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MVS-8000/8000SF System

(With CCP-9000 Series Center Control Panel)

User's Guide

Multi Format Switcher System

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Chapter 11 DME Operations

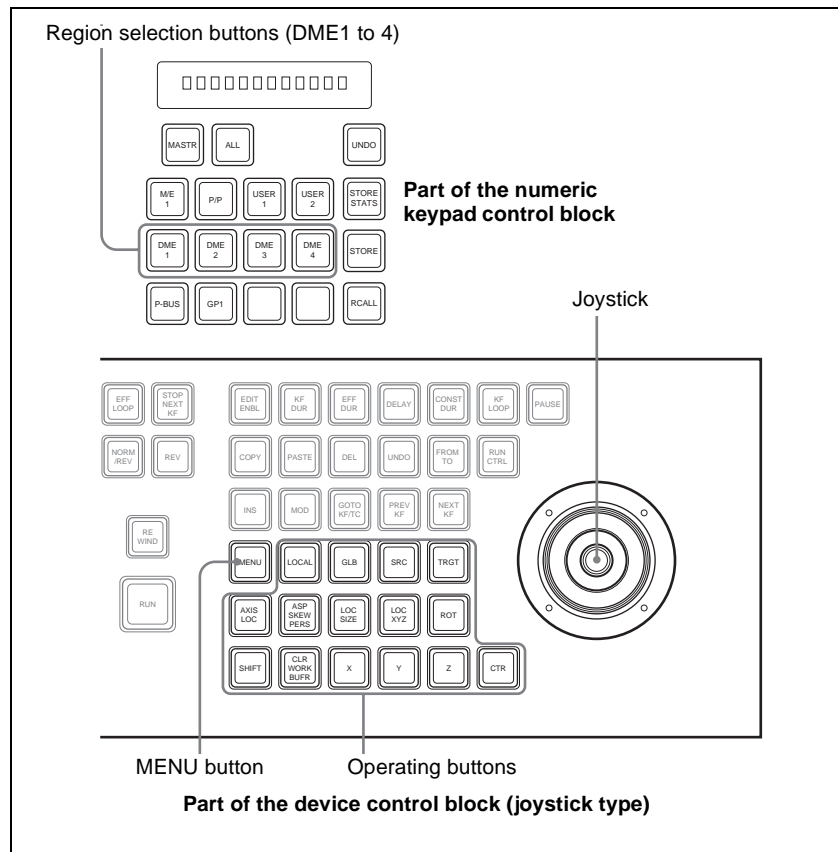
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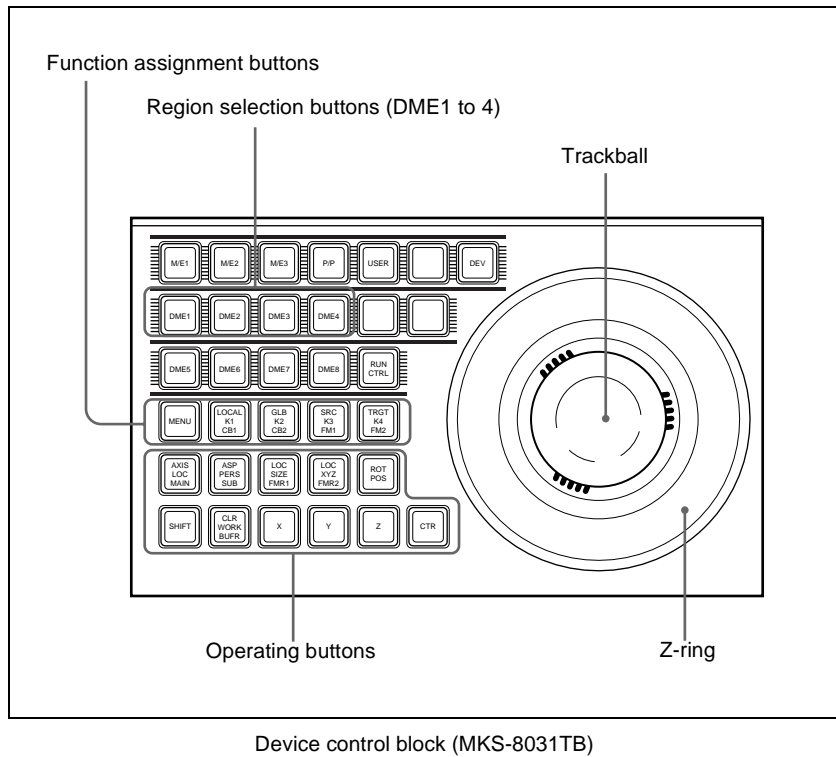
Three-Dimensional Transformation Operations

To carry out three-dimensional DME transformations, use either part of the device control block (joystick type) and numerick keypad control block or the optional device control block (MKS-8031TB Trackball Module).

Basic Operations



Controls used for DME operations



Transforming an image in three-dimensional coordinate space

For details of three-dimensional DME coordinate space, see “Three-Dimensional Transformations” in Chapter 1 (Volume 1).

Use the following procedure.

- 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.

For details of the three-dimensional transformation operation modes, see “Transformation Operation Modes” in Chapter 1 (Volume 1).

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.

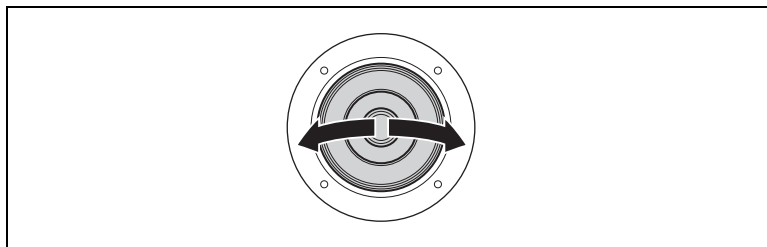
You can change the perspective of the image on the x- and y-axes by moving the joystick horizontally or vertically, and change the distance to the view point by rotating the joystick knob.

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.

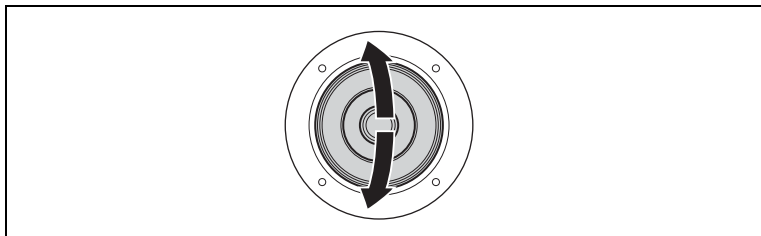
You can change the skew of the image along the x- and y-axes with the joystick.

- 4** Depending on the axis of the change, operate the joystick as follows.

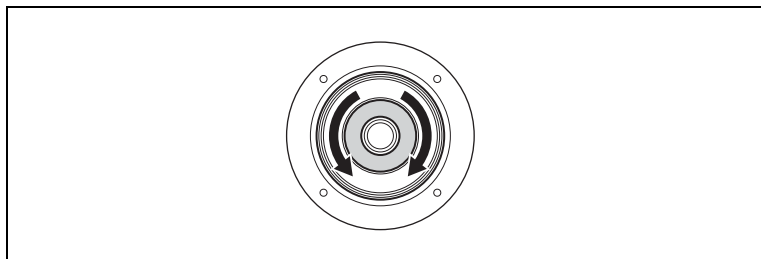
- To change on the x-axis, move the joystick horizontally.
Parameter values increase as you move to the right, and decrease as you move to the left.



- 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.



If you hold down the [SRC] or [TRGT] button while carrying out the above operations, the rate of change of the parameters is reduced. (Fine mode)

- 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
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

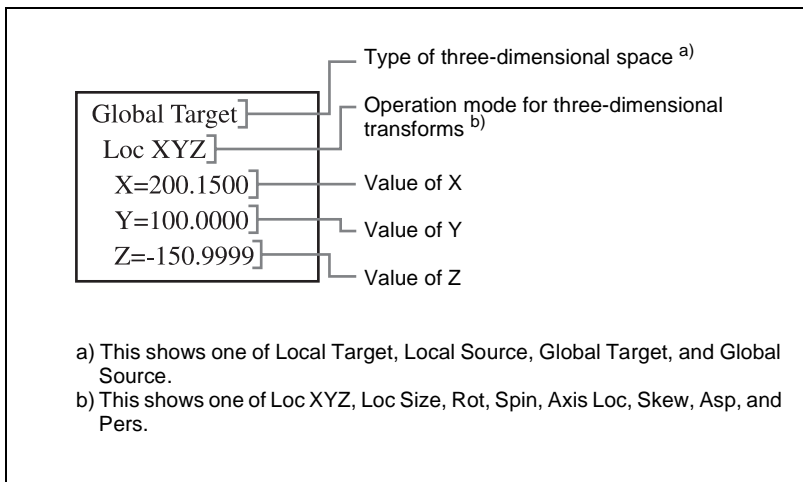
Three-Dimensional Parameter Display

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)

- 2 Enter a parameter value with the numeric keypad.
The number of significant digits after a decimal point is 4.
- 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.

To reset three-dimensional parameter values to the defaults for the current transformation operation mode, press the [CTR] button twice in rapid succession. (*For details of detents and default values, see “Three-Dimensional Transformations” in Chapter 1 (Volume 1).*)

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. (*See “Selecting the State After Powering On (Start Up Menu)” (page 181).*)

Graphics Display

You can display graphics such as a wire frame, coordinate axis, and a grid over the current DME image. This makes it easier to set up transformations, because you can operate while viewing the coordinate axes and the position of the image in three-dimensional coordinate space. (*For the types of graphics displayed, see “Graphics Display” in Chapter 1 (Volume 1).*)

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.

Displaying graphics

Use the following procedure.

- 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 the [Graphic] button 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.

The selected graphics appear in the monitor screen.

- 5** If you want to shrink the graphics display to show the range not displayed on a normal monitor, turn the [Scale] button 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 the [Auto Erase] button, 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)

Canceling Virtual Images

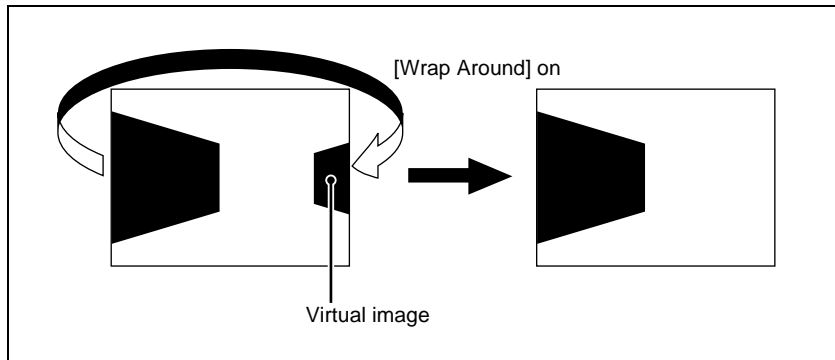
When a transformation is executed with an extreme degree of perspective, the part of the image which is beyond the imaginary view point can wrap around and show on the other side. The wrapped-around portion is referred to as a virtual image.

Using the DME menu, you can make a setting not to show the virtual images.

Canceling virtual images

Use the following procedure.

- 1** In the DME menu, select VF6 'Input/Output' and HF2 'Video/Key.'
The Video/Key menu appears.
- 2** Press the [Wrap Around] button, turning it on.
The virtual image disappears.



DME Special Effect Operations

You can use DME to add a variety of special effects. The following types of DME special effects are available.

For details of DME special effects, see “DME Special Effects” in Chapter 1 (Volume 1).

- **Edge effects:** Border, Crop, Beveled Edge
- **Effects for entire image:** Defocus, Blur, Multi Move
- **Effects for video image:** Sepia, Mono, Posterization, Solarization, Nega, Contrast, Mosaic
- **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**
- **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**

Operations common to all DME 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.

Border Settings

This effect adds a border to the image.

For an illustrative figure and other information, see “DME Special Effects” in Chapter 1 (Volume 1).

Adding a border

Use the following procedure.

- 1 In the DME menu, select VF1 'Edge' and HF1 'Border/Crop.'

The Border/Crop menu appears.

- 2 Press [Border], turning it on.

The Border effect is enabled. You can adjust the border width parameters with the knobs.

Note

Once the Border effect is enabled, you cannot use the Edge Soft effect (*see page 27*).

- 3 Set the parameters.

Parameter limits vary as shown below, depending on the signal format (SD or HD) and aspect ratio (4:3 or 16:9) selected in the system.

• SD format, 4:3 mode

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
6	Top	Border width on top side	−6.00 to +6.00
7	Left	Border width on left side	−8.00 to +8.00
8	Right	Border width on right side	−8.00 to +8.00
9	Bottom	Border width on bottom side	−6.00 to +6.00
10	Density	Border density	0.00 to 100.00

• SD format, 16:9 mode

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

Knob	Parameter	Adjustment	Setting values
5	Density	Border density	0.00 to 100.00
6	Top	Border width on top side	−4.50 to +4.50
7	Left	Border width on left side	−8.00 to +8.00
8	Right	Border width on right side	−8.00 to +8.00
9	Bottom	Border width on bottom side	−4.50 to +4.50
10	Density	Border density	0.00 to 100.00

• **HD format, 4:3 mode**

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
6	Top	Border width on top side	−18.00 to +18.00
7	Left	Border width on left side	−24.00 to +24.00
8	Right	Border width on right side	−24.00 to +24.00
9	Bottom	Border width on bottom side	−18.00 to +18.00
10	Density	Border density	0.00 to 100.00

• **HD format, 16:9 mode**

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
6	Top	Border width on top side	−18.00 to +18.00
7	Left	Border width on left side	−32.00 to +32.00
8	Right	Border width on right side	−32.00 to +32.00
9	Bottom	Border width on bottom side	−18.00 to +18.00
10	Density	Border density	0.00 to 100.00

- 4** To set the border color and density, 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

- 5** To soften 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

This effect crops the image.

For an illustrative figure and other information, see “DME Special Effects” in Chapter 1 (Volume 1).

Cropping the image

Use the following procedure.

- 1** In the DME menu, select VF1 ‘Edge’ and HF1 ‘Border/Crop.’

The Border/Crop menu appears.

- 2** Press [Crop], turning it on.

The Crop effect is enabled. You can adjust degree of cropping with the knobs.

- 3** Set the parameters.

Parameter limits vary as shown below, depending on the signal format (SD or HD) and aspect ratio (4:3 or 16:9) selected in the system.

**• SD format, 4:3 mode**

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
6	Top	Crop position on top side	−3.00 to +3.00
7	Left	Crop position on left side	−4.00 to +4.00
8	Right	Crop position on right side	−4.00 to +4.00
9	Bottom	Crop position on bottom side	−3.00 to +3.00

• SD format, 16:9 mode

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
6	Top	Crop position on top side	−2.25 to +2.25
7	Left	Crop position on left side	−4.00 to +4.00
8	Right	Crop position on right side	−4.00 to +4.00
9	Bottom	Crop position on bottom side	−2.25 to +2.25

• HD format, 4:3 mode

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
6	Top	Crop position on top side	−9.00 to +9.00
7	Left	Crop position on left side	−12.00 to +12.00
8	Right	Crop position on right side	−12.00 to +12.00
9	Bottom	Crop position on bottom side	−9.00 to +9.00

• HD format, 16:9 mode

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
6	Top	Crop position on top side	−9.00 to +9.00
7	Left	Crop position on left side	−16.00 to +16.00
8	Right	Crop position on right side	−16.00 to +16.00
9	Bottom	Crop position on bottom side	−9.00 to +9.00

- 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

Note

Edges cannot be softened when the Crop effect is disabled.

Beveled Edge Settings

This effect applies a beveled frame appearance to an image.

For sample images, see “DME Special Effects” in Chapter 1 (Volume 1).

Applying a beveled edge

Use the following procedure.

- 1** In the DME menu, select VF1 ‘Edge’ and HF2 ‘Beveled Edge.’

The Beveled Edge menu appears.

- 2** Press [Beveled Edge], turning it on.

This enables the beveled edge, and you can now use the knobs to adjust the edge width parameters.

Note

When the border is enabled, the edge soft function (*see page 27*) is not available.

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.

