2515: Frame Memory >Still >Create Key Frame<br>When [Append Key Frame] was pressed, the key frame register (UserX region) was locked. Unlock the register.  |
|    | [Append Key Frame] cannot be executed.<br>Key Frame Register is busy. (UserX)         | 2515: Frame Memory >Still >Create Key Frame<br>When [Append Key Frame] was pressed, files were being loaded into register (UserX region). Try again after file loading has finished.  |
|    | [Append Key Frame] cannot be executed.<br>Key Frame Register is being edited. (UserX) | 2515: Frame Memory >Still >Create Key Frame<br>When [Append Key Frame] was pressed, keyframe creation or editing was in progress using the register (UserX region). Try again after the keyframe operation has finished.  |
|    | [Append Key Frame] cannot be executed.<br>Key Frame Register is full. (UserX)         | 2515: Frame Memory >Still >Create Key Frame<br>When [Append Key Frame] was pressed, there were no remaining keyframes in the register (UserX region).   |
|  | [Append Key Frame] cannot be executed.<br>Key Frame Register is not active. (UserX)   | 2515: Frame Memory >Still >Create Key Frame<br>When [Append Key Frame] was pressed, the region selection button for a register in the numeric keypad control block was not selected. Select the region selection button [UserX] in the numeric keypad control block, and try again. |

## Backup

|   |   |   |
|---|---|---|
|  | Success!!   | 2562: Frame Memory >External Device >Ext HDD Backup/Restore<br>Saving files into the external hard disk was completed successfully.   |
|  | Success!!<br>But the number of folder exceeds the limit (12) and the files expected for the folders were backed up in the default folder.<br>Or the name was changed because it was the same file name. | 2562: Frame Memory >External Device >Ext HDD Backup/Restore<br>Saving files into the external hard disk was completed successfully. However, the limit on the number of folders was reached, and therefore files were backed up in the default folder. Alternatively, the file name was changed because a file of the same name already exists. |
|  | External HDD Backup/Restore is running (–2).  | 2564: Frame Memory >External Device >Backup to DDR/VTR<br>When [Backup Start] was pressed, a backup/restore operation to/from the external hard disk was in progress.   |
|  | FM file auto extraction is running (–3).  | 2564: Frame Memory >External Device >Backup to DDR/VTR<br>When [Backup Start] was pressed, extraction of frame memory file data to the VTR was in progress.   |
|  | Clip is recording (–4).   | 2564: Frame Memory >External Device >Backup to DDR/VTR<br>An external device was recording clips.   |
|  | FM DDR/VTR Backup/Restore is running (–5).  | 2564: Frame Memory >External Device >Backup to DDR/VTR<br>When [Backup Start] was pressed, a backup/restore operation to/from the VTR/DDR was in progress.  |
|  | No external HDD was found (–2).   | 2562: Frame Memory >External Device >Ext HDD Backup/Restore<br>When [Backup] was pressed, the external hard disk could not be found. Check that the external hard disk is correctly connected.  |



| Icon | Message  | Description  |
|------|--|--|
|      | Format operation failed (–10).   | 2562: Frame Memory >External Device >Ext HDD Backup/Restore<br>When [Backup] was pressed, formatting of the hard disk failed.  |
|      | Format operation failed (–11).   |  |
|      | Cannot access the partition (–12).   | 2562: Frame Memory >External Device >Ext HDD Backup/Restore<br>When [Backup] was pressed, the logical drives of the external hard disk could not be accessed. Check that the external hard disk is correctly formatted.                              |
|      | Cannot access the directory (–20).   | 2562: Frame Memory >External Device >Ext HDD Backup/Restore<br>When [Backup] was pressed, the directory of the external hard disk could not be accessed.   |
|      | Cannot access the directory (–21).   |  |
|      | The external HDD is busy (–22).  | 2562: Frame Memory >External Device >Ext HDD Backup/Restore<br>When [Backup] was pressed, the external hard disk was busy and could not be accessed. Check that the access lamp of the hard disk or the menu indicator is turned off, and try again. |
|      | ERROR (–31).   | 2562: Frame Memory >External Device >Ext HDD Backup/Restore<br>When [Backup] was pressed, the external hard disk could not be written to because the clip is currently playing or recording.   |
|      | Backup operation failed (–34).   | 2562: Frame Memory >External Device >Ext HDD Backup/Restore<br>When [Backup] was pressed, the process to store the file to the external hard disk failed.  |
|      | Backup operation failed (–36).   |  |
|      | Cannot be executed.<br>Amount of FM files exceeds the capacity of usable frame memory. | 2562: Frame Memory >External Device >Ext HDD Backup/Restore<br>When [Backup] was pressed, the number of files exceeded the storage limit.  |
|      | Cannot be executed.<br>The function requires two frames of frame memory.               | 2562: Frame Memory >External Device >Ext HDD Backup/Restore<br>When [Backup] was pressed, two files were required but there was only one file remaining.   |
|      | No directory exists (–50).   | 2562: Frame Memory >External Device >Ext HDD Backup/Restore<br>When [Backup] was pressed, the specified directory did not exist.   |
|      | Rename operation failed (–52).   | 2562: Frame Memory >External Device >Ext HDD Backup/Restore<br>When [Backup] was pressed, renaming the directory failed.   |
|      | Rename operation failed (–53).   |  |
|      | Invalid FM OutCh (–6).   | 2564: Frame Memory >External Device >Backup to DDR/VTR<br>When [Backup Start] was pressed, the specified frame memory output channel could not be used.  |
|      | Specified FM OutCh was locked (–7).  | 2564: Frame Memory >External Device >Backup to DDR/VTR<br>When [Backup Start] was pressed, the specified frame memory output channel was locked.   |
|      | Not enough free register area for Backup or Restore process (–10).                     | 2564: Frame Memory >External Device >Backup to DDR/VTR<br>When [Backup Start] was pressed, there was insufficient capacity to carry out the backup.  |
|      | Prepare failed, not any file was found on this board (–11).                            | 2564: Frame Memory >External Device >Backup to DDR/VTR<br>When [Backup Start] was pressed, no image files were found.  |
|      | Backup failed, not prepared yet (–12).   | 2564: Frame Memory >External Device >Backup to DDR/VTR<br>When [Backup Start] was pressed, the device was not yet ready.   |
|      | Backup failed, Clip recall failed (–13).   | 2564: Frame Memory >External Device >Backup to DDR/VTR<br>When [Backup Start] was pressed, All One Clip recall failed (internal processing error).   |
|      | Prepare failed, Clip create failed (–14).  | 2564: Frame Memory >External Device >Backup to DDR/VTR<br>When [Backup Start] was pressed, All One Clip creation failed (internal processing error).   |
|      | Prepare failed, insufficient Clip id (–15).  | 2564: Frame Memory >External Device >Backup to DDR/VTR<br>When [Backup Start] was pressed, there were insufficient Clip IDs (internal processing error).   |
|      | Prepare failed, symbol files create failed (–16).                                      | 2564: Frame Memory >External Device >Backup to DDR/VTR<br>When [Backup Start] was pressed, marker frame file creation failed (internal processing error).  |

| Icon | Message  | Description  |
|------|--|--|
|      | Prepare failed, all one Clip recall failed (–17).    | 2564: Frame Memory >External Device >Backup to DDR/VTR<br>When [Backup Start] was pressed, All One Clip recall failed (internal processing error).               |
|      | ERROR (–19). Bad register number.                    | 2564: Frame Memory >External Device >Backup to DDR/VTR<br>When [Backup Start] was pressed, the Register Number was an invalid value (internal processing error). |
|      | Prepare failed, because there is clip playing (–22). | 2564: Frame Memory >External Device >Backup to DDR/VTR<br>When [Backup Start] was pressed, processing failed because clip playback was in progress.              |