• In SD format and 4:3 mode

Knob	Parameter	Adjustment	Setting values
1	H	Simultaneously adjust width of left and right edges	0.00 to 4.00
2	V	Simultaneously adjust width of top and bottom edges	0.00 to 3.00
3	All	Simultaneously adjust width of all four edges	Value of H shown

• In SD format and 16:9 mode

Knob	Parameter	Adjustment	Setting values
1	H	Simultaneously adjust width of left and right edges	0.00 to 4.00
2	V	Simultaneously adjust width of top and bottom edges	0.00 to 2.25
3	All	Simultaneously adjust width of all four edges	Value of H shown

• In HD format and 4:3 mode

Knob	Parameter	Adjustment	Setting values
1	H	Simultaneously adjust width of left and right edges	0.00 to 12.00
2	V	Simultaneously adjust width of top and bottom edges	0.00 to 9.00
3	All	Simultaneously adjust width of all four edges	Value of H shown

• In HD format and 16:9 mode

Knob	Parameter	Adjustment	Setting values
1	H	Simultaneously adjust width of left and right edges	0.00 to 16.00
2	V	Simultaneously adjust width of top and bottom edges	0.00 to 9.00

Knob	Parameter	Adjustment	Setting values
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)

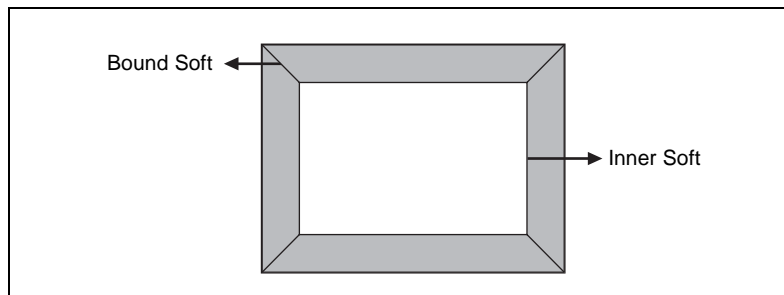
Knob	Parameter	Adjustment	Setting values
1	Luminance	Luminance	0.00 to 100.00 ^{a)}
2	Saturation	Saturation	0.00 to 100.00 ^{a)}
3	Hue	Hue	359.99 to 0.00 ^{a)}

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



Defocus Settings

This effect defocuses the entire image.

For an illustrative figure and other information, see “DME Special Effects” in Chapter 1 (Volume 1).

Applying the Defocus effect

Use the following procedure.

- 1** In the DME menu, select VF2 ‘Video Modify’ and HF1 ‘Defocus/Blur.’

The Defocus/Blur menu appears.

- 2** Press [Defocus], turning it on.

The Defocus effect is enabled. You can adjust the defocusing of video and key signals with the knobs.

- 3** In the <Defocus> group, select the signal to which to apply the defocus effect.

Video/Key: Video signal and key signal

Video: Video signal only

4 Set the parameters.

• When Video/Key is selected

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 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

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.

Blur Settings

This effect blurs the entire image.

Applying the Blur effect

Use the following procedure.

1 In the DME menu, select VF2 'Video Modify' and HF1 'Defocus/Blur.'
The Defocus/Blur menu appears.

2 Press [Blur], turning it on.

The Blur effect is enabled. You can adjust the blurring of video and key signals with the knobs.

3 Set the parameters.

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

Multi Move Settings

This effect shrinks the image and lines up a number of copies vertically and horizontally.

For an illustrative figure and other information, see “DME Special Effects” in Chapter 1 (Volume 1).

Applying the Multi Move effect

Use the following procedure.

- 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.

The Multi Move effect is enabled. You can adjust the center point of shrinking, the ratio of shrinking, and the aspect ratio of the shrunken images with the knobs.

- 3 Set the parameters.

Parameter limits vary as shown below, depending on the signal format (SD or HD) and aspect ratio (4:3 or 16:9) selected in the system.

- SD format, 4:3 mode

Knob	Parameter	Adjustment	Setting values
1	Center X	x-value of shrinking center point	−4.00 to +4.00
2	Center Y	y-value of shrinking center point	−3.00 to +3.00

Knob	Parameter	Adjustment	Setting values
3	Size	Shrinking ratio	0.00 to 100.00
4	Aspect	Aspect ratio of shrunken images	−100.00 to +100.00 ^{a)}

• **SD format, 16:9 mode**

Knob	Parameter	Adjustment	Setting values
1	Center X	x-value of shrinking center point	−4.00 to +4.00
2	Center Y	y-value of shrinking center point	−2.25 to +2.25
3	Size	Shrinking ratio	0.00 to 100.00
4	Aspect	Aspect ratio of shrunken images	−100.00 to +100.00 ^{a)}

• **HD format, 4:3 mode**

Knob	Parameter	Adjustment	Setting values
1	Center X	x-value of shrinking center point	−12.00 to +12.00
2	Center Y	y-value of shrinking center point	−9.00 to +9.00
3	Size	Shrinking ratio	0.00 to 100.00
4	Aspect	Aspect ratio of shrunken images	−100.00 to +100.00 ^{a)}

• **HD format, 16:9 mode**

Knob	Parameter	Adjustment	Setting values
1	Center X	x-value of shrinking center point	−16.00 to +16.00
2	Center Y	y-value of shrinking center point	−9.00 to +9.00
3	Size	Shrinking ratio	0.00 to 100.00
4	Aspect	Aspect ratio of shrunken images	−100.00 to +100.00 ^{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

This effect overlays a specified color onto the image.

Applying the Sepia effect

Use the following procedure.

- 1 In the DME menu, select VF2 ‘Video Modify’ and HF3 ‘Color Modify.’



The Color Modify menu appears.

2 Press [Sepia], turning it on.

The Sepia effect is enabled. You can adjust the degree of mixing between the sepia image and the original image with the knobs.

3 Set the 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

Mono Settings

This effect converts the image into a monochrome image.

Applying the Mono effect

Use the following procedure.

1 In the DME menu, select VF2 ‘Video Modify’ and HF3 ‘Color Modify.’

The Color Modify menu appears.

2 Press [Mono], turning it on.

The Mono effect is enabled. The color image changes to monochrome.

Posterization and Solarization Settings

The Posterization and Solarization effects both give a painting-like effect by coarsening the gradations of the image. The Posterization effect coarsens luminance gradations, and the Solarization effect coarsens chroma gradations.

Applying the Posterization or Solarization effect

Use the following procedure.

- 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.

The Posterization and Solarization effects are enabled. You can adjust the coarseness of the gradations with the knobs.

- 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

Nega Settings

This effect reverses the luminance or chroma of the image.

For an illustrative figure and other information, see “DME Special Effects” in Chapter 1 (Volume 1).

Applying the Nega effect

Use the following procedure.

- 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.

Contrast Settings

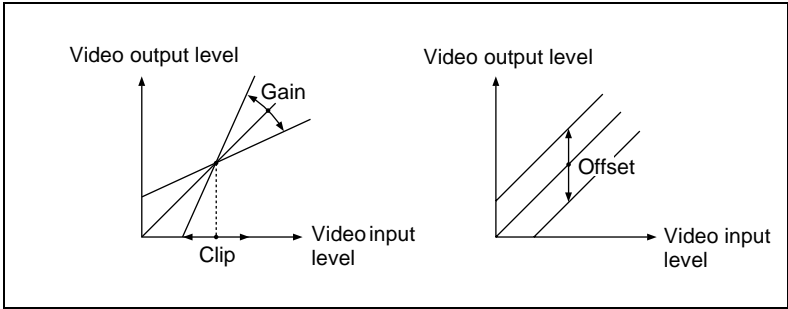
This effect changes the contrast of the luminance and chroma of the image.

Applying the Contrast effect

Use the following procedure.

- 1 In the DME menu, select VF2 ‘Video Modify’ and HF3 ‘Color Modify.’
The Color Modify menu appears.
- 2 Press [Contrast], turning it on.
The Contrast effect is enabled. You can adjust the luminance and chroma contrast with the knobs.
- 3 Set the parameters.

Knob	Parameter	Adjustment	Setting values
1	Y Clip	Luminance clip level	+109.58 to -7.30
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

Mosaic Settings

This effect divides the image into small tiles so that it looks like a mosaic.

For an illustrative figure and other information, see “DME Special Effects” in Chapter 1 (Volume 1).

Applying the Mosaic effect

Use the following procedure.

- 1** In the DME menu, select VF2 ‘Video Modify’ and HF4 ‘Mosaic.’
The Mosaic menu appears.
- 2** Press [Mosaic], turning it on.
The Mosaic effect is enabled. You can adjust the size and aspect ratio of the mosaic tiles with the knobs.
- 3** Set the 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 ^{a)}

a) Specify minus values to stretch the tiles in the vertical direction, and plus values to stretch the tiles in the horizontal direction.

Freeze Settings

This effect freezes the input video. The following types are available:

- Hard Freeze
- Time Strobe
- Film

For details of the operation modes, see “DME Special Effects” in Chapter 1 (Volume 1).

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

Use the following procedure.

- 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.

Note

During the execution of a freeze, you cannot change the freeze timing.

- 2 In the <Freeze> group, press [Hard Freeze], turning it on.
The Hard Freeze is executed, displaying a still image.

Applying the Time Strobe effect

Use the following procedure.

- 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.

Note

During the execution of a freeze, you cannot change the freeze timing.

- 2 In the <Freeze> group, press [Time Strobe], turning it on.
The Time Strobe freeze is enabled. You can adjust the freeze interval and the ratio of live video inserted between freeze images.
- 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

Use the following procedure.

- 1 In the <Freeze> group, press [Film], turning it on.
The Film freeze is enabled. You can adjust the ratio of frame advancement.

2 Set the parameters.

Knob	Parameter	Adjustment	Setting values
1	Film	Ratio of frame advance	0.00 to 100.00

Nonlinear Effect Settings

You can add a variety of effects, including effects that change the shape of the image as a whole. Use the following procedure.

1 In the DME menu, select VF4 'Non Linear' and HF1 'Type.'

A menu for selecting the various effects appears.

2 Display the menu for the effect that you want to apply by pressing its button.

The effect displayed is enabled.

3 Make the settings for the selected effect.

The following nonlinear effects are available.

Name	Effect	See
Wave	Produces a wave-like effect in the image.	page 40
Mosaic Glass	Makes the image rougher and finer at a specified interval.	page 45
Flag	Applies an effect like a flag waving in the wind.	page 45
Twist	Twists the image.	page 46
Ripple	Applies an effect like ripples moving across the image.	page 46
Rings	Partitions the image into rings that rotate while moving in the same direction.	page 51
Broken Glass	Partitions the image like broken glass, with shards flying outward.	page 52
Flying Bar	Divides the image into bars which peel off in two blocks as they move.	page 52
Blind	Divides the image into bars or wedges, with blocks rotating like the slats of venetian blinds.	page 53
Split	Splits the image upper and lower, left and right.	page 54
Split Slide	Divides the image into bars which slide alternately in reverse directions.	page 55
Mirror	Partitions the image vertically and horizontally, creating an image like a reflection in a mirror.	page 56

Name	Effect	See
Multi Mirror	Divides the image into originals and reflections, lining them up vertically and horizontally.	page 57
Kaleidoscope	Creates an image like a view into a kaleidoscope.	page 58
Lens	Creates an image like a view through a lens.	page 59
Circle	Makes a circle with the image.	page 60
Panorama	Curves the upper and lower edges of the image to emphasize the sense of perspective.	page 60
Page Turn	Turns the image like a turning page.	page 61
Roll	Rolls the image up.	page 62
Cylinder	Winds the whole image onto a cylinder.	page 62
Sphere	Winds the whole image onto a sphere.	page 63
Explosion	Divides the image into fragments which expand as they fly out.	page 63
Swirl	Swirls the image.	page 64
Melt	Melts the image away from a specified part.	page 65
Character Trail	Extends the edge of the image like a trail.	page 67

Note

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.

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

The Wave effect produces a wave-like effect in the image.

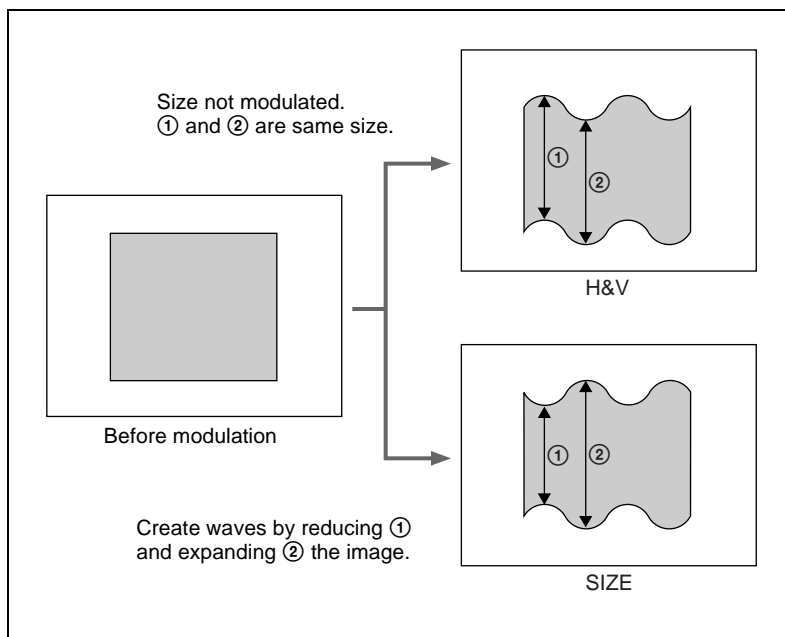
To apply the Wave effect

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

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 ^{a)}	Horizontal direction in which to offset wave phase and amount of movement	-16.00 to +16.00 ^{c)} -64.00 to +64.00 ^{d)}
4	Speed H ^{b)}	Horizontal direction and speed of waves	-100.00 to +100.00
5	Slant	Slant of waves	-8.000 to +8.000
6	Amp V	Amplitude of waves in vertical direction	0.00 to 100.00
7	Freq V	Frequency of waves in vertical direction	0.00 to 100.00
8	Offset V ^{a)}	Vertical direction in which to offset wave phase and amount of movement	-16.00 to +16.00 ^{c)} -64.00 to +64.00 ^{d)}
9	Speed V ^{b)}	Vertical direction and speed of waves	-100.00 to +100.00



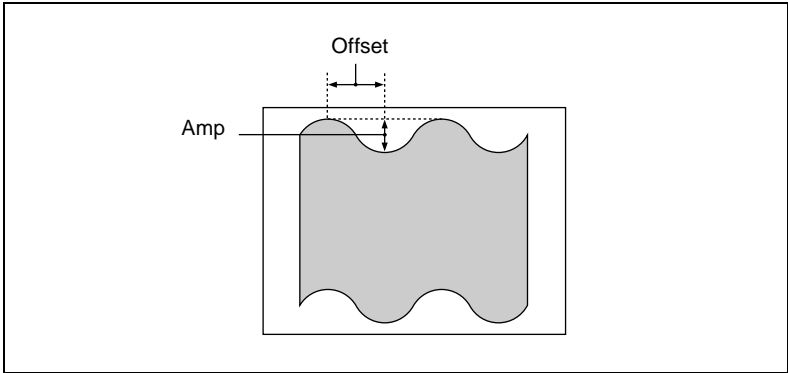
Knob	Parameter	Adjustment	Setting values
10	Slant	Slant of waves	-8.000 to +8.000

- 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 ^{a)}	Direction in which to offset wave phase and amount of movement	-16.00 to +16.00 ^{c)} -64.00 to +64.00 ^{d)}
4	Speed H ^{b)}	Direction and speed of waves	-100.00 to +100.00
5	Slant	Slant of waves	-8.00 to +8.00

- 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

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&V mode is selected**

Knob	Parameter	Adjustment	Setting values
1	Form H	Waveform in horizontal direction	1 to 6 ^{a)}
2	Form V	Waveform in vertical direction	1 to 6 ^{a)}

• **When Size mode is selected**

Knob	Parameter	Adjustment	Setting values
1	Form H	Waveform	1 to 6 ^{a)}

- 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

Use the following procedure.

- 1** Press [Random], turning it on.
- 2** Set the following parameters.

• **When H&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

Use the following procedure.

- 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 ^{a)} -32.000 to +32.000 ^{b)}
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 ^{a)} -32.000 to +32.000 ^{b)}

a) Setting for SD 4:3, SD 16:9

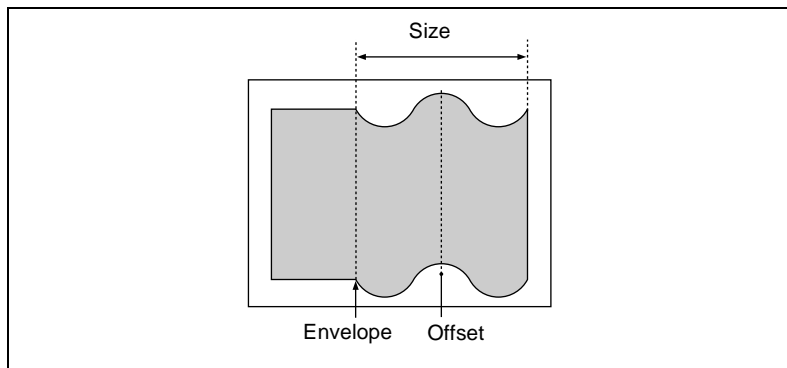
b) Setting for HD 4:3, HD 16:9

- **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 ^{a)} -32.000 to +32.000 ^{b)}

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
Use the following procedure.

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
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

Use the following procedure.

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

The Mosaic Glass effect makes the image rougher and finer at a specified interval.

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.

For more information about how to make settings, see “Wave settings” (page 40).

Flag settings

Applies an effect like a flag waving in the wind.

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.

For more information about how to make settings, see “Wave settings” (page 40).

Twist settings

The Twist effect twists the image.

To apply the Twist effect

With the Twist menu displayed, set the following parameters.

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 ^{a)}	Amount of movement in twist phase in the vertical direction	-16.00 to +16.00 ^{c)} -64.00 to +64.00 ^{d)}
4	Speed V ^{b)}	Speed and direction of twist movement in vertical direction	-100.00 to +100.00
5	Slant	Slant of twist	-8.000 to +8.000
6	Amp H	Amplitude of twist in horizontal direction	0.00 to 100.00
8	Offset H ^{a)}	Amount of movement in twist phase in the horizontal direction	-100.00 to +100.00
10	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 ^{a)}
2	Form V	Waveform in vertical direction	1 to 6 ^{a)}

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

Applies an effect like ripples moving across the image.

To apply the Ripple effect

With the Ripple menu displayed, use the following procedure.

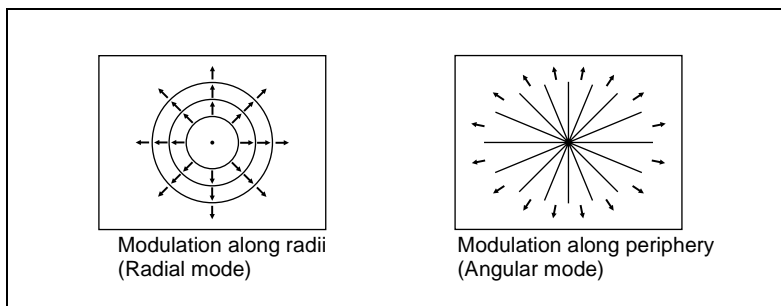
- 1 In the <Mode> group, select the ripple modulation mode.

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 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 ^{a)}	Direction along radius in which to offset ripple phase and amount of movement	-8.000 to +8.000 ^{c)} -32.000 to +32.000 ^{d)}
4	Speed R ^{b)}	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 ^{a)}	Direction along periphery in which to offset ripple phase and amount of movement	–8.000 to +8.000
4	Speed A ^{b)}	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

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 ^{a)}	Direction along radius in which to offset ripple phase and amount of movement	–8.000 to +8.000 ^{c)} –32.000 to +32.000 ^{d)}
4	Speed R ^{b)}	Ripple direction along radius and speed	–100.00 to +100.00
6	Amp A	Ripple amplitude along periphery	0.00 to 100.00
7	Freq A	Ripple frequency along periphery	0.00 to 100.00
8	Offset A ^{a)}	Direction along periphery in which to offset ripple phase and amount of movement	–8.000 to +8.000
9	Speed A ^{b)}	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

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
3	Offset R ^{a)}	Direction in which to offset ripple phase and amount of movement	–8.000 to +8.000 ^{c)} –32.000 to +32.000 ^{d)}
4	Speed R ^{b)}	Ripple direction and speed	–100.00 to +100.00

Knob	Parameter	Adjustment	Setting values
5	Shape	Ripple shape	1 to 4 ^{e)}
6	Aspect	Ripple aspect ratio	-100.00 to +100.00
7	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

Use the following procedure.

- 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 ^{a)} -20.000 to +20.000 ^{b)}
2	V	Ripple center point in vertical direction	-3.000 to +3.000 ^{a)} -12.000 to +12.000 ^{b)}

- 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 ^{a)} -32.000 to +32.000 ^{b)}
2	V	Ripple center point in vertical direction	-6.000 to +6.000 ^{a)} -18.000 to +18.000 ^{b)}

- 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 ^{a)} –32.000 to +32.000 ^{b)}

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 ^{a)} −32.000 to +32.000 ^{b)}
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

Use the following procedure.

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 40).

Rings settings

The Rings effect partitions the image into rings that rotate while moving in the same direction.

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
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 ^{a)} –20.000 to 20.000 ^{b)}

Knob	Parameter	Adjustment	Setting values
2	V	Vertical center position	-4.000 to +4.000 ^{a)} -16.000 to +16.000 ^{b)}

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 jaggies at block edges	0.00 to 100.00

Broken Glass settings

The Broken Glass effect partitions the image like broken glass, with shards flying outward.

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, with the exception of [Direction].

For details about operation, see “Rings settings” (page 51).

To fix the direction in which shards scatter

Press [Direction], turning it on.

Flying Bar settings

The Flying Bar effect divides the image into bars which peel off in two blocks as they move.

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

The Blind effect divides the image into bars or wedges, with blocks rotating like the slats of venetian blinds.

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 2

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 ^{a)} –20.000 to 20.000 ^{b)}
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 2

Knob	Parameter	Adjustment	Setting values
4	No	Width of blocks	0.000 to 100.000

Knob	Parameter	Adjustment	Setting values
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 ^{a)} -32.000 to +32.000 ^{b)}
2	V	Vertical center position	-6.000 to +6.000 ^{a)} -18.000 to +18.000 ^{b)}

a) Setting for SD 4:3, SD 16:9

b) Setting for HD 4:3, HD 16:9

Split settings

The Split effect splits the image upper and lower, left and right.

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.

Knob	Parameter	Adjustment	Setting values
1	Transition H	Degree of left and right separation	0.000 to 100.000
2	Transition V	Degree of top and bottom separation	0.000 to 100.000

To set the split position

Use the following procedure.

- 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 ^{a)} –16.000 to +16.000 ^{b)}
2	V	Degree of top and bottom separation	–3.000 to +3.000 ^{a)} –12.000 to +12.000 ^{b)}

a) Setting for SD 4:3, SD 16:9

b) Setting for HD 4:3, HD 16:9

Split Slide settings

The Split Slide effect divides the image into bars which slide alternately in reverse directions.

To apply the Split Slide effect

With the Split Slide menu displayed, set the following parameters.

Knob	Parameter	Adjustment	Setting values
1	Transition H	Degree of transition in horizontal direction	0.000 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
6	Transition V	Degree of transition in vertical direction	0.000 to 100.000
7	Random V	Degree of randomness in distance moved by blocks in vertical direction	0.00 to 100.00
8	Skew V	Degree of skew in vertical direction	0.00 to 100.00
9	Width V	Vertical width of partition	0.00 to 100.00
10	Angle	Angle of partition line	–8.000 to +8.000

To set the partition position

Use the following procedure.

- 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 ^{a)} -20.000 to +20.000 ^{b)}
2	V	Vertical partition position	-5.000 to +5.000 ^{a)} -20.000 to +20.000 ^{b)}

a) Setting for SD 4:3, SD 16:9
b) Setting for HD 4:3, HD 16:9

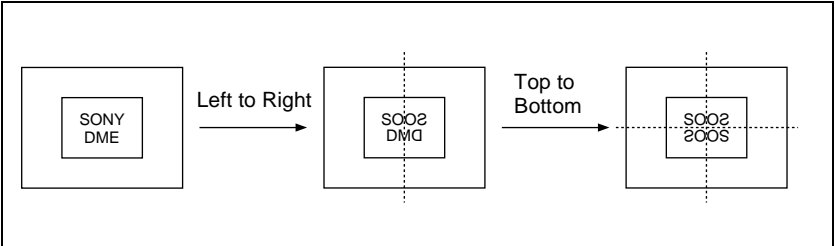
Mirror settings

The Mirror effect partitions the image vertically and horizontally, creating an image like a reflection in a mirror.

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

Use the following procedure.

- 1 Press [Position].
- 2 Set the following parameters.

Knob	Parameter	Adjustment	Setting values
1	H	Horizontal border position	-8.000 to +8.000 ^{a)} -32.000 to +32.000 ^{b)}

Knob	Parameter	Adjustment	Setting values
2	V	Vertical border position	–6.000 to +6.000 ^{a)} –24.000 to +24.000 ^{b)}

a) Setting for SD 4:3, SD 16:9

b) Setting for HD 4:3, HD 16:9

Multi Mirror settings

The Multi Mirror effect divides the image into originals and reflections, lining them up vertically and horizontally.

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 ^{a)} 0.000 to 40.000 ^{b)}
2	Offset H	Amount of horizontal offset of image with mirrors fixed	–4.000 to +4.000 ^{a)} –16.000 to +16.000 ^{b)}
3	Interval V	Vertical distance between mirrors (original width)	0.000 to 10.000 ^{a)} 0.000 to 40.000 ^{b)}
4	Offset V	Amount of vertical offset of image with mirrors fixed	–4.000 to +4.000 ^{a)} –16.000 to +16.000 ^{b)}
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

Use the following procedure.

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 ^{a)} –16.000 to +16.000 ^{b)}
2	V	Vertical original image center position	–4.000 to +4.000 ^{a)} –16.000 to +16.000 ^{b)}

a) Setting for SD 4:3, SD 16:9

b) Setting for HD 4:3, HD 16:9

Kaleidoscope settings

The Kaleidoscope effect creates an image like a view into a kaleidoscope.

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 ^{a)} -32.000 to +32.000 ^{b)}
3	Offset H	Amount of horizontal offset	-4.000 to +4.000 ^{a)} -16.000 to +16.000 ^{b)}
4	Offset V	Amount of vertical offset	-3.000 to +3.000 ^{a)} -12.000 to +12.000 ^{b)}

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

Use the following procedure.

- 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

Use the following procedure.

- 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 ^{a)} 0.000 to 16.000 ^{b)}
2	V	Vertical reflection position	0.000 to 3.000 ^{a)} 0.000 to 12.000 ^{b)}

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

The Lens effect creates an image like a view through a 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

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
3	Size H	Horizontal size	0.00 to 100.00
6	Magnify V	Vertical magnification ratio	–100.00 to +100.00
7	Curve V	Vertical curve ratio	–100.00 to +100.00
8	Size V	Vertical size	0.00 to 100.00

To make only the lens part visible

Press [Lens Only], turning it on, to remove the parts of the image outside the lens.

To set the lens center position

Use the following procedure.

- 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 ^{a)} –20.000 to +20.000 ^{b)}
2	V	Vertical lens center position	–4.000 to +4.000 ^{a)} –16.000 to +16.000 ^{b)}

a) Setting for SD 4:3, SD 16:9

b) Setting for HD 4:3, HD 16:9

Circle settings

The Circle effect makes a circle with the image.

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

The Panorama effect curves the upper and lower edges of the image to emphasize the sense of perspective.

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

Knob	Parameter	Adjustment	Setting values
3	Position H	Horizontal curve center position	–4.000 to +4.000 ^{a)} –16.000 to 16.000 ^{b)}
4	Position V	Vertical curve center position	–3.000 to +3.000 ^{a)} –12.000 to +12.000 ^{b)}

a) Setting for SD 4:3, SD 16:9

b) Setting for HD 4:3, HD 16:9

Page Turn settings

The Page Turn effect turns the image like turning a page.

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
3	Angle	Angle of turn	–0.250 to +0.000 ^{a)} –0.250 to +0.250 ^{b)} –0.500 to +0.000 ^{c)} –8.000 to +8.000 ^{d)}

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

Roll settings

The Roll effect rolls the image up.

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.

For details about operation, see “Page Turn settings” (page 61).

Cylinder settings

The Cylinder effect winds the whole image onto a cylinder.

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,

For details about operation, see “Page Turn settings” (page 61).

Sphere settings

The Sphere effect winds the whole image onto a sphere.

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.

For details about operation, see “Cylinder settings” (page 62).

Explosion settings

The Explosion effect divides the image into fragments which expand as they fly out.

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 2

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	Spiral	Degree of curvature of transition path	−100.00 to +100.00

• When Rectangle, Star, Heart, or Ellipse was selected in step 2

Knob	Parameter	Adjustment	Setting values
1	Transition	Degree of transition	0.00 to 100.00

Knob	Parameter	Adjustment	Setting values
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

Use the following procedure.

- 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

Use the following procedure.

- 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 ^{a)} -20.000 to +20.000 ^{b)}
2	V	Center point in vertical direction	-4.000 to +4.000 ^{a)} -16.000 to +16.000 ^{b)}

a) Setting for SD 4:3, SD 16:9

b) Setting for HD 4:3, HD 16:9

Swirl settings

The Swirl effect swirls the image.

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

Knob	Parameter	Adjustment	Setting values
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

Use the following procedure.

- 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

Use the following procedure.

- 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 ^{a)} –32.000 to +32.000 ^{b)}
2	V	Vertical center position of swirl	–6.000 to +6.000 ^{a)} –18.000 to +18.000 ^{b)}

a) Setting for SD 4:3, SD 16:9

b) Setting for HD 4:3, HD 16:9

Melt settings

The Melt effect melts the image away from a specified part.

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 jaggies at melted part	0.00 to 100.00

- 3** To make wave settings for 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 ^{a)}	Amount of wave phase offset	-16.000 to +16.000 ^{c)} -64.000 to +64.000 ^{d)}
4	Speed ^{b)}	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 parameters.

Knob	Parameter	Adjustment	Setting values
1	Form	Waveform	1 to 8 ^{a)}

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

Use the following procedure.

- 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

The Character Trail effect extends the edge of the image like a trail.

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 ^{a)} –32.000 to +32.000 ^{b)}
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

Use the following procedure.

- 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

Lighting Settings

This effect provides the effect of light striking the image. The following lighting patterns are available:

- Plane
- Bar
- Preset (lighting pattern suitable for nonlinear effects)

Note

You cannot select Bar for an image subjected to a nonlinear effect.

Applying the Lighting effect

Use the following procedure.

- 1 In the DME menu, select VF5 'Light/Trail' and HF1 'Lighting.'
The Lighting menu appears.
- 2 Press [Lighting], turning it on.
The Lighting effect is enabled.
- 3 In the <Light Pattern> group, select the lighting pattern Plane, Bar or Preset.
You can adjust the intensity of the light and other parameters with the knobs.
- 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

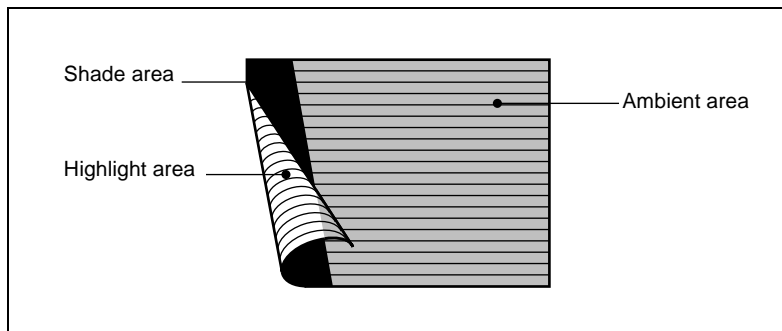
- **When Bar is selected**

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

- **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 ^{a)}

a) Setting is available when nonlinear effect page turn, roll, cylinder, or sphere is selected.



The three regions for which the light intensity can be set

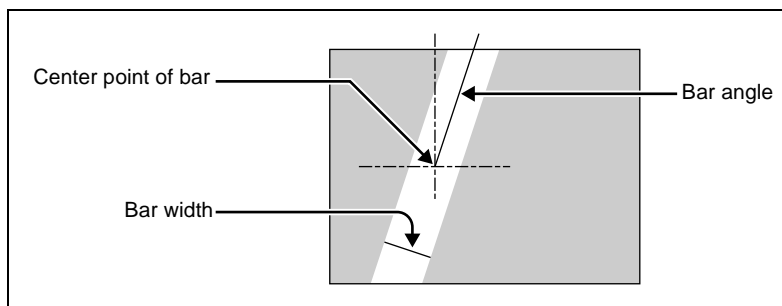
Setting the bar shape of the highlight area

When you select [Bar] or [Preset] in step **2**, 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	-16.00 to +16.00
2	Y	Y-value of bar center point	-9.00 to +9.00
3	Angle ^{a)}	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) There are some nonlinear effects for which Angle cannot be used.



Bar shape parameters

Setting the color of the light in the highlight area

To set the color of the light in the highlight area, use the following procedure.

- 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

When you select [Preset] in step **2** (see page 68) of the procedure “Applying the Lighting effect”, 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	−16.00 to +16.00
4	Width	Width of bar	0.00 to 100.00
5	Soft	Softness of edges	0.00 to 100.00

Setting the color of the shade in the shade area

To set the color of the shade in the shade area, use the following procedure.

- 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

Trail Settings

This effect recursively freezes the input video at regular intervals so that a trail of afterimages is created.

For an illustrative figure and other information, see “DME Special Effects” in Chapter 1 (Volume 1).

Notes

- The trail effect can be applied to two channels at the same time.
- Turning Trail on when Motion Decay or Keyframe Strobe is on turns it off automatically.

Applying the Trail effect

Use the following procedure.

- 1 In the DME menu, select VF5 ‘Light/Trail’ and HF2 ‘Trail.’

The Trail menu appears.

- 2 Press [Trail], turning it on.

The Trail effect is enabled. You can adjust the parameters with the knobs.

- 3 Set the parameters.

Knob	Parameter	Adjustment	Setting values
1	Decay	Degree to which the trail is left	0.00 to 100.00 ^{a)}
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.

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

Erasing the afterimages that remain in memory whenever a keyframe is passed

Press [Trail Eraser], turning it on.

This erases the afterimages before another effect passes a keyframe, writing new afterimages.

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.

Applying stardust trails

The trail dissolves slowly in a cloud of dust.

1 Press the [DUST] button, turning it on.

2 Set the following parameters.

Knob	Parameter	Adjustment	Setting values
1	Trail Dust	Amount of the trail disappearing as stardust ^{a)}	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 trail disappears is affected by both Decay and Trail Dust parameter adjustments.