### Change Password

|  |   |  |
|--|---|--|
|  | The password has been successfully changed. | 7317.1: Engineering Setup >System >Maintenance >Setup Operation Lock<br>The password was successfully changed. |
|  | Failed.<br>The password was not changed.    | 7317.1: Engineering Setup >System >Maintenance >Setup Operation Lock<br>The password could not be changed.     |

### Create Key Frame

|  |   |   |
|--|---|---|
|  | [Create Key Frame] cannot be executed.<br>FMx is not assigned to a user region.       | 2515: Frame Memory >Still >Create Key Frame<br>When [Create Key Frame] was pressed, the frame memory output (FMx) was not assigned to a User region.<br>Assign the output in menu 7331.4 (Engineering Setup >Switcher >Config >User1–8 Config), and try again.                        |
|  | [Create Key Frame] cannot be executed.<br>Key Frame Register is locked. (UserX)       | 2515: Frame Memory >Still >Create Key Frame<br>When [Create Key Frame] was pressed, the register (UserX region) was locked. Unlock the register.  |
|  | [Create Key Frame] cannot be executed.<br>Key Frame Register is busy. (UserX)         | 2515: Frame Memory >Still >Create Key Frame<br>When [Create Key Frame] was pressed, files were being loaded into the register (UserX region). Try again after file loading has finished.  |
|  | [Create Key Frame] cannot be executed.<br>Key Frame Register is being edited. (UserX) | 2515: Frame Memory >Still >Create Key Frame<br>When [Create Key Frame] was pressed, keyframe creation or editing was in progress using register (UserX region). Try again after the keyframe operation has finished.  |
|  | [Create Key Frame] cannot be executed.<br>There is no free Key Frame. (UserX)         | 2515: Frame Memory >Still >Create Key Frame<br>When [Create Key Frame] was pressed, an insufficient number of usable keyframes were in UserX region.  |
|  | [Create Key Frame] cannot be executed.<br>Key Frame Register is not active. (UserX)   | 2515: Frame Memory >Still >Create Key Frame<br>When [Create Key Frame] was pressed, the region selection button for the register in the numeric keypad control block was not selected. Select the region selection button [UserX] in the numeric keypad control block, and try again. |

### Deactivate License





|  |  |   |
|--|--|---|
|  | The license will be deactivated after rebooting your system. | 7316.7: Engineering Setup >System >Install/Unit Config >License >License Management<br>The Deactivate License procedure was completed successfully. |
|--|--|---|

### Disk Format
















|  |   |  |
|--|---|--|
|  | Success!!                                 | 7317: Engineering Setup >System >Maintenance<br>Formatting of the removable disk was completed successfully.                               |
|  | Failure.<br>Make sure of the memory card. | 7317: Engineering Setup >System >Maintenance<br>Formatting of the removable disk failed. Check that the memory card is correctly inserted. |


### Error

|  |   |   |
|--|---|---|
|  | This operation is cancelled, because the register is locked.<br>Please change the register status to be unlocked first. | 6211.1: Effect >Master Timeline >Store >Edit<br>6311.1: Snapshot >Master Snapshot >Store >Edit<br>6411.1: Shotbox >Register >Store/Recall >Edit<br>An attempt was made to assign a locked register. Unlock the register before carrying out the assignment. |
|--|---|---|


| Icon  | Message  | Description  |
|---|--|--|
|  | The file was not able to be read.  | 7142.1: File >Shotbox, Macro >File Edit<br>When [Off Line Edit] was pressed, the selected file could not be read.<br>Select the file again, and press [Off Line Edit] once more. |
|  | It was not possible to make a file.  | 7142.3: File >Shotbox, Macro >File Edit >Off Line Edit<br>The file could not be written when storing.<br>Try to store once more.   |
|  | Failed...  | 7162: File >All, External File >Import/Export<br>Importing a file failed. Check the format of the original file, and try again.  |
|  | The Source and the target are the same directory.<br>Please change the source or the target directory. | 7172: File >Configure >Unit ID Copy<br>The same directory and ID were selected for source and target.<br>Select different directories and IDs.                                   |

## Extraction


|   |   |   |
|---|---|---|
|    | FM file auto extraction is running (-9).            | 2542: Frame Memory >File >Auto Extraction<br>When [Extraction Start] was pressed, a CG wipe extraction function was already in progress.  |
|    | FM 1394 HDD Backup or Restore is processing. (-11). | 2542: Frame Memory >File >Auto Extraction<br>When [Extraction Start] was pressed, a frame memory file data backup/restore operation to/from the external hard disk was in progress. |
|    | FM DDR/VTR Backup/Restore is running (-16).         | 2542: Frame Memory >File >Auto Extraction<br>When [Extraction Start] was pressed, a backup/restore operation using the VTR/DDR was in progress.                                     |
|    | ERROR (-1).   | 2542: Frame Memory >File >Auto Extraction<br>When [Extraction Start] was pressed, an internal processing error occurred.  |
|   | Create thumbnail failed (-2).                       | 2542: Frame Memory >File >Auto Extraction<br>When [Extraction Start] was pressed, thumbnail creation failed (internal processing error).  |
|  | Red Symbol file not match (-3).                     | 2542: Frame Memory >File >Auto Extraction<br>When [Extraction Start] was pressed, a red marker frame file was invalid.  |
|  | Blue Symbol file not match (-4).                    | 2542: Frame Memory >File >Auto Extraction<br>When [Extraction Start] was pressed, a blue marker frame file was invalid.   |
|  | No data between two symbol files (-5).              | 2542: Frame Memory >File >Auto Extraction<br>When [Extraction Start] was pressed, there was no data between two marker frames.  |
|  | Cannot find symbol file (-8).                       | 2542: Frame Memory >File >Auto Extraction<br>When [Extraction Start] was pressed, the marker frame file could not be found.   |
|  | Clip frame error (-10).                             | 2542: Frame Memory >File >Auto Extraction<br>When [Extraction Start] was pressed, the number of frames in a clip was invalid (internal processing error).                           |
|  | Clip not found (-12).                               | 2542: Frame Memory >File >Auto Extraction<br>When [Extraction Start] was pressed, the specified clip did not exist.   |
|  | Clip is playing or being edited (-13).              | 2542: Frame Memory >File >Auto Extraction<br>When [Extraction Start] was pressed, the specified clip was being played back or edited.   |
|  | Clip register error (-14).                          | 2542: Frame Memory >File >Auto Extraction<br>When [Extraction Start] was pressed, the data in the specified register could not be processed (internal processing error).            |
|  | Can't extract pair clip (-15).                      | 2542: Frame Memory >File >Auto Extraction<br>When [Extraction Start] was pressed, an attempt was made to extract a pair clip.   |
|  | Clip id not enough (-50).                           | 2542: Frame Memory >File >Auto Extraction<br>When [Extraction Start] was pressed, there were over 100 clips.  |
|  | Still frame on FM 2nd board (-51).                  | 2542: Frame Memory >File >Auto Extraction<br>When [Extraction Start] was pressed, a still image was extracted from an external clip.  |

| Icon  | Message   | Description   |
|---|---|---|
|  | Clip frame number can't be ODD in 720P format (–9). | 2542: Frame Memory >File >Auto Extraction<br>When [Extraction Start] was pressed, an odd number of clips were extracted (720P format only). |