Motion Decay Settings

When the video image is a moving image, you can blur the motion by creating motion trails (or afterimages).

For sample images, see “DME Special Effects” in Chapter 1 (Volume 1).

Note

When you turn on motion decay, if the trail or keyframe strobe effect is on, it automatically goes off.

Blurring image motion

Use the following procedure.

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.

This enables motion decay, and you can now use the knobs to adjust the parameters.

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 ^{a)}

a) At the setting 0.00, there is no afterimage. At a setting of 100.00, the afterimage does not decay.

- In the <Decay Mix Mode> group, select the way in which the video signal is blurred.
Soft: mix the live image with the afterimage.
Hard: show the lighter of the live image and afterimage.
- To erase the afterimage, press [Decay Eraser], turning it on.

To erase the afterimage from memory each time 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.

Applying stardust to the afterimage portion

The afterimage portion becomes stardust, and gradually disappears.

- Press the [DUST] button, turning it on.
- Set the following parameters.

Knob	Parameter	Adjustment	Setting values
1	Decay Dust	Amount of the afterimage disappearing as stardust ^{a)}	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

Each time a keyframe is passed, the video image is frozen, and left remaining.

Note

When you turn on keyframe strobe, if the trail or motion decay effect is on, it automatically goes off.

Leaving a trail of afterimages of the image

Use the following procedure.

- 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.
This enables the keyframe strobe effect, and you can now use the knobs to adjust the parameters.
- 3** Set the following parameter.

Knob	Parameter	Adjustment	Setting values
1	Decay	Degree of blurring of the video signal	0.00 to 100.00 ^{a)}

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 ^{a)}

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.

To erase the afterimage from memory each time 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 the [DUST] button, turning it on.

Set the following parameters.

Knob	Parameter	Adjustment	Setting values
1	KF Strobe Dust	Amount of the afterimage disappearing as stardust ^{a)}	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 trail disappears is affected by both the Decay and 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.

Background Settings

This effect adds a color to the background of the image.

Applying the Background effect

Use the following procedure.

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. You can adjust the parameters with the knobs.

- 3 Set 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

Separate Sides Settings

This effect applies separate video signals and key signals to the front and back of the image.

For an illustration of the concept of front and back, see “DME Special Effects” in Chapter 1 (Volume 1).

Applying the Separate Sides effect

Use the following procedure.

- 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.

Invert Settings

Inverts the input video signal and key signal horizontally or vertically. You can make separate settings for the front and back.

For an illustration of signal inversion, see “DME Special Effects” in Chapter 1 (Volume 1).

Applying the Invert effect

Use the following procedure.

- 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

For the selected key, you can separately set the key density.

Setting the key density

Use the following procedure.

- 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.
This enables the key density function, and you can now use the knobs to adjust the parameters.
- 3 Set the following parameter.

Knob	Parameter	Adjustment	Setting values
1	Key Density	Key density	0.00 to 100.00

Key Source Selection

Select the key signals for use as the front and back of the image.

Selecting the key source signals

Use the following procedure.

- 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 DME internal key signal as the key source.

Interpolation Settings

Specifies the interpolation method for input video signals and input key signals.

Except for the settings in the <Filter Mode> group, the following settings are only valid in an SD system.

For an overview of interpolation, see "Interpolation" in Chapter 1 (Volume 1).

Selecting an interpolation method for input video signals

Use the following procedure.

- 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.

- 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.

- Frame:** Do interpolation in frame units. This gives higher image precision, suitable for still pictures.

- 6** In the <Interpolation Mode> group, set the number of pixels to use in interpolation.

Multi: Do interpolation using 8-by-8 pixels. This gives higher picture quality.

- 7** In the <Filter Mode> group, select the method used to show the picture reduced or expanded.

- Mode2:** Suppress aliasing when expanding or reducing the picture.

Global Effect Operations

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 of these global effects, see “Global Effects” in Chapter 1 (Volume 1).

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

By using combiners, you can freely combine up to three continuous channels from among four channels.

You can also combine channels 1 and 2, and channels 3 and 4, pairwise.

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.

Setting the combiners

Use the following procedure.

- 1** In the Global Effect>Ch1- Ch4 menu, select HF1 ‘Combiner.’

The Combiner menu appears.

- 2 If either of [Mix] and [Auto] is on, turn it off.
- 3 Set the overlap priority for “Ch1+Ch2+Ch3” or “Ch1+Ch2, Ch3+Ch4” as follows.

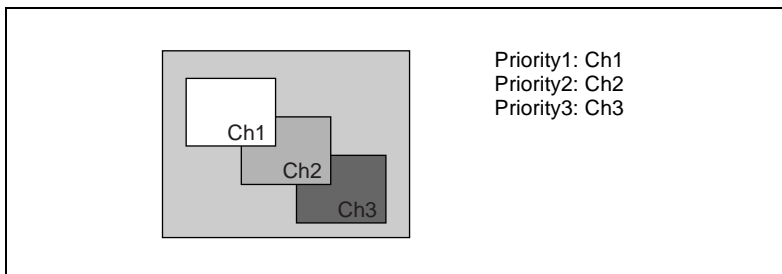
For case “Ch1+Ch2+Ch3”

Under <Priority1> to <Priority3>, press [Ch1], [Ch2], and [Ch3], respectively, to set the overlap priority.

Priority1: Select the channel with the highest priority.

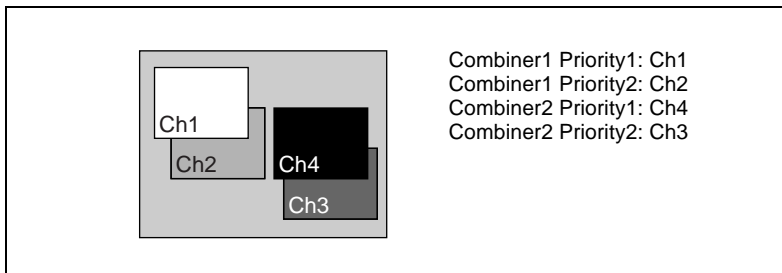
Priority2: Select the channel with the second highest priority.

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 respective priorities for overlaying the images.



Mixing the images of up to three consecutive channels

Use the following procedure.

- 1 In the Combiner menu, press [Mix], turning it on.

2 Adjust the following parameters.

For Ch1+Ch2

Knob	Parameter	Adjustment	Setting values
1	Mix	Mix degree	0.00 to 100.00 ^{a)}

a) See “Global Effects” in Chapter 1 (Volume 1).

For 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 ^{a)}
2	Mix2	Mix degree for channels 2 and 3	0.00 to 100.00 ^{a)}

a) See “Global Effects” in Chapter 1 (Volume 1).

Mixing pairwise the images of channels 1 and 2, and channels 3 and 4

Use the following procedure.

1 In the Combiner menu, press [Combiner1 Mix], turning it on.

2 Adjust the following parameters.

Knob	Parameter	Adjustment	Setting values
1	Mix1	Mix degree for channels 1 and 2	0.00 to 100.00 ^{a)}

a) See “Global Effects” in Chapter 1 (Volume 1).

3 Press [Combiner2 Mix], turning it on.

4 Adjust the following parameters.

Knob	Parameter	Adjustment	Setting values
1	Mix2	Mix degree for channels 2 and 3	0.00 to 100.00 ^{a)}

a) See “Global Effects” in Chapter 1 (Volume 1).

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, press [Auto], turning it on.

Note

It is not possible to make images intersect. If an image is rotated, the priority is determined by the position on the z-axis of the center of the image.

Brick Settings

This effect creates a rectangular parallelepiped from 3 successive channels.

For an illustration, see “Global Effects” in Chapter 1 (Volume 1).

Applying the Brick effect

Use the following procedure.

- 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.

Note

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.

- 3 Set the parameters.

Knob	Parameter	Adjustment	Setting values
1	Height	Height of brick	0.00 to 8.00 ^{a)} 0.00 to 32.00 ^{b)}
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.

Parameter limits vary as shown below, depending on the signal format (SD or HD) and aspect ratio (4:3 or 16:9) selected in the system.

• **SD format, 4:3 mode**

Knob	Parameter	Adjustment	Setting values
1	H	Position of left crop	−4.00 to +4.00
2	V	Position of top crop	−3.00 to +3.00
3	Rotation	Angle of rotation, when rotated around the Z-axis of the source space	0/90/180/270°

• **SD format, 16:9 mode**

Knob	Parameter	Adjustment	Setting values
1	H	Position of left crop	−4.00 to +4.00
2	V	Position of top crop	−2.25 to +2.25
3	Rotation	Angle of rotation, when rotated around the Z-axis of the source space	0/90/180/270°

• **HD format, 4:3 mode**

Knob	Parameter	Adjustment	Setting values
1	H	Position of left crop	−12.00 to +12.00
2	V	Position of top crop	−9.00 to +9.00
3	Rotation	Angle of rotation, when rotated around the Z-axis of the source space	0/90/180/270°

• **HD format, 16:9 mode**

Knob	Parameter	Adjustment	Setting values
1	H	Position of left crop	−16.00 to +16.00
2	V	Position of top crop	−9.00 to +9.00
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.

Parameter limits vary as shown below, depending on the signal format (SD or HD) and aspect ratio (4:3 or 16:9) selected in the system.

• **SD format, 4:3 mode**

Knob	Parameter	Adjustment	Setting values
1	Top	Position of top crop	−3.00 to +3.00
2	Left	Position of left crop	−4.00 to +4.00
3	Right	Position of right crop	−4.00 to +4.00
4	Bottom	Position of bottom crop	−3.00 to +3.00
5	Rotation	Angle of rotation, when rotated around the Z-axis of the source space	0/90/180/270°

• **SD format, 16:9 mode**

Knob	Parameter	Adjustment	Setting values
1	Top	Position of top crop	−2.25 to +2.25
2	Left	Position of left crop	−4.00 to +4.00
3	Right	Position of right crop	−4.00 to +4.00
4	Bottom	Position of bottom crop	−2.25 to +2.25
5	Rotation	Angle of rotation, when rotated around the Z-axis of the source space	0/90/180/270°

• **HD format, 4:3 mode**

Knob	Parameter	Adjustment	Setting values
1	Top	Position of top crop	−9.00 to +9.00
2	Left	Position of left crop	−12.00 to +12.00
3	Right	Position of right crop	−12.00 to +12.00
4	Bottom	Position of bottom crop	−9.00 to +9.00
5	Rotation	Angle of rotation, when rotated around the Z-axis of the source space	0/90/180/270°

• **HD format, 16:9 mode**

Knob	Parameter	Adjustment	Setting values
1	Top	Position of top crop	−9.00 to +9.00
2	Left	Position of left crop	−16.00 to +16.00
3	Right	Position of right crop	−16.00 to +16.00
4	Bottom	Position of bottom crop	−9.00 to +9.00
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

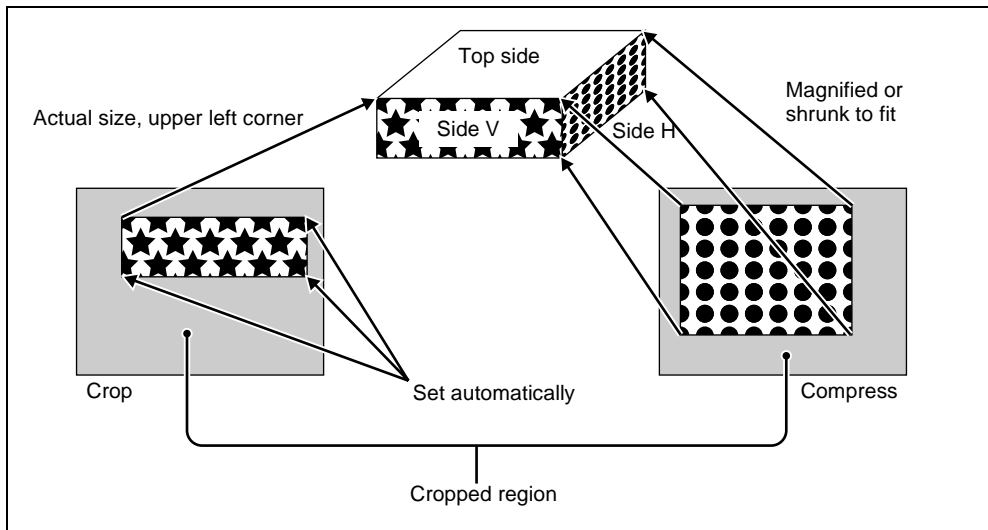
For example, to invert the image on the front of Side H in the <Side H Front> group, press the following buttons, turning them on.

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

This effect uses two successive channels to give an image a shadow.

For an illustration, see “Global Effects” in Chapter 1 (Volume 1).

Applying the Drop Shadow effect

Use the following procedure.

- 1 In the Global Effect>Ch1 - Ch4 menu, select HF3 ‘Shadow.’

The Shadow menu appears.

Depending on the selected channels, the valid channel block buttons differ in the <Ch1>, <Ch2>, and <Ch3> blocks.

The explanation of this procedure uses the example of <Ch1> block.

- 2 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.

- 3 Set the parameters.

Knob	Parameter	Adjustment	Setting values
1	Position H	Horizontal shadow position	–8.000 to +8.000 ^{a)} –32.00 to +32.00 ^{b)}
2	Position V	Vertical shadow position	–8.000 to +8.000 ^{a)} –32.000 to +32.000 ^{b)}
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

- 4 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.

5 When you select Flat Color in step **4**, 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



Chapter 12 External Devices

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Control of External Devices

Use the Device menu to carry out operations for controlling external devices such as the following.

- Devices supporting P-BUS (Peripheral II protocol) (referred to as “P-BUS devices” in the manual)
- Devices supporting GPI (General Purpose Interface) (referred to as “GPI devices” in the manual)

Note

To operate P-BUS devices in the MVS-8000 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 255).

Accessing the Device menu

In the menu control block, press the top menu selection button [DEV].

Control of P-BUS Devices

Creating and Editing the P-BUS Timeline

This section describes how to set an action for a keyframe point, and edit the P-BUS timeline.

For details of keyframe creation and editing operations, see “Creating and Editing Keyframes” (page 112).

Note

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.

Setting an action

To set an action, use the following procedure.

- 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 left list appearing 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	ID	Device number	0 to 23

- 3 Using either of the following methods, select the action.

- Press directly on the right list in the status area.
- Turn the knob to make the setting.

Knob	Parameter	Adjustment	Setting values
2	Action No	Action	1 to 4 ^{a)}

- 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 99
3	Recall No	Register number for Recall	1 to 99
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

Use the following procedure.

- 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 of the setting, see “Setting the first keyframe when a rewind is executed” (page 212).

Carrying out a Direct Store

You can carry out a Learn with the register number specified for the device selected in the menu. Use the following procedure.

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 to make the selection.

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 99.

4 Press [Enter].

This carries out a Learn with the specified register number.

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.

Note

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 (*see page 210*).

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 to be recalled with the numeric keypad buttons.
- 4** Press the [ENTER] button in the numeric keypad control block.
This carries out the Recall.

Control of GPI Devices

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 112).

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 any 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 to make the selection.

Knob	Parameter	Setting	Setting values
1	GPI Output No	GPI timeline port number	1 to 8

- 3** Using any of the following methods, trigger output destination.

- Press directly on the list on the right of the status area.

- Turn the knob to make the selection.

Knob	Parameter	Setting	Setting values
2	GPI Port No	SCU/DCU GPI port to be the trigger output destination	1 to 3 ^{a)}

- 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 ^{a)}

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.

- 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 output port selected in the list on the left of the status area.

Repeat steps **1** to **5** for other GPI output 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 device (GPI output port)

Use the following procedure.

- 1 In the list on the left of the status area, select the GPI output 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 devices (GPI output ports) in a single operation

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 212).



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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 an overview, see “Keyframes” in Chapter 1 (Volume 1).

Recalling a register (see page 107)

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 110)**

Select the region in which editing applies, and set the edit points.

**Creating and editing keyframes (see page 112)**

Create the keyframes that make up the effect, using operations to create, insert, modify, or delete keyframes.

**Time settings (see page 125)**

Set the overall duration of the effect or the duration of each keyframe.

**Path setting (see page 128)**

Set the type of interpolation used between successive keyframes.

**Executing effects (see page 132)**

This provides a smooth effect, based on the time and path settings.

**Saving effects (see page 135)**

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.

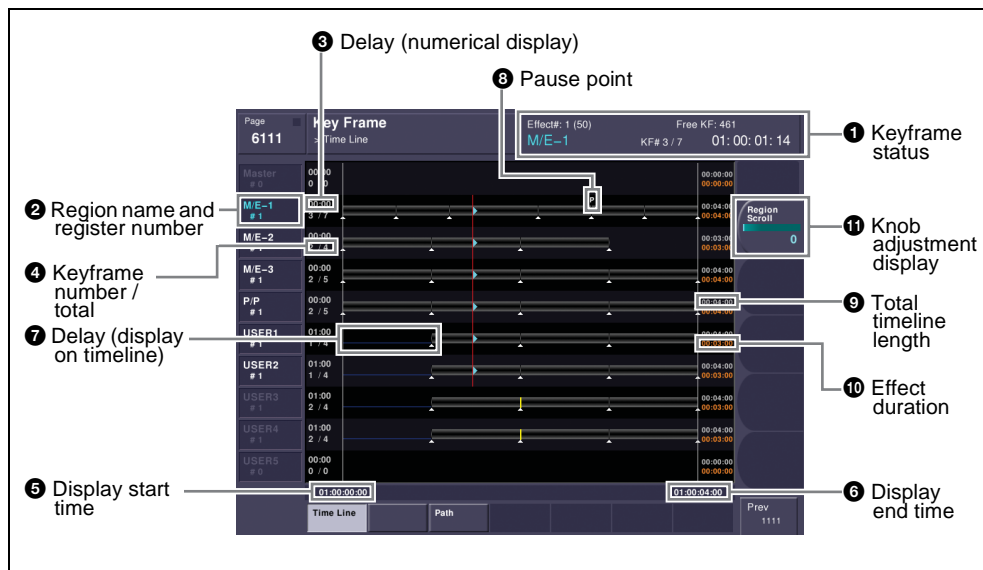
Recalling the Timeline menu

To recall the Timeline menu, use the following procedure.

- 1 In the menu control block, press the top menu selection button [KEYFRAME].
 - 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>Timeline menu

1 Keyframe status

This shows the region name, register number, register 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.

Selecting the region displayed

In the Timeline menu, there is a timeline display for each region, but you can also restrict the display to certain regions. Use the following procedure.

- 1 In the Key Frame menu, press HF5 'Misc.'

The Key Frame>Misc menu appears.

- 2 In the <Timeline Display> group, select one of the following.

All Region: display the timeline for all regions.

Active Region: display the timeline only for regions selected with region selection buttons in the numeric keypad control block.

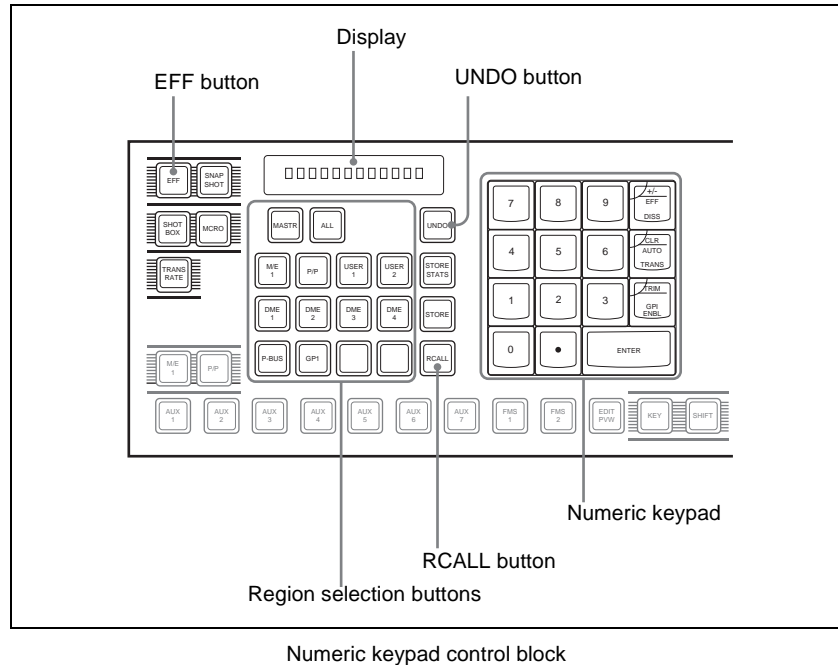


Recalling a Register

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 and Registers” in Chapter 1 (Volume 1).



Recalling a register

Use the following procedure.

- 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 4]:** These select DME channels.
- [P-BUS]:** This selects P-BUS.
- [ALL]:** This selects all valid regions.
- [MASTR]:** This selects the master timeline (see “*Creating and Saving a Master Timeline*” (page 137)).

Note

The regions that can be selected simultaneously are those assigned to the region selection buttons in the numeric keypad control block. (See “*Assigning the region selection buttons in the numeric keypad control block*” (page 193).)

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.

For details of the precedence order for becoming the reference region, see “Regions and Registers” in Chapter 1 (Volume 1).

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 this order. Similarly, to search for an empty register in the 200 range, press [2], [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.

Note

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.

Note

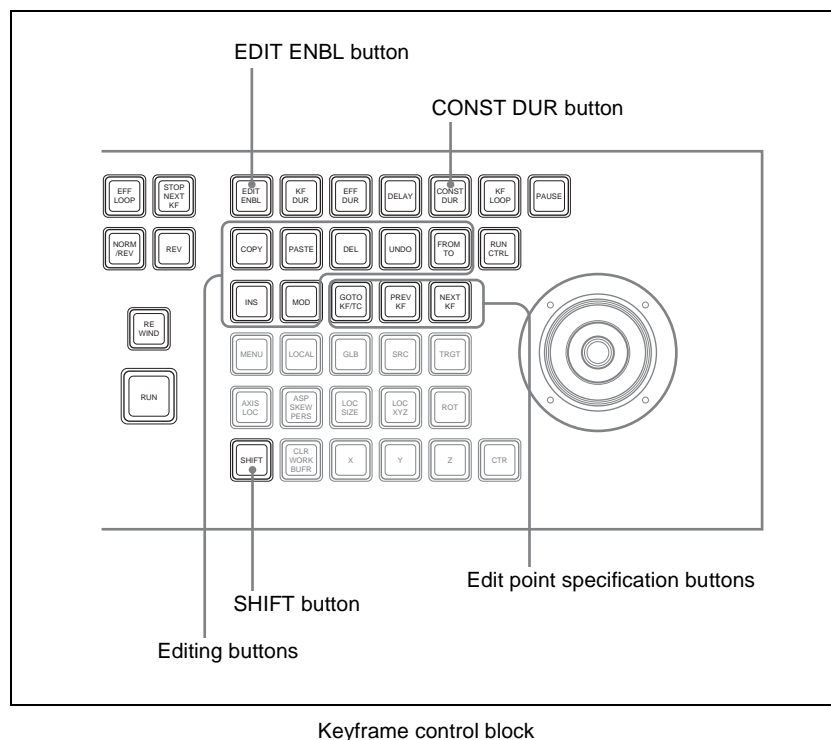
After recalling the master timeline, you cannot undo the recall.

Specifying the Region and Edit Points

Selecting the region in which editing applies

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 (page 108) in “Recalling a register.”)

Setting the edit points



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

For details of keyframe editing, see “Effect Editing” in Chapter 1 (Volume 1).

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. (See “Time Settings” in Chapter 1 (Volume 1).)

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.

Note

In constant duration mode (see “Effect Editing” in Chapter 1 (Volume 1)) 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.
This modifies the keyframe.

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

Use the following procedure.

- 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 115).

This makes the modification simultaneously to all keyframes from the edit point to the specified keyframe.

To modify the keyframes in a specified range

Use the following procedure.

- 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 115).

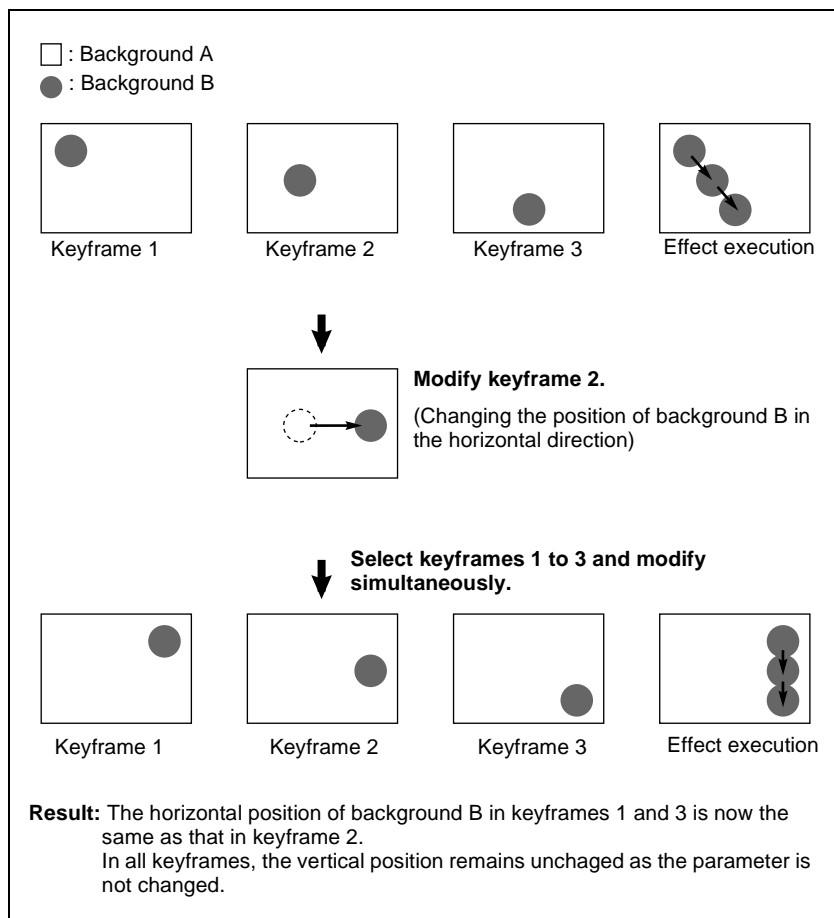
This makes the modification simultaneously to all keyframes in the specified keyframe range.

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.

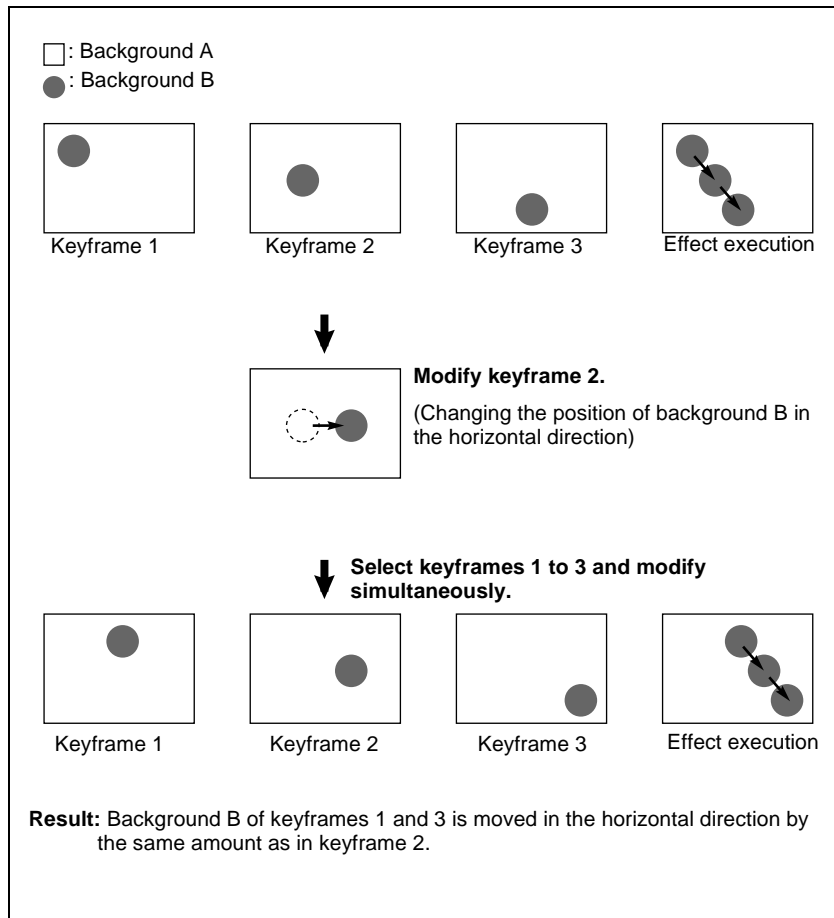
Modifying the keyframes by pressing the [MOD] button alone

The modified parameter values are taken as absolute values, and applied to all of the selected keyframes.



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.



Deletion

Deleting 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 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 114).

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 124*), however, the duration does not change.

For details of changes in the effect duration caused by deleting keyframes, see “Keyframes” in Chapter 1 (Volume 1).

Movement

Moving keyframes

Use the following procedure.

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 114).

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

Use the following procedure.

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 114).

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.

This applies a pause to the specified keyframe.

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.

Note

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.

Amending 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 screen 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.

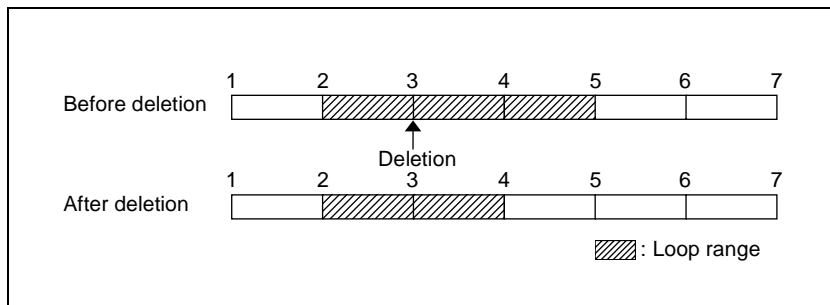
Canceling keyframe loop execution

Press the [REWIND] button in the keyframe control block.

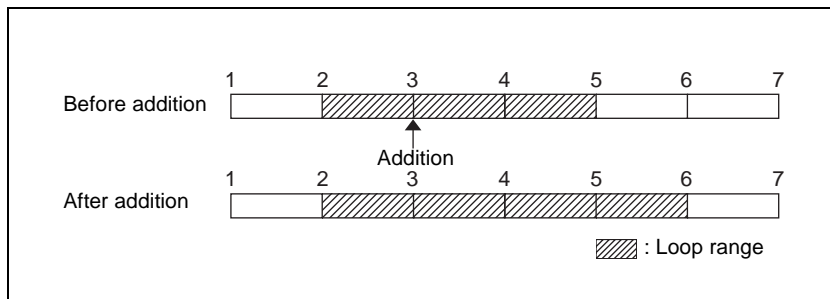
Changes to the loop range caused by keyframe insertion/deletion

When a keyframe is inserted or deleted within the loop range, the loop range also changes. The following are examples.

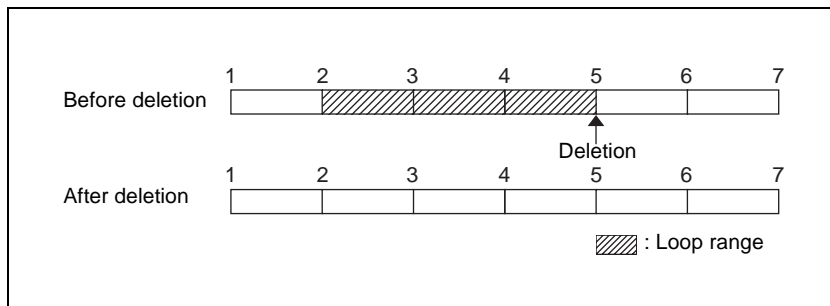
Example 1: If keyframe 3 is deleted, the loop end point moves forward as follows.



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 “Duration modes” in Chapter 1 (Volume 1).)

- 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.

Setting the transition mode

Use the following procedure.

- 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.

Dual: select dual transition mode.

Frame I/O: select frame in-out transition mode.

P In P: select picture-in-picture transition mode.

For details of creating an effect for user programmable DME, see “Creating User Programmable DME Patterns” in Chapter 6 (Volume 1).

Note

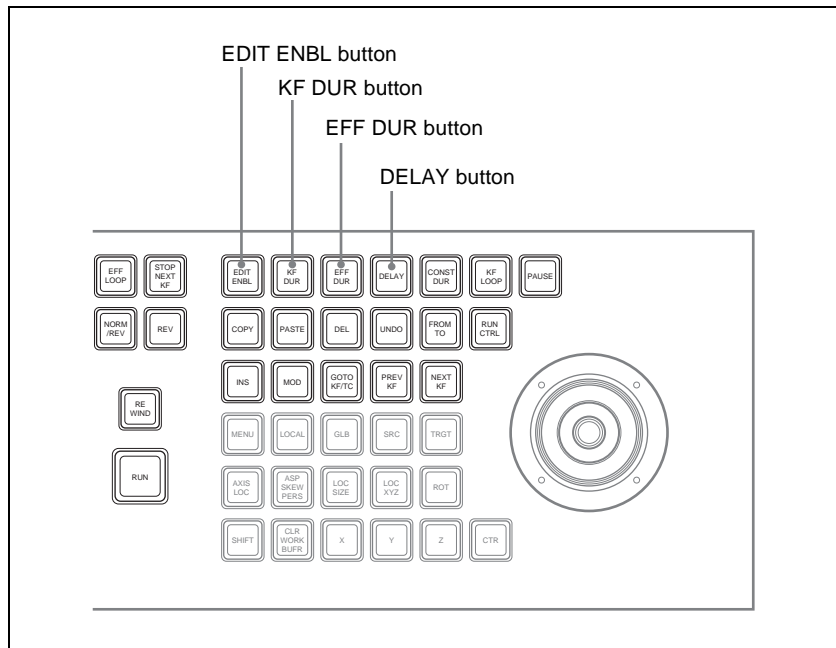
Which DME channel is selected as the reference region (lit green) in the numeric keypad control block is reflected in the <Transition Mode> group display.