### File Frame Memory

|   |   |   |
|---|---|---|
|  | Some requests are skipped.<br>Following operation is not permitted.<br>— Loading that will cause duplicate register name. | 7151: File >Frame Memory<br>7162: File >All, External File >Import/Export<br>An attempt was made to load a file with the same name as a file already in the register. |
|---|---|---|


### File Open Status

|   |  |   |
|---|--|---|
|  | ERROR (01)                                     | 533X: Device >DDR/VTR<br>An error was returned from the DDR/VTR, and one of the messages on the left appears, depending on the error number.<br>Use menu 7355 (Engineering Setup >DCU >Serial Port Assign) or menu 7325.4 (Engineering Setup >Panel >Device Interface >DCU Serial Port/ MPE Assign) to check the device settings. |
|   | ERROR (02)                                     |   |
|   | ERROR (FF): No target device has been assigned |   |








### GPI Input



|   |                          |  |
|---|--------------------------|--|
|  | Please set Target.       | 7325.1/2: Engineering Setup >Panel >Device Interface >GPI Input<br>7337.2/3: Engineering Setup >Switcher >Device Interface >GPI Input<br>7344.1/2: Engineering Setup >DME >Device Interface >DME1 GPI Input<br>7344.4/5: Engineering Setup >DME >Device Interface >DME2 GPI Input<br>7352/7352.1: Engineering Setup >DCU >GPI Input Assign<br>An incorrect parameter setting value was specified. Check the settings, and try again. |
|   | Please set Trigger Type. |  |
|   | Please set Reg No.       |  |
|   | Please set Aux Bus No.   |  |
|   | Please set Src No.       |  |

### GPI Output


|   |                          |  |
|---|--------------------------|--|
|  | Please set Target.       | 7325.3: Engineering Setup >Panel >Device Interface >GPI Output<br>7337.4: Engineering Setup >Switcher >Device Interface >GPI Output<br>7344.3: Engineering Setup >DME >Device Interface >DME1 GPI Output<br>7344.6: Engineering Setup >DME >Device Interface >DME2 GPI Output<br>7354: Engineering Setup >DCU >GPI Output Assign<br>An incorrect parameter setting value was specified. Check the settings, and try again. |
|   | Please set Trigger Type. |  |
|   | Please set Reg No.       |  |
|   | Please set Pulse Width.  |  |
|   | Please set Pulse Timing. |  |

### HDD Format


|   |  |  |
|---|--|--|
|  | Success!!  | 2561: Frame Memory >External Device >Ext HDD Format<br>Formatting of the external hard disk was completed successfully.  |
|  | Success!!<br>System will be restarted.   | 7317: Engineering Setup >System >Maintenance<br>Formatting of the hard disk was completed successfully. Press [OK] to restart the system.  |
|  | Success!!<br>But some partitions cannot be created because the capacity of the HDD is not enough.  | 7317: Engineering Setup >System >Maintenance<br>Formatting of the hard disk was completed successfully.<br>However, because of insufficient hard disk capacity, only the possible number of partitions were created.   |
|  | Failure.<br>HDD device is busy.<br>In order to complete HDD format, System needs to be restarted and formatted again.<br>System will be restarted, then please execute HDD format again. | 7317: Engineering Setup >System >Maintenance<br>Formatting of the hard disk failed. If the hard disk is functioning correctly, or in some cases when there is damage to the disk, it may not be possible to format the disk correctly in a single attempt. In such cases, it is necessary to restart the system, and then carry out formatting again.<br>Press [OK] to restart the system. |
|  | No external HDD was found (–2).  | 2561: Frame Memory >External Device >Ext HDD Format<br>When [5 Partition] or [15 Partition] was pressed, the external hard disk could not be found. Check that the external hard disk is correctly connected.  |
|  | Format operation failed (–11).   | 2561: Frame Memory >External Device >Ext HDD Format<br>When [5 Partition] or [15 Partition] was pressed, formatting of the hard disk failed.   |
|  | Cannot access the partition (–12).   | 2561: Frame Memory >External Device >Ext HDD Format<br>When [5 Partition] or [15 Partition] was pressed, the external hard disk logical drive could not be accessed. Check that the external hard disk is correctly formatted.   |

| Icon  | Message                            | Description   |
|---|------------------------------------|---|
|  | Cannot access the directory (-20). | 2561: Frame Memory >External Device >Ext HDD Format<br>When [5 Partition] or [15 Partition] was pressed, the external hard disk directory could not be accessed.  |
|  | The external HDD is busy (-22).    | 2561: Frame Memory >External Device >Ext HDD Format<br>When [5 Partition] or [15 Partition] was pressed, the external hard disk was in use and could not be accessed. Check that the access lamp of the hard disk or the menu indicator is turned off, and try again. |





**Import**

|   |  |   |
|---|--|---|
|  | Cannot create the clip file, because the number of selected files is insufficient. | 7162: File >All, External File >Import/Export<br>When importing a clip file, insufficient files were selected to create the clip. |
|---|--|---|


**Initial Read**

|   |                     |   |
|---|---------------------|---|
|  | Initializing now... | When starting up the menu system, this popup message is displayed while system information is being loaded. |
|---|---------------------|---|


**Install**

|   |   |  |
|---|---|--|
|  | All processes have succeeded.   | 7316.10: Engineering Setup >System >Install/Unit Config >Install<br>The installation procedure was completed successfully.   |
|  | An error occurred during the install process.<br>For more details, see Page 9900. | 7316.10: Engineering Setup >System >Install/Unit Config >Install<br>The menu software installation package does not match the model on which it is to be installed.  |
|  | Not Found.<br>The software package does not exist on the removable disk.          | 7316.10: Engineering Setup >System >Install/Unit Config >Install<br>The software package to be installed could not be found. Check that the memory card is correctly inserted, and try the installation once more. |
|  | No Task.<br>Select a package on the list.   | 7316.10: Engineering Setup >System >Install/Unit Config >Install<br>The package for installation was not selected. Select a package to be installed.   |


**Internal Error: Data HDD**

|   |  |  |
|---|--|--|
|  | The user data partition of hard disk drive is damaged, and all data is lost. The hard disk drive needs to be reformatted.<br>Please execute HDD format on Page 7317. | When starting up the menu system, an error was found on the hard disk. Execute [HDD Format] in menu 7317 (Engineering Setup >System >Maintenance). |
|---|--|--|



**Internal Error: HDD is incorrect**

|   |  |  |
|---|--|--|
|  | Hard disk is incorrect or not formatted.<br>To format the hard disk, please execute "HDD Format" on Page 7317. | When starting up the menu system, an error was found on the hard disk. Execute [HDD Format] in menu 7317 (Engineering Setup >System >Maintenance). |
|---|--|--|














**Internal Error: Temporary HDD**


|   |   |  |
|---|---|--|
|  | The system data partition of hard disk drive is damaged. The hard disk drive needs to be reformatted. Please execute HDD format on Page 7317. Please make sure to save all data in the user data partition of hard disk drive to any other device or media, before reformatted. | When starting up the menu system, an error was found on the hard disk. Execute [HDD Format] in menu 7317 (Engineering Setup >System >Maintenance). |
|---|---|--|

**Invalid Name**
















|   |                            |   |
|---|----------------------------|---|
|  | Empty...                   | 2512: Frame Memory >Still >Freeze/Store<br>A Store operation was carried out without specifying a name.<br>71XX: File Menu<br>7171: File >Configure >Directory<br>When renaming a file or creating a directory, a name was not entered. Specify the correct name. |
|  | The file exists already... | 2512: Frame Memory >Still >Freeze/Store<br>The file name specified when [Store] was executed already exists in the switcher. Specify a different name.  |



| Icon  | Message  | Description   |
|---|--|---|
| Loading Texture Pattern   |  |   |
|    | Target File: XXXXX<br>Failed to load target bmp file./Illegal Name.<br>This operation is canceled. | 7316.9: Engineering Setup >System >Install/Unit Config >Texture Package<br>An error occurred when loading a texture file. Delete texture files with an illegal size or illegal file name, then try again.   |
|   | Target File: XXXXX<br>Failed to load target bmp file./Illegal Size.<br>This operation is canceled. |   |
| Make Package  |  |   |
|    | Texture file: XXXXX<br>Not Found.<br>This texture file does not exist on the removable disk.       | 7316.9: Engineering Setup >System >Install/Unit Config >Texture Package<br>When loading an existing texture package, a texture file within the texture package could not be found.  |
|    | This operation is cancelled, because capacity is full.<br>Please clear texture pattern.            | 7316.9: Engineering Setup >System >Install/Unit Config >Texture Package<br>When making a texture package using Make Package, there was insufficient space on a memory card.   |
| Password  |  |   |
|    | Password Incorrect   | 7317.1: Engineering Setup >System >Maintenance >Setup Operation Lock<br>The wrong password was entered.<br>Enter the correct password.  |
| Record  |  |   |
|    | Cannot be executed.<br>Maximum number of clips are created.  | 2523: Frame Memory >Clip >Record<br>When [Rec Start] was executed, the number of recorded clips reached the upper limit.  |
| Refresh Status  |  |   |
|  | No external HDD was found (–2).  | 2561: Frame Memory >External Device >Ext HDD Format<br>2562: Frame Memory >External Device >Ext HDD Backup/Restore<br>When [Refresh Status] was pressed, the external hard disk could not be found. Check that the external hard disk is correctly connected.   |
|  | Cannot access the partition (–12).   | 2561: Frame Memory >External Device >Ext HDD Format<br>2562: Frame Memory >External Device >Ext HDD Backup/Restore<br>When [Refresh Status] was pressed, the logical drives of the external hard disk could not be accessed. Check that the external hard disk is correctly formatted.                              |
|  | Cannot access the directory (–20).   | 2561: Frame Memory >External Device >Ext HDD Format<br>2562: Frame Memory >External Device >Ext HDD Backup/Restore<br>When [Refresh Status] was pressed, the directory of the external hard disk could not be accessed.   |
|   | Cannot access the directory (–21).   |   |
|  | The external HDD is busy (–22).  | 2561: Frame Memory >External Device >Ext HDD Format<br>2562: Frame Memory >External Device >Ext HDD Backup/Restore<br>When [Refresh Status] was pressed, the external hard disk was busy and could not be accessed. Check that the access lamp of the hard disk or the menu indicator is turned off, and try again. |
| Rename  |  |   |
|  | This operation is inhibited because of the illegal combination in the selected files.              | 7151.1: File >Frame Memory >Frame Memory >File Edit<br>When [Rename] was pressed, multiple files of different types were selected. Check that the selected files are all of the same type.  |
|  | Files currently used for playback cannot be renamed.   | 2546: Frame Memory >File >Rename<br>When [Rename] was pressed, the selected files included a movie (clip) currently being played back.  |
|  | No external HDD was found (–2).  | 2546: Frame Memory >External Device >Ext HDD Backup/Restore<br>When [Rename] was pressed, the external hard disk could not be found. Check that the external hard disk is correctly connected.  |
|  | Cannot access the directory (–20).   | 2546: Frame Memory >External Device >Ext HDD Backup/Restore<br>When [Rename] was pressed, the external hard disk directory could not be accessed.   |

| Icon  | Message                         | Description  |
|---|---------------------------------|--|
|  | The external HDD is busy (–22). | 2546: Frame Memory >External Device >Ext HDD Backup/Restore<br>When [Rename] was pressed, the external hard disk was in use and could not be accessed. Check that the access lamp of the hard disk or the menu indicator is turned off, and try again. |

## Restore

|   |  |  |
|---|--|--|
|    | Success!!  | 2562: Frame Memory >External Device >Ext HDD Backup/Restore<br>Recalling a file from the external hard disk was completed successfully.  |
|    | External HDD Backup/Restore is running (–2).   | 2565: Frame Memory >External Device >Restore from DDR/VTR<br>When [Restore Start] was pressed, a backup/restore operation to/from the external hard disk was in progress.  |
|    | FM file auto extraction is running (–3).   | 2565: Frame Memory >External Device >Restore from DDR/VTR<br>When [Restore Start] was pressed, extraction of frame memory file data to the VTR was in progress.  |
|    | Clip is recording (–4).  | 2565: Frame Memory >External Device >Restore from DDR/VTR<br>An external device was recording clips.   |
|    | FM DDR/VTR Backup/Restore is running (–5).   | 2565: Frame Memory >External Device >Restore from DDR/VTR<br>When [Restore Start] was pressed, a backup/restore operation to/from the VTR/DDR was in progress.   |
|    | Success!!<br>But some files were not restored.   | 2562: Frame Memory >External Device >Ext HDD Backup/Restore<br>Recalling a file from the external hard disk was completed successfully. However, some files were not restored because of a different video format or file corruption.  |
|    | Success!!<br>But the number of folder exceeds the limit (12) and the files expected for the folders were restored in the default folder.<br>Or the name was changed because it was the same file name. | 2562: Frame Memory >External Device >Ext HDD Backup/Restore<br>Recalling a file from the external hard disk was completed successfully. However, the limit on the number of folders was reached, and therefore files were restored to the default folder. Alternatively, the file name was changed because a file of the same name already exists. |
|    | Success!!<br>But the number of folder exceeds the max limit (12) and the files expected for the folders were restored in the default folder (–50)!   | 2565: Frame Memory >External Device >Restore from DDR/VTR<br>Recalling a file from the external device was completed successfully. However, the limit on the number of folders was reached, and therefore files were restored to the default folder.   |
|   | Success!!<br>But some still files had been renamed because the same file name already existed (–51)!   | 2565: Frame Memory >External Device >Restore from DDR/VTR<br>Recalling a file from the external device was completed successfully. However, some files were renamed because of still image file name conflicts.  |
|  | Success!!<br>But some Clip files had been renamed because the same Clip name already existed (–52)!  | 2565: Frame Memory >External Device >Restore from DDR/VTR<br>Recalling a file from the external device was completed successfully. However, some clips were renamed because of clip name conflicts.  |
|  | No external HDD was found (–2).  | 2562: Frame Memory >External Device >Ext HDD Backup/Restore<br>When [Restore] was pressed, the external hard disk could not be found. Check that the external hard disk is correctly connected.  |
|  | Format operation failed (–10).<br>Format operation failed (–11).   | 2562: Frame Memory >External Device >Ext HDD Backup/Restore<br>When [Restore] was pressed, formatting of the hard disk failed.   |
|  | Cannot access the partition (–12).   | 2562: Frame Memory >External Device >Ext HDD Backup/Restore<br>When [Restore] was pressed, the logical drives of the external hard disk could not be accessed. Check that the external hard disk is correctly formatted.   |
|  | Cannot access the directory (–20).<br>Cannot access the directory (–21).   | 2562: Frame Memory >External Device >Ext HDD Backup/Restore<br>When [Restore] was pressed, the directory of the external hard disk could not be accessed.  |
|  | The external HDD is busy (–22).  | 2562: Frame Memory >External Device >Ext HDD Backup/Restore<br>When [Restore] was pressed, the external hard disk was busy and could not be accessed. Check that the access lamp of the hard disk or the menu indicator is turned off, and try again.  |