Time Settings

You can determine the execution time of an effect by setting either the keyframe durations or the effect duration.

For details of keyframe duration and effect duration, see “Time Settings” in Chapter 1 (Volume 1).

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 “To enter a difference value” (page 111).*)
- 5** Press the [ENTER] button to confirm the entry.
This changes the keyframe duration to the new setting.

Note

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 “To enter a difference value” (page 111)).

- 4 Press the [ENTER] button.

This changes the effect duration to the new setting.

Note

In addition to the above operation, the effect duration may also be changed as a result of inserting or deleting keyframes. See “Time Settings” in Chapter 1 (Volume 1).

Setting the Delay

To set the delay (see “Time Settings” in chapter 1 (Volume 1)), 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 “To enter a difference value” (page 111).)

- 4 Press the [ENTER] button to confirm the entry.

This changes the delay setting.

Path Setting

The term “path” refers to the specification of how interpolation is carried out from one keyframe to the next.

For details of the notion of path, see “Paths” in Chapter 1 (Volume 1).

Set keyframe paths in the Key Frame>Path menu.

To access the Key Frame>Path menu

In the top menu selection buttons of the menu control block, press [KEYFRAME], 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/E1 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.

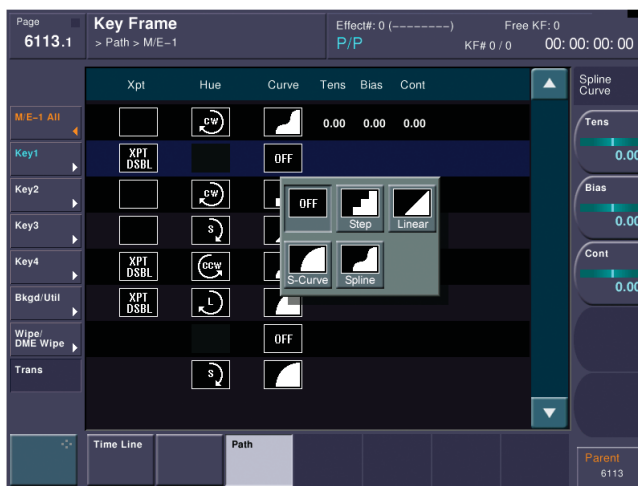
The area for the VF buttons shows the names of items.

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.

Note

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

Use the following procedure.

- 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

Use the following procedure.

- 1 Press the Hue path type indication for the item that you want to change.
- 2 Turn knob 1 to change the Hue path type.

The path type indications shown in the menu represent the change in hue as seen on a Vectorscope.



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.

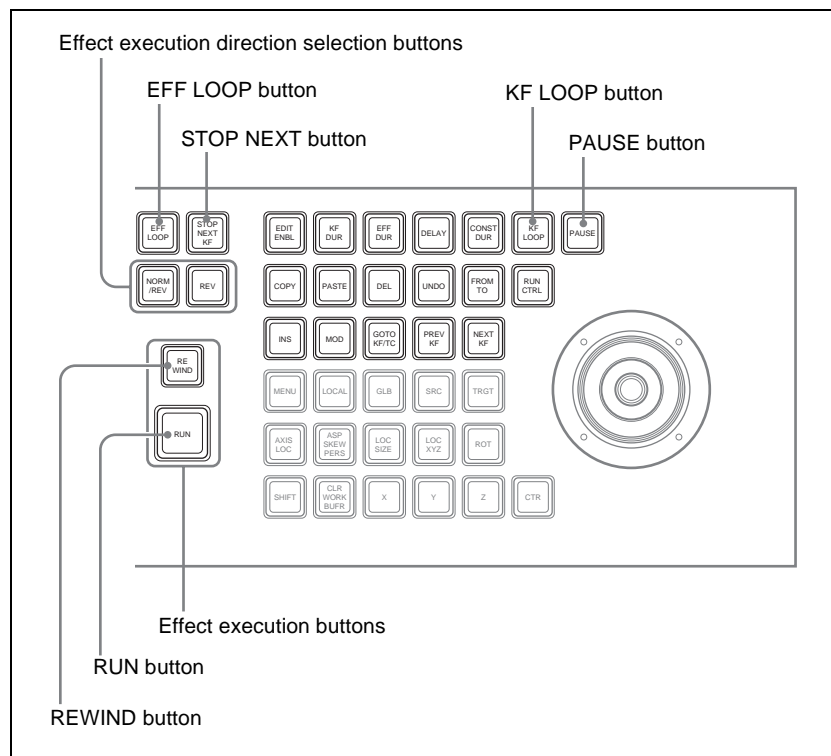
Executing Effects

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 also “Effect Execution” in Chapter 1 (Volume 1).

It is also possible to execute an effect from the device control block (*see Chapter 2 (Volume 1)*).

Execution With the RUN Button (Auto Mode)



Keyframe control block

Executing an effect automatically

Use the following procedure.

- 1** Select the region in which you want to execute the effect, using the region selection buttons in the numeric keypad control block. (See step **2** (page 108) of “Recalling a register.”)
- 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.

Moving to the first keyframe of the effect

To move to the first keyframe of the effect, press the [REWIND] button.

Run Mode Setting

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

Use the following procedure.

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

Use the following procedure.

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 a 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. Use the following procedure.

- 1** Press the [EFF] button, turning it on.

This allocates 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 step 2 (page 108) of “Recalling a register.”

- 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 this order. Similarly, to search for an empty register in the 200 range, press [2], [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), press the [+/-/EFF DISS] button, turning it on.

For details of attributes, see “Effect Attributes” in Chapter 1 (Volume 1).

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

Immediately after saving an effect, hold down the [STORE STATS] button and press the [UNDO] button to undo the save.



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.

To create and save a new master timeline, use the following procedure.

- 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 “Recalling a Register” (page 107).*)
- 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.

Amending a master timeline

You can amend 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 amend. (See “Recalling a Register” (page 107).)

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, and the [STORE] button goes off. At the same time, the [RCALL] button lights.

Checking the regions saved on a master timeline

For example in the course of amending 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

Carry out the following procedure.

- 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.

- 4** Turn the knob to select the number of the effect register.

Knob	Parameter	Adjustment	Setting values
2	Reg No	Effect register number	1 to 99

- 5** Repeat steps **3** and **4** as required to set all regions and register numbers to be saved on the master timeline.

- 6** In the <Store> group, press [Store].

This saves the settings.

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.

- Attribute setting
- Status display
- Register editing

To display the Effect menu

Press the top menu selection button [EFF] in the menu control block.

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’ 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.

- 3 Press [OK].

The selected region name appears in the upper part of the list.

- 4 Using either 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 to make the settings.

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
2	Duration	Dissolve duration	0 to 999 (frames)

Effect Status Display

The Effect>Effect 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

Use the following procedure.

Note

It is not possible to write-protect an empty register.

1 In the Effect menu, press VF2 ‘Effect’ 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.
- 3 Press [OK].

The selected region name appears in the upper part of the list.

- 4 Using either 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 to make the settings.

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], write-protecting the register.

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' 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.

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 DME1 to 4 (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 to make the settings.

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.

If, for example, the copy destination register is write-protected or the same register is specified both as the copy source and destination registers, a confirmation message appears. Press [OK] to cancel the copy.

Merging effect registers

Carry out the following procedure.

1 In the Effect menu, select VF2 'Effect' 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.

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 to make the settings.

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].

This carries out the merge.

Deleting data from effect registers

Use the following procedure.

1 In the Effect menu, press VF2 ‘Effect’ 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.

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 to make the settings.

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

Use the following procedure.

1 In the Effect menu, press VF2 ‘Effect’ 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.
- 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 to select a register.

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.

For details of keyboard window operation, see “Menu Operations” in Chapter 2 (Volume 1).

- 6 Enter the name, of not more than eight characters, and press [Enter].
- The set name is reflected in the status area.



Chapter 14 Snapshots

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Snapshot Operations From the Numeric Keypad Control Block

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 same effect-applied state.

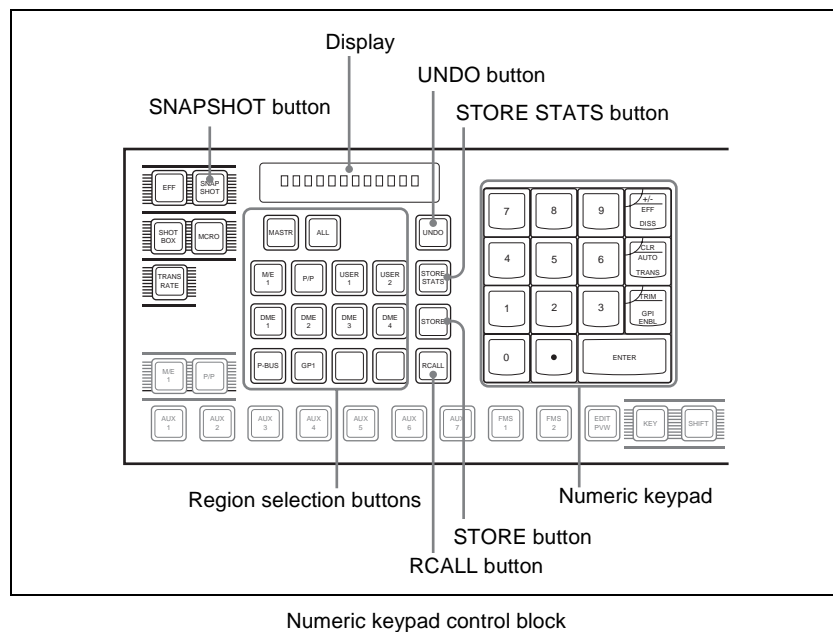
For an overview of snapshots, see “Snapshots” in Chapter 1 (Volume 1).

You can carry out snapshot operations using the numeric keypad control block. (See illustration below.)

To apply attributes or display the status, use the Snapshot menu. (See page 155.)

Saving and Recalling Snapshots

Snapshot operations with the numeric keypad control block use the following buttons.



Saving a snapshot from the numeric keypad control block

Use the following procedure.

- 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 4]: These select DME channels.
[ALL]: This selects all regions.

Note

The regions that can be selected simultaneously are those assigned to the region selection buttons in the numeric keypad control block. (See “Assigning the region selection buttons in the numeric keypad control block” (page 193).)

The first button pressed lights green as the reference region, and any subsequently pressed buttons light amber.

For details of the precedence order for becoming the reference region, see “Regions and Registers” in Chapter 1 (Volume 1).

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.

Note

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.

The entered register number appears in the display.

6 To apply attributes, press the following buttons, turning them on.

Attribute to apply	Button
Effect dissolve	[+/-/EFF DISS] button
Auto transition	[CLR/AUTO TRANS] button

For details of attributes, see “Snapshots” in Chapter 1 (Volume 1).

Note

In the numeric keypad control block, it is not possible to apply the cross-point hold and GPI output attributes. *For these, see “Applying snapshot attributes” (page 155).*

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

After saving a snapshot, to cancel the save, hold down the [STORE STATS] button and press the [UNDO] button.

Recalling a snapshot from the numeric keypad control block

Use the following procedure.

- 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.
- 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]: Select the M/E-1 or PGM/PST region respectively.

[USER 1] to [USER 8]: Select a user region.

[DME 1] to [DME 4]: Select a DME channel.

[ALL]: Select all regions together.

[MASTR]: Select a master snapshot.

Note

The regions that can be selected simultaneously are those assigned to the region selection buttons in the numeric keypad control block. (See “Assigning the region selection buttons in the numeric keypad control block” (page 193).)

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.

For details of the precedence order for becoming the reference region, see “Regions and registers” in Chapter 1 (Volume 1).

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.

See step 5 (page 151) in “Saving a snapshot from the numeric keypad control block.”

The entered register number appears in the display.

4 To apply temporary attributes, 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
Numeric keypad control block	Effect dissolve	[+/-/EFF DISS] button
	Auto transition	[CLR/AUTO TRANS] button

For details of temporary attributes and available attributes, see “Snapshot Attributes” in Chapter 1 (Volume 1).

Notes

- The cross-point hold setting is 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

After saving a snapshot, to cancel the recall, press the [UNDO] button.

Note

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 Numeric Keypad Control Block*” (page 137). Note, however, that in place of the [EFF] button in the numeric keypad control block, the [SNAPSHOT] button is used.

Snapshot Operations in the Menus

You can also set snapshot or key snapshot attributes in the Snapshot menu, which also displays the status of the registers. To access the Snapshot menu, press the top menu selection button [SNAPSHOT] in the menu control block. In the Snapshot menu, as well as setting snapshot attributes, you can carry out editing operations on snapshots, including copy and delete.

See “Snapshot Register Editing” (page 160).

Setting Snapshot Attributes

Applying snapshot attributes

To apply an attribute to a snapshot, use the following procedure.

- 1 In the Snapshot menu, press VF2 ‘Snapshot’ and HF1 ‘Attribute.’

The Snapshot>Attribute menu appears.

The status area shows the region names, register numbers, and the status and attributes set.

- 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 either 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 to make the setting.

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 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.

To apply the cross-point hold attributes

- 1 Press [XPT Hold], turning it on.

The Snapshot>Attribute>Xpt Hold menu appears. The status area shows a list of the currently selected regions and bus names.

- 2 Using either 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 to make the setting.

Knob	Parameter	Adjustment	Setting values
2	Bus	Bus name selection	–
3	Num	Select number of buses	–

- To select all registers, press [All].

- 3 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
2	Duration	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
2	GPI Out Port	GPI output port number	1 to 8

For details of attributes and available attributes, see “Snapshots” in Chapter 1 (Volume 1).

Snapshot Status Display

The Snapshot>Attribute menu displays the following information.

For details of how to access the Snapshot>Attribute menu, see page 155.

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	Cross-point hold is set for key bus 1, 2, 3, or 4. ^{a)}
U1, U2	Cross-point hold is set for the utility 1 or utility 2 bus.
Fv	Cross-point hold is set for the DME front video bus.
Fk	Cross-point hold is set for the DME front key bus.
Bv	Cross-point hold is set for the DME back video bus.
Bk	Cross-point hold is set for the DME back key bus.
Aux	Cross-point hold is set for one of the AUX buses.
Mon	Cross-point hold is set for one of the monitor buses.
Fm1, Fm2	Cross-point hold is set for one of the frame memory 1 and 2 buses.
RTR	Cross-point hold is set for the Router region.

a) When [Key Disable] is selected for [XPT Hold] mode in setup, Key disable is set.

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.

Setting Key Snapshot Attributes

Applying key snapshot attributes

To apply an attribute to a key snapshot, use the following procedure.

- 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 either 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 to make the setting.

Knob	Parameter	Adjustment	Setting values
1	Register	Register number	1 to 4
3	Num	Select number of registers	1 to 4

- To select all registers, press [All].

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 139).

Recalling the Store menu

Carry out the following procedure.

- 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 Timeline’ 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”), and ch4 (“DME4”).

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 143).

Chapter 15 Utility/Shotbox

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Utility Execution

You can assign actions such as menu shortcuts, function enabling and disabling, and recalling shotbox registers to buttons in the menu control block and utility/shotbox control block. Use the setup menu to make the assignment.

For details of the menu control block and utility/shotbox control block, see “Menu Control Block” and “Utility/Shotbox Control Block” in Chapter 2 (Volume 1).

For details of the settings for assigning functions to buttons, see “Setting Button Assignments (Prefs/Utility Menu)” (page 201).

Executing a Utility With the User Preference Buttons (Menu Control Block)

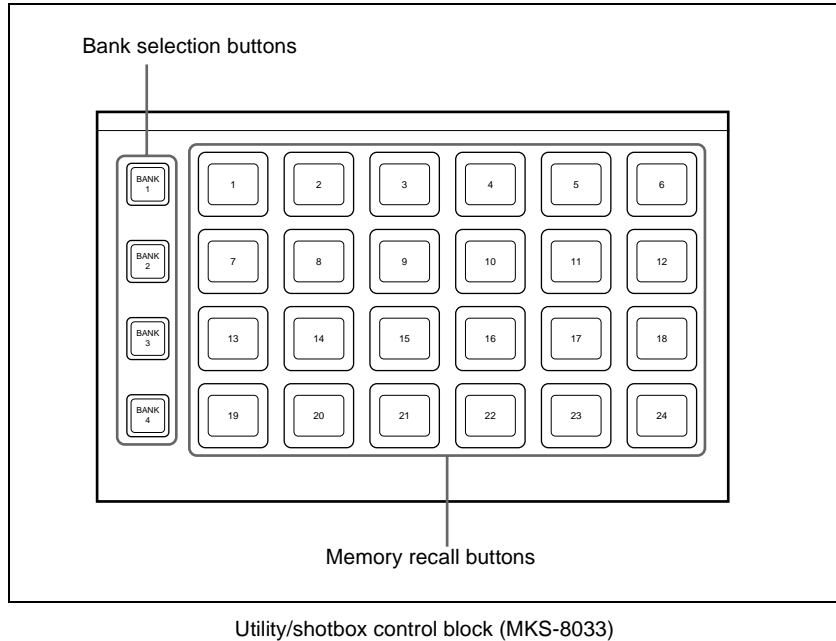
In the setup menu, you can assign any eight actions to the user preference buttons in the menu control block.