| Icon | Message  | Description   |
|------|--|---|
|      | ERROR (-41).   | 2562: Frame Memory >External Device >Ext HDD Backup/Restore<br>When [Restore] was pressed, the file could not be recalled from the external hard disk because the clip is currently playing or recording. |
|      | Restore operation failed (-43).<br>Restore operation failed (-46).             | 2562: Frame Memory >External Device >Ext HDD Backup/Restore<br>When [Restore] was pressed, recalling a file from the external hard disk failed.   |
|      | No directory exists (-50).   | 2562: Frame Memory >External Device >Ext HDD Backup/Restore<br>When [Restore] was pressed, the specified directory did not exist.   |
|      | Rename operation failed (-52).<br>Rename operation failed (-53).               | 2562: Frame Memory >External Device >Ext HDD Backup/Restore<br>When [Restore] was pressed, renaming the directory failed.   |
|      | Invalid FM OutCh (-6).   | 2565: Frame Memory >External Device >Restore from DDR/VTR<br>When [Restore Start] was pressed, the specified frame memory output channel could not be used.   |
|      | Specified FM OutCh was locked (-7).  | 2565: Frame Memory >External Device >Restore from DDR/VTR<br>When [Restore Start] was pressed, the specified frame memory output channel was locked.  |
|      | Restore failed, some Clip files cannot be deleted on this board (-8).          | 2565: Frame Memory >External Device >Restore from DDR/VTR<br>When [Restore Start] was pressed, restoring failed because a clip file could not be deleted.   |
|      | Not enough free register area for Backup or Restore process (-10).             | 2565: Frame Memory >External Device >Restore from DDR/VTR<br>When [Restore Start] was pressed, there was insufficient capacity to carry out the restore operation.  |
|      | Prepare failed, insufficient Clip id (-15).                                    | 2565: Frame Memory >External Device >Restore from DDR/VTR<br>When [Restore Start] was pressed, there were insufficient Clip IDs (internal processing error).  |
|      | Restore failed, Cannot find symbol files on this tape (-18).                   | 2565: Frame Memory >External Device >Restore from DDR/VTR<br>When [Restore Start] was pressed, a marker frame file could not be found.  |
|      | ERROR (-19). Bad register number.  | 2565: Frame Memory >External Device >Restore from DDR/VTR<br>When [Restore Start] was pressed, the Register Number was an invalid value (internal processing error).                                      |
|      | Restore failed, file name already exist, try to rename but unsuccessful (-20). | 2565: Frame Memory >External Device >Restore from DDR/VTR<br>When [Restore Start] was pressed, renaming failed.   |
|      | Cannot find the File Name Data, please load the File Name Data first (-21).    | 2565: Frame Memory >External Device >Restore from DDR/VTR<br>When [Restore Start] was pressed, the file list was not loaded.  |

### Set Time/Date

|  |                      |   |
|--|----------------------|---|
|  | Error: Wrong Format. | 7317: Engineering Setup >System >Maintenance<br>A correct date and time was not specified. Specify the correct date and time. |
|--|----------------------|---|



### Trim

|  |  |  |
|--|--|--|
|  | The Start TC or Stop TC is not properly set. | 2522: Frame Memory >Clip >Play<br>When [Trim] was pressed, neither the Start TC nor the Stop TC was set.<br>2522: Frame Memory >Clip >Play<br>When [Trim] was pressed, the interval between Start TC (or Clip Begin) and Stop TC (or Clip End) was the entire clip.<br>2522: Frame Memory >Clip >Play<br>When [Trim] was pressed, the Start TC (or Clip Begin) value was greater than the Stop TC (or Clip End) value. |
|  | This file is locked.                         | 2522: Frame Memory >Clip >Play<br>When [Trim] was pressed, the file was locked.  |
|  | This file is using for playback.             | 2522: Frame Memory >Clip >Play<br>When [Trim] was pressed, the target file was being played back.  |




| Icon | Message | Description |
|------|---------|-------------|
|------|---------|-------------|

#### Warning

|   |   |   |
|---|---|---|
|  | This operation will be cancelled, because the register is locked. Please change the register status to be unlocked first. | 6211.1: Effect >Master Timeline >Store >Edit<br>6311.1: Snapshot >Master Snapshot >Store >Edit<br>6411.1: Shotbox >Register >Store >Edit<br>When [Store] was pressed, the target register was locked. Unlock the register before executing [Store]. |
|  | No Switcher information available. Please confirm "Network Configuration" on Page 7311.                                   | When starting up the menu system, the switcher was not present in the system information. Check the Data LAN connections, and retry [Auto Config] in menu 7311 (Engineering Setup >System >Network Config).   |

#### Warning (System Config)

|   |   |   |
|---|---|---|
|  | Illegal Network Config Information (Page 7311)                        | When starting up the menu system, one of the messages on the left appears, depending on the status, if the system information read from the control panel is not correct. According to the message, execute menu 7311 (Engineering Setup >System >Network Config) or 7312 (Engineering Setup >System >System Config) again. |
|   | Illegal Panel Assign Information for Dual Simul Operation (Page 7312) |   |
|   | No Panel Assign Information (Page 7312)                               |   |
|   | No Switcher Assign Information (Page 7312)                            |   |
|   | No System Operation Mode Information (Page 7312)                      |   |
|   | No DME Channel Information  |   |

## Error Messages Shown in the Error Information Menu

If a file transfer related error occurs, the Error Information menu appears to the following error messages.

| Error message                   | Error description/measures   |
|---------------------------------|--|
| [Error] Packet Format           | Load/save the data again. Still then the message is displayed, contact a Sony service representative.                |
| [Error] No Request              |  |
| [Error] No Request File         |  |
| [Error] Illegal Host            |  |
| [Error] Not Supported           |  |
| [Error] USB Access              |  |
| [Error] Get File System Info    |  |
| [Error] Copy Result             |  |
| [Error] Remove Result           |  |
| [Error] Move Result             |  |
| [Error] Make Dir Result         |  |
| [Error] Path Info               |  |
| [Error] Dir Operation           |  |
| [Error] Command Result          |  |
| [Error] Transfer Result         |  |
| [Error] Source File Name        |  |
| [Error] Source File Open        |  |
| [Error] Source File Read        |  |
| [Error] Destination File Name   |  |
| [Error] Destination File Open   |  |
| [Error] Destination File Read   |  |
| [Error] Destination File Write  |  |
| [Error] Illegal Format          |  |
| [Error] Edit Header             |  |
| [Error] Local File Access       |  |
| [Error] FTP Connect             |  |
| [Error] FTP Busy                |  |
| [Error] FTP Access              |  |
| [Error] FTP No Result           |  |
| [Error] FTP Put Command         |  |
| [Error] FTP Delete              |  |
| [Error] FTP Delete Command      |  |
| [Error] FTP Delete Result       |  |
| [Error] Control Table No Space  |  |
| [Error] Control Table Same Name |  |
| [Error] No Queue                |  |
| [Error] Resize BMP              |  |
| [Error] Make Vector             |  |
| [Error] Uncompress              |  |
| [Error] Compress                |  |
| [Error] Server Not Respond      | No reactions are returned from the processor. Check your Data-LAN connections and the power source of the processor. |
| [Error] No Space                | There is not sufficient space in the memory card or hard disk.   |

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# Index

## Numerics

3D 24, 216

## A

Action setting 369  
    for rewind 370, 372, 383  
Additive mix 99  
Ancillary data 171, 176  
Angle 134  
Anti-moiré filter 302  
Art edge settings 247  
Aspect ratio 135, 140  
Attributes 420  
Audio mixer 69  
Auto  
    chroma key adjustments 100  
    transition 82  
AUTO DELEG button 44  
Auto/manual transition combination 83  
Autoload function 461, 474, 484  
AUX  
    bus settings 193  
    delegation buttons 39  
    menu operations 193  
AUX bus control enable/disable 559  
AUX bus override 527  
AUX bus remote panel 590  
AUX delegation button  
    settings 513  
    shift operation 513  
AUX menu 332  
AUX mix transitions 91  
Auxiliary bus control block 39  
Axis location 227

## B

Background  
    changing 19  
    mask 94  
    settings 299  
    transition flip-flop mode 549  
Bank selection buttons 39, 49  
Basic menu operations 52  
Beep 533  
Beveled edge settings 246  
Blind settings 275  
Blink  
    function 109  
Blur settings 259

Border 93  
    parameters 114  
    processing order 551  
    settings 244  
Brick settings 308  
Brightness adjustment 533  
Broken glass settings 274  
BS button 59  
Bus fixed mode  
    fader operation 84  
Bus selection 66  
Button  
    assignment settings 515  
    numbers 68  
    operation mode 530  
Button assignments 515

## C

Calibration 533  
Caps Lock button 59  
CCR menu 332  
Channel ID 229  
Character Trail settings 283  
Chroma key 93  
    adjustments 100  
    shadow 100  
    shadow adjustment 102  
    window 100  
Circle settings 279  
Clean mode 92  
Clear button 58, 59  
Clip function 171  
Clip transition 70  
    operations 177  
Close button 58, 59  
Color  
    combination 186  
    matte settings 77  
    vector key 92  
Color background  
    selection 186  
    setting operations 186  
    settings menu 186  
Color Bkgd menu 331  
Color cancel 100  
    adjustments 101  
Color corrector 197  
Color data  
    copy 189  
    swap 189  
Color mix 186  
    for edge fill matte 132  
    for key fill 98  
Color Mix settings 257  
Combiner settings 305  
Communications status 589  
Contrast settings 262

Control panel 27  
    configuration 28  
Control panel settings 496  
Coordinate axes 229  
Copy 188, 189  
Copy/Swap menu 333  
Copying 415  
Corner Pinning 302  
Crop settings 245  
Cross-point  
    assign tables 507  
    button numbers 30  
    button shift operation 509  
    buttons 30  
    control block 29  
    hold 419  
    settings 507  
Cross-point assign tables 511  
Cueup & Play 377  
    automatic execution 378  
    settings in a menu 379  
Custom mode 483  
Cut 71  
Cylinder settings 280

## D

Date and time 492  
DCU  
    serial port settings 526  
    setup 566  
Dead zone 158  
Default recall button 56  
Default wipe edge softness 551  
Defocus settings 258  
Del button 59  
Delay setting 390, 407  
Delegation buttons 41  
Destination names 529  
Detents 226  
Device  
    interface 524, 556, 563  
    menu 335  
    setup 485  
Device control block  
    joystick 33  
    trackball 44  
Device interface 563  
Device management 492  
Diagnosis 589  
Diagnostic menu 347  
Digital multi effects 24, 224  
Dim and fade settings 264  
Direct store 370  
Direction 131, 139, 149  
Directory operations 472  
    creating a directory 472  
    deleting a directory 472

- renaming a directory 472
- Disk recorder
  - control 373
  - Cueup & Play 377
  - file operations 383
  - information check 376
  - recording to 375
  - settings 574
  - timeline 380
  - timeline editing 381
- Display 38, 43
- DME 24
  - applying to a key 107, 116
  - channel selection buttons 43
  - menu 334
  - special effects 229
- DME channel
  - copy 189
  - swap 189
- DME override 191
- DME patterns
  - user programmable 156
- DME setup 561
- DME wipe pattern 143
  - edge modification 149
  - groups 143
  - selection 147
- DME wipe pattern list
  - for one-channel mode 316
  - for two-channel mode 321
- DME wipe settings 147
  - for independent key transitions 153
- DME wipes 22, 143
  - copy 188
  - direction 149
  - modifiers 149
  - modify clear 152
  - position 149, 153
  - resizer 155
  - snapshot 156
  - swap 188
- Door 317
- Double-click sensitivity 531
- Downstream key control block 50
- Drop border 93
  - parameters 114
- dual resizer effects 125
- Duration
  - effect 389
  - keyframe 389
  - modes 388
  - setting buttons 36
- Duration mode setting 404
- Dust mix 129, 130

## E

- Edge
  - fill 94
  - modifiers 93
- EDIT ENBL button 35
- Edit point specification buttons 35
- Edit points 398
  - setting 398
- Editing buttons 35
- Editing keyboard 526
- EFF LOOP button 37
- Effect 388
  - attribute settings 414
  - attributes 388
  - dissolve 388, 419
  - duration 389
  - duration setting 407
  - editing 388
  - execution 392, 410
  - execution direction 410
  - menu 338
  - repeating 411
  - resizer 122
  - saving 411
  - saving/recalling 388
  - settings 529
  - status display 415
- Effect execution direction selection
  - buttons 36
- Effect register
  - copy/move/swap 415
  - data deletion 416
  - editing 415
  - merge 416
  - naming 417
  - write-protecting 415
- Emboss 93
- Engineering setup 475, 496, 535, 561, 566, 578, 590
- Engineering Setup menu 342
- Enhanced wipes 313
- Enter button 58, 59
- Error messages 608
  - Error Information menu 619
  - error status/log 608
  - message box 609
- Explosion settings 281
- Extended VTR 373, 576
- External
  - box setting 579
  - device control 368
  - processed key 108, 117
- External devices 25
  - shared control functions 368
- External hard disk drive 181

## F

- Fade to black 90
  - transition rate 90
- Fader lever operations 549
- Fade-to-black function 549
- File
  - locking load operations 494
- File menu 341
- File operations 383
  - autoload function 474
  - batch operations 469
  - copying 465, 473
  - deleting 467
  - directory operations 472
  - displaying menus 462
  - import/export 470
  - individual files 459
  - loading 464, 469
  - renaming 466
  - saving 463, 469
  - selecting a device 463
  - selecting regions 463
  - viewing detailed information 462
- Files 26, 459
  - autoload function 461
  - deleting 179
  - operations 459
  - renaming 180
- Film effect 267
- Fine mode 240
- Flag settings 270
- Flex shadow settings 251
- Flip tumble 318
- Flying bar settings 275
- Format converter 480
  - conversion 540
  - outputs 546
- Formatting a memory card 492
- Formatting the hard disk 493
- Frame
  - in-out 318, 325
  - memory data export 471
  - memory data import 470
  - Memory menu 331
- Frame input mode 80
- Frame memory
  - clip function 171
  - continuously capturing still images (record) 169
  - extracting images 184
  - feed 109, 117
  - pair file processing 179
  - recalling a continuous sequence of still images (animation) 169
- Frame memory folder 468

- Frame memory operations 162
  - capturing an input image 165
  - clip 172
  - input image selection 164
  - menu display 162
  - preparations 162
  - selecting frame memory 165
  - selecting outputs 165
- Freeze settings 267
- Fringe 137
- FULL LINK 129
- Function
  - assignment user preference buttons 515
  - button area 56
  - links 552
  - selection buttons 38
- Functions assignable to joystick 240