To execute an assigned action

Press the corresponding user preference button ([PREFS 1] to [PREFS 8]).

- 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



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 172*), but in the setup menu, you can assign these to any 96 actions.

To execute an assigned action

Use the following procedure.

When the action is to execute a shotbox register, follow the procedure in “Shotbox Execution in the Utility/Shotbox Control Block” (page 172).

- 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 holding a utility command or menu shortcut



- 2** 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 Register Creation

The term “shotbox” refers to a function whereby for each specified region any snapshot or keyframe effect can be recalled simultaneously. For each region, any snapshot or keyframe effect number can be specified to be recalled. There is also a setting to enable or disable the auto run function.

For a shotbox overview, see “Shotbox” in Chapter 1 (Volume 1).

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

Use the following procedure.

- 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 152).

- 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.

Note

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 107).

- 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.

Note

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 any 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

Use the following procedure.

- 1** In the Shotbox menu, press VF1 ‘Register’ and HF1 ‘Store/Recall.’
The Store/Recall menu appears.

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”), User2 (“USR2”), User3 (“USR3”), User4 (“USR4”), User5 (“USR5”), User6 (“USR6”), User7 (“USR7”), and User8 (“USR8”).

DME: Shows the allocations for DME ch1 (“DME1”), ch2 (“DME2”), ch3 (“DME3”), and ch4 (“DME4”).

Misc: Shows the allocations for P-BUS (“PBUS”) and GPI (“GPI”).

- 3** Using any of the following methods, select the register you want to create (or edit).

- Press directly on the list appearing in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob to select a register.

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 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.

- 7** Depending on the selection in step **6**, set the parameters as follows.

• **When a snapshot is selected**

Knob	Parameter	Adjustment	Setting values
2	Snapshot	Snapshot register number	1 to 99

• **When an effect is selected**

Knob	Parameter	Adjustment	Setting values
2	Effect	Keyframe effect number	1 to 99 ^{a)}

a) For the DME region, you can also set register numbers 101 to 199 and 201 to 299.

- 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 run the settings to check them

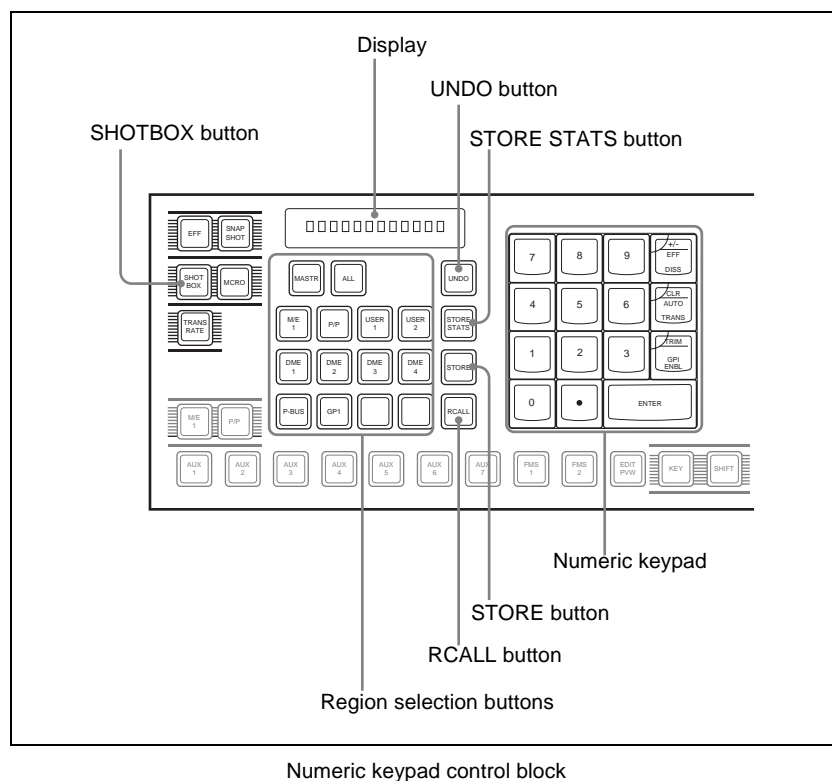
Press [Recall] to run the shotbox.

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 170*)
- Utility/shotbox control block (*see page 172*)

Shotbox Execution From the Numeric Keypad Control Block



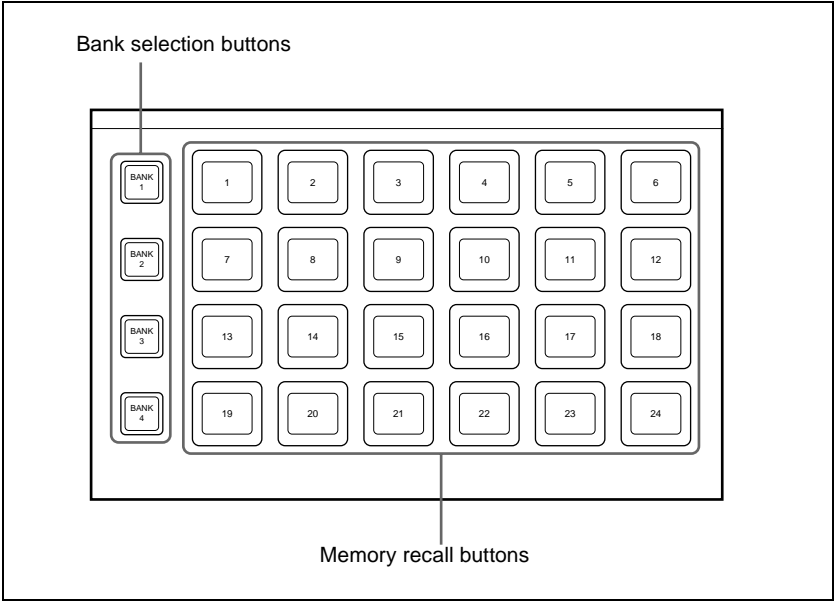
To carry out shotbox execution in the numeric keypad control block, use the following procedure.

- 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.

Shotbox Execution in the Utility/Shotbox Control Block



Utility/shotbox control block (MKS-8033)

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

For shotbox execution in the utility/shotbox control block, use the following procedure.

- 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

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 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 143). Unlike in effect register editing, however, it is not necessary to specify a region in shotbox register editing.

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Setup for the Whole System

Carry out operations relating to setup in the Engineering Setup menu.
To access the Engineering Setup menu, press the top menu selection button [ENG SETUP].

For an overview of setup, see “Setup” in Chapter 1 (Volume 1).

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.

Device	ID
1st switcher	1
2nd switcher	2

Device	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

For more details of how to make the device ID settings, refer to the installation manual for the particular device.

Network Settings (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

Use the following procedure.

- 1 In the System>Network Config menu, press [Auto Config].

This automatically checks all devices (excluding the DCU) connected to the Data LAN.

- 2 Once 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.

Note

Be sure to carry out this operation after reconfiguring the system, or after a software upgrade.

System Settings (System Config Menu)

To make the system settings, use the System>System Config menu.

To display the System Config menu

In the Engineering Setup menu, select VF1 'System' and HF2 'System Config.'

Note

After changing any of 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].

Selecting the system operation mode

In the <Operation Mode> group of the System>System Config menu, select one of the following.

Single Proc: Control mode in which the panel controls a switcher and the DME connected to the switcher.

Single Simul: Control mode in which the panel controls a switcher and a DME connected to the switcher. The operating bank and DME are interlocked.

Note

The Single Simul mode is disabled for the CCP-9000.

Dual Simul: Control mode in which the panel controls two switchers and the DME connected to each switcher simultaneously.

Specifying the switcher controlled by the control panel

Use the following procedure.

- 1 In the System>System Config menu, press the [Panel Assign] button.

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 [SWR1] to ON, and in the <2nd Switcher> group, set [SWR2] to OFF.
 - **If there are two switchers on the same network**, in the <1st 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.

Note

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.

Specifying the DME connected to the switcher

Use the following procedure.

- 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.
 - In the list appearing in the menu, press the desired device name.
 - Press the arrow keys to scroll the reverse video cursor.

The selected switcher appears in reverse video.
If there is only one switcher on the network, carry out the SWR1 setting (for the first switcher) only.
- 3 Make the DME settings as follows.
 - **When making DME settings for SWR1 (the first switcher)**, 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 (the second switcher),** 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.

Setup in “Dual Simul” mode

When the system operation mode (*see page 178*) is set to “Dual Simul,” the following setting is required for setup of the two switchers and connected DME units.

In the <Setup Target> group, set the [System 1] or [System 2] button to ON, then carry out the setup. You can also set both to ON, and make the settings simultaneously on the two systems.

Setting the Signal Format and Screen Aspect Ratio (Format Menu)

To set the format, that is, the frame frequency and number of scan lines handled by each device, and the screen aspect ratio, use the System>Format menu.

To display the Format menu

In the Engineering Setup menu, select VF1 ‘System’ and HF3 ‘Format.’

Note

After changing any of 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].

Note that since the [Execute] button is in the System>Format menu, when you make settings in a submenu, it is essential to remember to return to the System>Format menu and press the [Execute] button to save.

Setting the signal format

Use the following procedure.

- 1** In the <Frame/Field Rate> group of the System>Format menu, select the system operating frequency.

For more details, see “System Setup” in Chapter 1 (Volume 1).

- 2** Press the [Active Line/Aspect].

The Active Line/Aspect menu appears.

The status area shows the number of active scan lines and screen aspect ratio for the switcher and connected DME(s).

- 3 In the <Active Line> group, select the number of active scan lines.

Setting the screen aspect ratio

Use the following procedure.

- 1 In the System>Format>Active Line/Aspect menu, select one of the following from the <Screen Aspect> group.
 - 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.
- 2 If you selected [Independ] in step 1, 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.
- 3 Carry out either of the following, depending on the selection you made in step 2.

When you selected [Switcher Aspect]: In each of the <M/E-1>, <M/E-2>, <M/E-3>, <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].

Switching the input reference signal for HD system

In the <Ref Input Format> group, switch the input reference signal selection.

- Tri Sync
- BB

For details, see “System Setup” in Chapter 1 (Volume 1).

Selecting the State After Powering On (Start Up Menu)

To set the initial state at start-up, use the System>Start Up menu.

Note

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.

Selecting the state at start-up

Use the following procedure.

- 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.

For information about Resume mode and Custom mode, see "System Setup" in Chapter 1 (Volume 1).

Note

The Resume mode is only valid when a switcher or control panel is selected for the setting. In this case, the initial status of the control panel applies only to the key bus delegation button settings.

- 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].
The start-up state settings are saved.

Saving user-defined settings

To save the Setup settings

Use the following procedure.

- 1** After selecting the devices 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.

To save the Initial Status settings

Use the following procedure.

- 1** After selecting the devices 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.

This does not apply to the control panel.

Reset and Initialization (Initialize Menu)

To carry out a reset or memory initialization for a device, use the System>Initialize menu.

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

Use the following procedure.

- 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 (Install Menu)

To install software or firmware in a device, use the System>Install menu.

To display the Install menu

In the Engineering Setup menu, select VF1 'System' and HF6 'Install.'

The status area shows the version of the software installed in each device.

Installing software

Use the following procedure.

- 1 Insert the memory card holding the software into the memory card slot.

- 2 Press the [Install] button.

The System>Install>Install menu appears, showing a list of the software contained in the memory card.

- 3 Using any of the following methods, select the device.

All: When this is on, all devices are selected for the operation.

Plural: When this is on, you can specify a number of devices to which the operation will apply. In this case, in the status area, press the desired devices, turning them to reverse video. To cancel a selection, press once more to return to normal display.

When both of the above buttons are off: You can specify any device in the status area.

4 To carry out installation, press [Execute].

A confirmation message appears.

5 Select [Yes].

This installs the software.

Displaying installation details

In the System>Install 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.

System Maintenance (Maintenance Menu)

To carry out system date and time settings, and memory card formatting, use the System>Maintenance menu.

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

For system date and time settings, use the following procedure.

1 With the knobs, adjust the following parameters.

Knob	Parameter	Adjustment	Setting values
1	Hour	Hour	0 to 23
2	Min	Minute	0 to 59
3	Sec	Second	0 to 59
6	Month	Month	1 to 12
7	Day	Day	1 to 31
8	Year	Year	2000 to 2037

The set date and time appears in the “Set” box in the status area.

2 Press the [Set Date/Time] button.

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.

Formatting a memory card

To format a memory card, use the following procedure.

Note

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 any of the following methods, select the USB device.
 - Press directly on the list appearing 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 [OK].
This formats the memory card.

Carrying out the primary setting

To specify a USB device with a storage device connected as a primary device, use the following procedure.

Note

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 appearing in the status area.
 - Press the arrow keys to scroll the reverse video cursor.

2 In the <USB Storage Device> group, press [Set Primary].

Reloading a USB driver

To reload a USB driver, in the System>Maintenance menu, press [Reload USB Driver].

Note

If even after this operation the memory card is not recognized, remove the memory card and reinsert it, then try again.

Setup Relating to Operations From the Control Panel

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 "Bank numbers 1 to 4" (physical locations) of the operating banks, the allocated operating bank names, and whether or not operation is enabled.

Interchanging the operating bank order or disabling operation

Use the following procedure.

- 1 In the Panel>Config menu, select the Bank you want to set, using either of the following methods.
 - Press directly on the status area display.
 - Press the arrow keys to scroll the reverse video cursor.
 - Turn the knob to make the setting.

Knob	Parameter	Adjustment	Setting values
1	Bank	Select the position of the operating bank you want to set	1 to 4

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.

When using the MKS-9011 1 M/E Control Panel, only the 1st Row is available. When using the MKS-9012 2 M/E Control Panel, only the 1st and 2nd Rows are available.

- 2 Select the operating 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 operating 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 operating 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 operating bank.

Disable: Enable only panel display, and disable operation of the operating bank.

Inhibit: Disable both the panel display and operation of the operating bank.

Assigning the key delegation in the downstream key control block

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 operating 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** 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: Key assigned to key delegation button 1 ([DSK1] button)

Key2: Key assigned to key delegation button 2 ([DSK2] button)

Key3: Key assigned to key delegation button 3 ([DSK3] button)

Key4: Key assigned to key delegation button 4 ([DSK4] button)

Linking switcher bus and routing switcher destination

To provide links between the switcher bus and routing switcher 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 routing switcher destination.

To select a matrix number

Use the following procedure.

- 1 In the Panel>Config menu, press [External Bus Link].

The External Bus Link menu appears.

The status area shows the current link status.

- 2 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.

- 3 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].

To define 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>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 appearing 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
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.

To set a link table

For the link selected in the External Bus Link menu, make the settings as follows.

- 1 In the Panel>Config>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 appearing in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knobs to make the selection.

Knob	Parameter	Adjustment	Setting values
1	Main No	Switcher cross-point button	1 to 128
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

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.

To make link bus settings

For the link number selected in the External Bus Link menu, use the following procedure.

1 In the Panel>Config>External Bus Link menu, press [Link Bus Adjust].

The Link>Link Bus Adjust menu appears. The status area lists the current link status, and the switcher buses and routing switcher 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 routing switcher destination to be linked to the switcher bus.

- Press directly on the list appearing in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knobs to make the selection.

Knob	Parameter	Adjustment	Setting values
2	Internal Bus	Switcher bus selection	1 to 128
3	Destination	Routing switcher 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

Use the following procedure.

1 In the Panel>Config menu, 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.

2 Using any of the following methods, select the keyer to be the master.

- Press directly on the list appearing 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	Master Key	Select keyer to be master	1 to 16

The selected keyer appears in reverse video.

3 In the <Key Select> group, select the keyer to be linked to the transition of the master.

Note

Linking does not apply to a transition carried out with the downstream key control block.

Selecting the module to be the reference for device control block

In the <Reference Module> group of the Panel>Config menu, select the module to be the reference.

- Trackball
- Joy Stick

Assigning the region selection buttons in the numeric keypad control block

Use the following procedure.

1 In the Panel>Config menu, press [10 Key Region Assign].

The 10 Key Region Assign menu appears. On the left of the status area the region selection buttons (of the CCP-8000 by default) are shown, and on the right a list of the assignable regions.

2 In the <Type> group, press [CCP 9000].

The region selection button display changes to display the buttons of the CCP-9000.

3 Press the indication for the button you want to assign.

The button you pressed turns to reverse video.

Note

This setting is not available for the M/E-1 and P/P.

- 4** Using any of the following methods, select the region to be assigned.
- Press directly on the list.
 - Press the arrow keys to scroll the reverse video cursor.
 - Turn the knob to make the setting.

Knob	Parameter	Adjustment	Setting values
1	Region	Region selection	1 to 35

- 5** Press [Set] to confirm the selection.

This assigns the region to the region selection button in the numeric keypad control block.

To return the region assignments to the factory default

In the 10 Key Region Assign menu, press [Default].

This returns the assignments of the region selection buttons in the numeric keypad control block to the factory default.

To clear a region assignment

Use the following procedure.

- 1** In the 10 Key Region Assign menu, press the indication for the button to which the region is assigned.

The button you pressed turns to reverse video.

- 2** Press [Clear].