## G

- Global
  - coordinate space 224
  - Effect menu 335
  - effect operations 304
- Glow settings 265
- GPI
  - device control 371
  - output port settings 371
  - timeline creation/editing 371
- GPI input settings
  - for control panel 524
  - for DCU 567
  - for DME 564
  - for switcher processor 557
- GPI output 420
- GPI output settings
  - for control panel 525
  - for DCU 570
  - for DME 565
  - for switcher processor 558
- Graphics
  - outputting to the monitor 243
- Graphics display 228, 242
- Grid 229

## H

- Hard disk 181
  - partition 181
- Hard freeze effect 267
- HDD 181
- HF buttons 56

## I

- Illegal color limiter 540, 561
- Image
  - data management 179

- extracting 184
- Image file
  - deletion 179
  - renaming 180
- Independent key transition 20, 86
  - DME wipe settings 153
  - type 89
  - type selection buttons 50
  - wipe modifiers 139
  - wipe settings 139
- Independent key transition execution section 33, 50
- Independent key transition rate 89
  - setting by a menu operation 89
  - setting in the numeric keypad control block 89
- Initialization
  - hard disk 493
- Input
  - string 59
  - value 58
- Input reference signal 480
- Installation 485
- Interpolation settings 301
- Invert settings 300
- Item display 58, 59

## J

- Joystick 34
- Joystick sensitivity 531

## K

- Kaleidoscope settings 278
- Key 21
  - auto drop 550
  - border settings 247
  - control block 41
  - default 95
  - delegation buttons 50
  - deleting 19
  - density settings 301
  - disable 419
  - edge modifications 103, 114
  - Frame menu 337
  - inserting 19
  - mask 94
  - memory 94
  - memory mode 551
  - modifier buttons 42
  - modifiers 93
  - modify clear 109
  - output destination 108
  - output status display 75
  - priority operation mode 551
  - settings 550
  - signal adjustments 101

- snapshot attributes 425
- source selection 301
- status display 33
- using keys 5 to 8 352
- Key active 100
  - adjustment 101
- KEY button 39
- Key fill
  - selection 97
  - selection buttons 42
- Key priority 73
  - display 75
  - for keys 1 to 8 75
  - setting by a menu operation 74
  - setting in the transition control block 73
- Key row delegation buttons 30
- Key setting
  - using menus 95
  - with the cross-point control block 110
- Key snapshot 126
  - buttons 51
  - recalling 126
  - saving 126
  - setting buttons 51
- Key source
  - name display 51
  - selection 97
  - selection buttons 42
- Key type
  - selection buttons 42
  - setting 96
- Key/Wipe/FM/CCR menu 550
- Keyer
  - copy 188
  - swap 188
- Keyframe 25, 388, 399
  - control block 34
  - copying 402
  - creation 399
  - delay setting 407
  - deletion 401
  - duration 389
  - duration setting 407
  - effect registers 387
  - insertion 399
  - loop 402
  - modification 400
  - moving 401
  - operations 393
  - path setting 408
  - pause 402
  - register operations 414
  - status 56
  - strobe settings 289
- KF button 33

Knob 40, 43  
parameter buttons 56

## L

Left button 59  
Lens settings 278  
Lighting settings 284  
Line feed button 59  
Linear key 92  
Link  
    cross-point buttons 552, 553  
    key transition 555  
    M/E banks 554  
Local coordinate space 224  
Location  
    size 227  
    XYZ 226  
Lock function 168  
Locking the setup data 493  
Luminance key 92

## M

M/E  
    copy 188  
    swap 188  
M/E configuration switching 222  
M/E-1 to M/E-5 menus 326  
M/E-4 bank, using 351  
M/E-5 bank, using 351  
Macro 25, 435  
    assignment of operation buttons 502  
    attachment 26  
    attachment removal 449  
    attachment setting 448  
    auto insert mode 439  
    creating 436  
    creation/editing 439  
    editing 436  
    events 435  
    execution 437, 438  
    execution by attachment 451  
    execution mode 532  
    file editing rules 591  
    menu 336  
    menu macro 452  
    offline editing 445  
    online editing 442  
    overview 435  
    register recalling 438  
    registers 435  
    saving 442  
    timeline 26  
Macro attachment list 450  
Macro operations  
    in keyframe control block 438

    in numeric keypad control block 438  
Macro register  
    editing 442  
    recalling 438  
Macro timeline 457  
Magnitude 134  
MAIN and SUB delegation button 211  
Main mask 94  
    using 106, 115  
Main menu site 61  
Main/sub modifier link 129  
Manual transition 83  
Mask processing order 551  
Mask settings 265  
Masks 94, 106, 115  
Master  
    region 386  
    timeline registers 387  
    timelines 393  
Master snapshot creation/saving 426  
Master timeline creation/saving 412  
    with the menu 413  
    with the numeric keypad control block 412  
Matte data  
    copy 189  
    swap 189  
Max./min. value indication 58  
Melt settings 282  
Memory  
    recall buttons 49  
Memory card formatting 492  
“Memory Stick”/USB connections  
    block 40  
“Memory Sticks” 40  
Menu  
    accessing 52, 53  
    control block 39  
    display 40  
    organization 52  
    page number button 55  
    screen 54  
    shortcut menu 62  
    shutting down 57  
    switching between the main menu sites 61  
    title button 55  
    top menu list 52  
MENU button 34, 47  
Menu macro 452  
    creation/editing 454  
    editing a register 456  
    executing 453  
    recalling a register 453  
Menu shortcut assignment  
    memory recall button 523  
    user preference buttons 519

Menu tree 326  
Merging 416  
Metal settings 264  
Minus button 58  
Mirror settings 277  
Misc menu 333  
Misc menu operations 190  
Mix 70, 128  
Mixing images 307  
MKS-8031 44  
MKS-8032 50  
MKS-8033 49  
MKS-8035 41  
MKS-8036A 47  
MKS-8080/8082  
    setting status 590  
    simple connection 590  
Mode selection buttons 37  
Modulation 136  
Monitor output  
    graphics 243  
Mono settings 261  
MORE button 43  
Morphing 129  
Mosaic  
    glass settings 270  
    settings 262  
    wipes 314  
Motion decay settings 288  
Mouse wheel setting 534  
Moving 415  
Multi 135, 141  
    mirror settings 277  
    move settings 260  
Multi Program 2 23  
    basic operation 210  
    restriction 215  
Multi Viewer 546  
MVE-8000A 237  
MVE-9000 238  
MVS-8000X Multi Format Switcher  
    System 18

## N

NAM 70  
Nega settings 262  
Negative NAM 128  
Network settings 476  
Next transition 70  
    selecting 70  
    selection buttons 31  
NFS server 476  
Non-additive mix 70  
Nonlinear effects settings 268  
Non-Sync state 83  
Normal  
    edge 115

mix 99  
Numeric keypad 38  
control block 37

## O

ON AIR indicators 43  
On-air tally 529  
One-stroke mode 77  
One-time mode 77  
Operating buttons 34  
Operation  
buttons 45  
modes 161  
Operation mode setting 536  
Operation settings 528  
Outline 93  
parameters 114  
Output  
destination specification buttons  
43  
OVERRIDE button 44

## P

Page Roll 319  
Page turn 319  
settings 279  
Pair file processing 179  
Pair mode 161  
Pairing 136  
Panorama settings 279  
Parallel  
input settings 566  
output settings 569  
tally settings 583  
Parameter group button 56  
Path setting 408  
Path type  
for Curve 409  
for Hue 409  
for Xpt 409  
Paths 390  
DME 391  
switcher 390  
types 392  
Pattern limit 81, 551  
buttons 32  
setting by a menu operation 81  
setting with the fader lever 81  
transition 82  
Pattern mix 128  
types 128  
P-Bus  
action setting 369  
timeline creation/editing 369  
trigger 371

P-Bus devices 368  
control 369  
control mode setting 526  
Perspective 228  
PGM/PST  
logical assignment to M/E 537  
menu 329  
Picture-in-picture 318, 322  
Plane function 99  
Positioner 133, 139, 149, 153  
Positive NAM 128  
Posterization 261  
Power-on state 483  
Preset color mix 70  
Preset color mix setting 549  
Preview 85  
Previous page button 56  
Primary setting 492  
PRIOR SET button 33

## R

Random/diamond dust wipes 315  
Recording  
to DDR 183  
to VTR 183  
Recording to VTR/disk recorders 375  
Reference  
phase adjustment 535  
Reference region 386  
Region  
assigning 500  
selecting 398  
Regions 386  
selection buttons 37  
Register  
displaying list 417, 426  
menu macro 453  
operations in the menus 414  
recalling 396  
Register editing  
menu macro 456  
Registers 387  
Related manuals 17  
Replication 141  
Reset 485  
Reset/initialization 485  
Resizer DME wipe 155  
Resizer DME wipe patterns 325  
Resume mode 483  
Right button 59  
Ripple settings 271  
Rotary wipes 313  
Rotation 134, 140, 227  
Rotation of key 120  
Router destination 498  
Router interface settings 578  
Router interface/tally setup 578

Router menu 335  
RUN CTRL button 37  
Run mode setting 410

## S

Safe title settings 545  
Screen  
saver 533  
SCU editor panel port 526  
Search dial 47, 374  
advanced settings 531  
SEMI LINK 129  
Separate sides settings 299  
Sepia settings 261  
Serial  
port settings 571  
tally setting 584  
Setup 26  
for control panel 496  
for DCU 566  
for the whole switcher system  
475  
locking the data 493  
Setup data saving/recalling 483  
Shadow 93  
parameters 114  
Shadow settings 310  
Shaped video settings 299  
SHIFT button 30  
Shift button 59  
Shortcut 62  
Shotbox 25  
Shotbox execution  
Numeric Keypad Control Block  
432  
Shotbox menu 340  
Shotbox register creation  
in the numeric keypad control  
block 430  
using the menus 431  
Shotbox register editing 434  
SHOW KEY button 43  
Show key function 117, 550  
Side flags 512  
aspect ratio 538  
assigning a cross-point button  
512  
auto crop 538  
auto side flags 538  
cropping 538  
DME wipe action 207  
MISC menu 206  
wipe action 207  
Signal  
assignment to buttons 67  
name display 69  
selection 66

Signal format setting 479  
 Signal input settings  
   for DME 561  
   for switcher processor 539  
 Signal output settings  
   for DME 562  
   for switcher processor 544  
 Sketch settings 262  
 Skew 228  
 Slide 316, 321, 325  
 Snapshot 25  
   attributes 419  
   menu 339  
   register editing 426  
   saving/recalling 421  
   status display 425  
 Snapshot operations  
   from the numeric keypad control  
     block 421  
   in the menus 423  
 Soft edge 93, 139  
 Softening  
   edge 115  
   wipe pattern edge 139  
 Software  
   installation 485  
   setting required 486  
 Solarization 261  
 Source  
   coordinate space 224  
   name displays 30  
 Source name 529  
 Source patch 586  
 Source signal name 510  
 Space button 59  
 Speed 134  
 Sphere settings 281  
 Spin 227  
 Spiral 137  
 Split 131, 316  
   fader setting 549  
   settings 276  
   slide settings 276  
 Spotlighting settings 291  
   user texture patterns 488  
 Spring 137  
 Squeeze 316, 322, 325  
 Standard wipe patterns 127  
 Standard wipes 312  
 Start-up state 484  
 Status area 56  
 Status menu 194, 333  
 STOP NEXT KF button 37  
 Sub (subsidiary) mask 94  
   using 107, 116  
 Subsidiary menu site 61  
 Super mix 70  
   settings 77

Swap 188, 189  
 Swapping 415  
 Swirl settings 281  
 Switcher configuration 535  
 Switcher setup 535  
 System  
   maintenance 492  
   settings 477

## T

Tally  
   copy settings 582  
   generation settings 581  
   group settings 580  
 Tape transport control 373  
 Target coordinate space 224  
 TBC window center position 562  
 TC button 58  
 Temporary attributes 388, 420  
 Three-dimensional  
   coordinate space 224  
   parameter display 229  
   parameters 225  
   transformations 224  
 Three-dimensional parameters  
   display 241  
   entering 241  
   values 241  
 Three-dimensional transformation  
   224  
 Through mode settings 545  
 Time  
   settings 407  
   strobe effect 267  
 Time offset execution 87  
 Timecode input mode 80  
 Timeline menu 394, 395  
   main parts 394  
   recalling 394  
 Top menu list 52  
 Top menu selection buttons 39  
 Touch panel calibration 533  
 TRACE button 44  
 Trackball sensitivity 531  
 Trail settings 286  
 TRANS PVW button 32  
 Transformation operation modes 226  
 Transition  
   control block 30, 88  
   execution 79  
   mode 389, 549  
   next 70  
   preview 85  
   preview mode setting 549  
 Transition execution  
   section 32  
   with the fader lever 83

Transition indicator  
   function 79  
 Transition rate 79  
   AUX mix transitions 192  
   setting by a menu operation 81  
   setting in the MISC menu 192  
   setting in the numeric keypad  
     control block 80  
 Transition type 70  
   selecting by a menu operation 76  
   selection buttons 31  
 Trim button 58  
 Twist settings 270

## U

USB driver reloading 493  
 User preference button 40  
 User programmable DME 321, 323  
   Notes on keyframe creation 157  
   patterns 156  
   transition mode 156, 404  
 User region setting 537  
 User regions 386  
 User Setup menu 347  
 User-defined settings 484  
 Utility 25  
 Utility execution 428  
   with user preference buttons 428  
 Utility/shotbox control block 49

## V

V/K mode 161  
 Vertical blanking interval adjustment  
   545  
 VF buttons 56  
 Video  
   clip adjustment 545  
   processing 65, 109  
   signal adjustment 100  
   switching settings 548  
   switching timing 535  
 Video process 195  
   memory 196  
   settings 196  
 Video process memory 550  
 Virtual image cancellation 243  
 VTR  
   control 373  
   Cueup & Play 377  
   information check 376  
   Loop 380  
   recording to 375  
   Recue 380  
   timeline 380  
   timeline editing 381



## W

- Wave settings 268
- Wind settings 290
- Window adjustment 100, 102
- Wipe 21, 70
  - copy 188
  - enhanced 127
  - modify clear 138
  - mosaic 127
  - pattern list 312
  - random/diamond dust 127
  - rotary 127
  - settings 550
  - standard 127
  - swap 188
- Wipe Crop settings 255
- Wipe direction 131, 139
  - selection buttons 32
- Wipe modifiers 130
- Wipe pattern
  - aspect ratio 135, 140
  - edge modification 131
  - key 93
  - modulation 136
  - replication 135, 141
  - rotation 134
  - selection 127
  - types 127
- Wipe pattern/modifier combinations 138
- Wipe position 133, 139
- Wipe settings 127
  - for independent key transitions 139
- Wipe snapshot 141
- Wire frames 228
- Wiring settings 580
- Working buffer clearing 242
- Wrap Around 243
- Write-protecting 415

## X

- XPT HOLD
  - button 30
- XPT HOLD button operation mode 551

## Y

- Y balance 100
  - adjustment 102

## Z

- Zabton 93, 105, 115
- Z-ring 46

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