This clears the assignment of the selected button, which is now no longer assigned.

Setting program button assignment

You can change the assignment of some of the buttons in a standard type transition control block for use in VTR operations. Use the following procedure. (This setting is disabled for the CCP-9000.)

- 1** In the Panel>Config menu, press [Program Button].

The Program Button menu appears.

- 2** Press [Transition Module].

The Transition Module menu appears.

3 Using any of the following methods, select the bank.

- Press directly on 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	Bank	Bank selection	1 to 4

4 Select the assignment for the [PTN LIMIT], [LIMIT SET], and [KF] buttons in the standard type transition control block from the <PTN LIMIT/LIMIT SET/KF Button Assign> group.

Ptn Limit /KF: These are used as the [PTN LIMIT] button, [LIMIT SET] button, and [KF] button.

Play/Stop/Cue: These are used as the [PLAY] button, [STOP] button, and [CUE] button for VTR operation. (This setting is disabled for the CCP-9000.)

Inhibit: Inhibit operations with these buttons.

5 Select the assignment for the [NORM], [NORM/REV], and [REV] buttons in the standard type transition control block from the <NORM/NORM REV/REV Button Assign> group.

Normal/Reverse: These are used as the [NORM] button, [NORM/REV] button and [REV] button.

Play/Stop/Cue: These are used as the [PLAY] button, [STOP] button, and [CUE] button for VTR operation. (This setting is disabled for the CCP-9000.)

Inhibit: Inhibit operations with these buttons.

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 button numbers of the cross-point buttons, and the assigned video/key source names, and source name display color.

Assigning signals to cross-point buttons

For each button number, a pair consisting of a video signal and a key signal is assigned. You can also assign the same signal to another button number at the same time.

When carrying out key operations on a bank, if the key fill and key source selection mode is set to [Auto Select], the signals are selected according to this pair setting. (See “Selecting Key Fill and Key Source” in Chapter 4 (Volume I).)

To assign a video signal or key signal to cross-point buttons, proceed as follows.

- 1 In the Panel>Xpt Assign menu, press [Source Select].

The Source Select menu appears.

The upper part of the status area shows the currently selected button number together with the currently assigned video and key signal names. The lower part shows a list of the signals which can be assigned.

- 2 Turn the knob to select the button to which the assignment relates.

Knob	Parameter	Adjustment	Setting values
1	Button No	Cross-point button selection	1 to 128

- 3 When assigning a video signal, press [Video] in the <Xpt> group. When assigning a key signal, press [Key].

- 4 Use any of the following operations to assign the signal.

- Press directly on the list in the status area.
- Press the arrow keys to move the reverse video cursor.
- Turn the knob to make the setting.

Knob	Parameter	Adjustment	Setting values
3	Source No	Selection of source to be assigned	1 to 128

To inhibit operation of certain button numbers

In the Panel>Xpt Assign menu, select the button number you want to inhibit, then press the [Inhibit] button.

Setting the source signal name and source name display color

Use the following procedure.

- 1 In the Panel>Xpt Assign menu, press [Source Select].

The Source Select menu appears.

- 2** Turn the knob to select the signal to be set.

Knob	Parameter	Adjustment	Setting values
3	Source No	Source signal selection	1 to 128

- 3** To set the source name, press [Source Name].

A keyboard window appears.

- 4** Enter any name of not more than 16 characters, then press [Enter].

For details of keyboard window operation, see “Menu Operations” in Chapter 2 (Volume 1).

- 5** To set the source name display color, in the <LCD Color> group select the color (Orange/Green/Yellow).

Using multi cross-point assign tables

In addition to the normal assignment (“main table”), as “cross-point assign tables” you can create up to four “sub” tables (Sub1 to Sub4). However, you can only carry out assignment of the video and key combinations in the Main table.

You can select the table to be used for each of the following banks or buses.

- M/E-1 and PGM/PST banks
- Buses assignable to AUX delegation buttons

Use the following procedure.

- 1** In the Panel>Xpt Assign menu, press [Multi Xpt Assign].

The Multi Xpt Assign menu appears.

The status area shows the bank and bus names, and the cross-point assign table.

- 2** Using any of the following methods, select the bank or bus.

- Press directly on 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	Bank/Bus	Bank or bus selection	1 to 108

- 3** In the <Xpt Table Select> group, select the cross-point table you want to assign.

Creating a “sub” table

To set the Sub1 table, use the following procedure.

- 1** In the Panel>Xpt Assign>Multi Xpt Assign menu, press [Sub Table Assign].

The Sub Table Assign menu appears.

The status area shows a list of the sub table assignments.

- 2** In the <Sub Table Select> group, select the sub table you want to set.

- 3** Using any of the following methods, select the cross-point button for which you want to make an assignment.

- Press directly on 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	Sub Button No	Sub cross-point button selection	1 to 128

- To disable operation of a button number, press [Inhibit].

- 4** Turn the knob to select the main cross-point button number to be assigned.

Knob	Parameter	Adjustment	Setting values
3	Main Source No	Main cross-point button selection	1 to 128

To select a cross-point button number while checking which sources can be selected

In place of steps **3** and **4** in the above procedure, you can use the following procedure for the setting.

- 1** Press [Source Select].

The Source Select menu appears.

In the upper part of the status area, the selected Sub and Main button numbers and the currently assigned video and key signal names appear. In the lower part, a list of the assignable signals appears.

- 2** Referring to steps **3** and **4**, select the signal to be assigned.

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>Multi Xpt 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 <Shift Mode> group of the Panel>Xpt Assign>Multi Xpt Assign menu, select either of the following.

Display: Functions as a shift button dedicated to the source name displays.

Shift All Bus: Functions as a shift button for all buses.

Notes

- It is not possible to make this setting separately for individual switcher banks.
- “Shift All Bus” is only valid when the cross-point button shift operation (*see previous item*) is set to “Lock” or “Off.”

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 ^{a)}

a) If set to 255, the information is sent to all stations.

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**.

Note

Since destination names cannot be selected freely, fixed names are used.

AUX Delegation Buttons 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.

Assigning a bus to an AUX delegation button

Use the following procedure.

1 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 to make the setting.

Knob	Parameter	Adjustment	Setting values
1	Deleg No	Selection of AUX delegation button	1 to 128 ^{a)}
2	Bus No	Selection of bus to be assigned	1 to 121 ^{b)}

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, Monitor1 to Monitor8, DME1V to DME4V, and DME1K to DME4K
M/E1 Utility1 and 2, P/P Utility1 and 2, Frame Memory Source1 and 2, Edit Preview,
DSK1 to 4 Fill/Source
M/E-1 EXT DME, P/P EXT DME, DME Utility 1 to 2

- For a button for which you want to disable operation, press [Inhibit].

2 Press [Set] to confirm the selection.

Setting 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.

Setting Button Assignments (Prefs/Utility Menu)

To assign functions to the user preference buttons ([PREFS 1] to [PREFS 8]) in the menu control block and the memory recall buttons in the utility/shotbox control block, display the Panel>Prefs/Utility menu.

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

Use the following procedure.

1 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 to make the setting.

Knob	Parameter	Adjustment	Setting values
1	No	User preference button selection	1 to 8

- 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).
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 the next item “Assigning a menu shortcut to a user preference button” (page 202).*
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 to make the selection.

Knob	Parameter	Adjustment	Setting values
3	Command	Utility command selection	1 ...

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].

Assigning a menu shortcut to a user preference button

- Use the following procedure.
- 1 Referring to the procedure up to step 2 in the previous item, select [Menu Shortcut].

The user preference buttons [PREFS 1] to [PREFS 8] flash amber.

- 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 Press the user preference button to which you want to assign the shortcut.

The menu screen goes back to the Prefs/Utility menu, and the selection is reflected in the status area. The user preference buttons [PREFS 1] to [PREFS 8] stop flashing amber.

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

Use the following procedure.

- 1 In the Prefs/Utility menu, press [Utility Module Assign].

The Prefs/Utility>Utility Module Assign menu appears. The status area shows the settings in the utility/shotbox control block.
- 2 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 to make the selection.

Knob	Parameter	Adjustment	Setting values
1	Bank	Bank selection	1 to 4
2	Button No	Control block button selection	1 to 24

- 3 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 enable/disable or similar operation (utility command).

Shotbox Recall: Assign a shotbox register recall.

- 4** Depending on the selection in step **3**, make the following settings.
- When Menu Shortcut is selected:** For the subsequent operations, *see the next item “Assigning a menu shortcut to a memory recall button in the utility/shotbox control block” (page 204).*

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 to make the selection.

Knob	Parameter	Adjustment	Setting values
3	Command	Utility command selection	1 ...

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].

Assigning a menu shortcut to a memory recall button in the utility/shotbox control block

Use the following procedure.

- 1** Referring to the procedure up to step **3** in the previous item, 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 Prefs/Utility>Utility Module Assign menu, and the selection is reflected in the status area.

The buttons in the utility/shotbox control block stop flashing, and the button to which the menu shortcut is assigned lights orange.

To abandon the process of menu shortcut assignment

In the Prefs/Utility>Utility Module Assign menu, press [Menu Shortcut]. This exits the menu shortcut assignment mode.

Setting names to be displayed in memory recall buttons

Note

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” has been assigned, use the Shotbox menu.

Use the following procedure.

- 1** In the 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 to make the selection.

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.'

Making control panel GPI input settings

Use the following procedure.

- 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 appearing 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	Port	Port selection	1 to 8

- 3 In the <Trigger Type> group, select the trigger type.

 : Apply the trigger on a rising edge of an input pulse.

 : Apply the trigger on a falling edge of an input pulse.

 : 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, P/P: Set the action for one of the operating 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 appearing 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
2	Action	Action selection	1 to ... ^{a)}
5	Reg No	Register number	1 to 4 ^{b)} 1 to 99 ^{c)} 1 to 399 ^{d)}

a) • Action list when the trigger type is other than “Level”

When Target is M/E-1, M/E-2, or M/E-3: Cut, Auto Trans

Key1 Cut, Key2 Cut, Key3 Cut, Key4 Cut

Key1 Auto Trans, Key2 Auto Trans, Key3 Auto Trans, Key4 Auto Trans

Key1 SS ? Recall, Key2 SS ? Recall, Key3 SS ? Recall, Key4 SS ? Recall

When Target is P/P: Cut, Auto Trans

DSK1 Cut, DSK2 Cut, DSK3 Cut, DSK4 Cut

DSK1 Auto Trans, DSK2 Auto Trans, DSK3 Auto Trans, DSK4 Auto Trans

DSK1 SS ? Recall, DSK2 SS ? Recall, DSK3 SS ? Recall, DSK4 SS ? Recall

FTB Cut, FTB Auto Trans

When Target is Common/Setup: SS ? Recall, Effect ? Recall, Effect ? Recall & Run, KF Run, KF Stop, KF Rewind, FM1 Frame Freeze, FM1 Field Freeze, FM1 Freeze Off, FM2 Frame Freeze, FM2 Field Freeze, FM2 Freeze Off, No Action

• Action list when the trigger type is “Level”

When Target is M/E-1, M/E-2, M/E-3, or P/P: No Action

When Target is Common/Setup: Format (Overall system settings, frame/field rate, number of lines)

Aspect (overall system settings), Simul, No Action

b) When knob 2 selection is “Key Snapshot”

c) When knob 2 selection is “Snapshot”

d) When knob 2 selection is “Effect”

6 Press [Action Set] to confirm the action selection.

The selected setting appears in the status area.

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 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 appearing 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	No	Signal format/screen aspect ratio selection	1 to ...

- 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.

Making control panel GPI output settings

Use the following procedure.

- 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 appearing 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	Port No	Port selection	1 to 8

- 3** In the <Trigger Type> group, select the trigger polarity.

 : The trigger causes the relay contacts to be open-circuit or drives the output high, and holds this state for the specified pulse width.

 : The trigger causes the relay contacts to be shorted or drives the output low, and holds this state for the specified pulse width.

: Each time the trigger occurs, the relay contacts are alternately closed or opened, or the output is switched between high and low.

Status: Depending on the status, the relay contacts are closed or opened, or the output is switched between high and low.

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)

Knob	Parameter	Adjustment	Setting values
4	Timing	Output timing	1 to 3 ^{a)}

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-3 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 to make the setting.

Knob	Parameter	Adjustment	Setting values
2	Action	Action selection	1 to ... ^{a)}
5	Reg No	Register number	1 to 4 ^{b)}

a) • Action list when the trigger type is other than “Status”

When Source is M/E-1, M/E-2, or M/E-3: Key1 SS ? Recall, Key2 SS ? Recall, Key3 SS ? Recall, Key4 SS ? Recall, No Action

When Source is P/P: DSK1 SS ? Recall, DSK2 SS ? Recall, DSK3 SS ? Recall, DSK4 SS ? Recall, No Action

When Source is Common: KF Run, No Action

• Action list when the trigger type is “Status”

When Source is M/E-1, M/E-2, or M/E-3: Key1 SS ? Recall, Key2 SS ? Recall, Key3 SS ? Recall, Key4 SS ? Recall

Key1 On, Key2 On, Key3 On, Key4 On, No Action

When Source is P/P: DSK1 SS ? Recall, DSK2 SS ? Recall, DSK3 SS ? Recall, DSK4 SS ? Recall

DSK1 On, DSK2 On, DSK3 On, DSK4 On, No Action

When Source is Common: Error Make, Error Break, 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.

Making DCU serial port settings

(These settings are disabled for the CCP-9000.)

You can assign buttons in the device control block (DEV1 to DEV12) to DCU serial ports, to operate the devices (disk recorder/VTR) connected to these ports. For a disk recorder, 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 255).

To associate a serial port with a device selection button

- 1
- In the Panel>Device Interface menu, press [DCU Serial Port Assign].
The Serial Port 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 to make the setting.

Knob	Parameter	Adjustment	Setting values
1	No	Serial port selection	1 to maximum ^{a)}

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.

Note

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.

- 4** Repeat steps **2** and **3** as required to make assignments to other ports.

Sharing disk recorder file lists

(This setting is disabled for the CCP-9000.)

Use the following procedure.

- 1** In the Panel>Device Interface>Serial Port Assign menu, select the disk recorder whose files you want to share with other disk recorders.
- Press directly on 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	No	Serial port selection	1 to maximum ^{a)}

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.

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.

Setting the on-air tally

To set the high tally state reflected on the control panel, select any of the following in the <Button Tally> group.

System: The overall system tally state is reflected on the control panel.

Independ: The tally state of the switcher only is reflected on the control panel.

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 one 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.

Note

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 timeline (The DDR/VTR is setting is disabled for the CCP-9000.)

Setting the Source and Destination names

To set the Source and Destination names used in the control panel, use the following procedure.

- 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 routing switcher

S-Bus Type + No.: Type + No. set in the routing switcher (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.

Settings for the Flexi Pad

(These settings are disabled for the CCP-9000.)

Use the following procedure.

- 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.

Coupling the transition type selection with the Flexi Pad control block mode selection: To make the Flexi Pad mode selection change

automatically when [WIPE] or [DME] is selected in the transition control block, press [Wipe/DME Auto Deleg], turning it on.

Button indications in the memory recall section: When the Flexi Pad control block mode is [WIPE] or [DME], for the button indications in the memory recall section, select [Pattern] or [Register Name] in the <Wipe/DME Display> group. When the mode is [Snapshot] or [Effect], select [Register No] or [Register Name] in the <Snapshot/Effect Display> group.

For details, see Chapter 5 “Wipes” (Volume 1), Chapter 6 “DME Wipes” (Volume 1), Chapter 13 “Keyframe Effects” (Volume 2) and Chapter 14 “Snapshots” (Volume 2).

Setting the button operation mode

Use the following procedure.

- 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 of the [ALL] button in the transition control block:

To specify the next transition to be selected by pressing the [ALL] button in the transition control block, press the next transition you want to select, turning it on, in the <Next Trans All> group. If everything here is set to OFF, then pressing the [ALL] button does not change the specification of the next transition.

Operation mode during an auto transition: For the operation mode when the [AUTO TRANS], [TAKE] or [FTB] 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.

Interchanging the [AUTO TRANS] and [CUT] buttons: To interchange the [AUTO TRANS] and [CUT] buttons in the transition control block, press the [Auto Trans/Cut Swap] button, turning it on.

[UTIL] button operation mode: To set the operation mode of the [UTIL] button in the cross-point control block, press either of the following in the <Util Button> group. (This setting is not available for the CCP-9000.)

Hold: Acts as a utility button while held down, changing the assignment of the cross-point button rows.

Lock: For the key rows, each time the button is pressed the cross-point button assignment toggles between the utility assignment and the normal assignment. The background A and B rows are fixedly assigned to the A and B rows, even if the [UTIL] button is pressed. (For details, see “Names and Functions of Parts of the Control Panel” in Chapter 2 (Volume 1).)

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 228*).

Operation mode of the [XPT HOLD] buttons in the key rows: Set the operation mode of the [XPT HOLD] buttons in the key rows in the <Key Bus Xpt Hold> group, as follows. (This setting is not available for the CCP-9000.)

Normal: The <Xpt Hold Mode> in the Switcher>Key/Wipe/FM menu is enabled.

Protect: In this mode, pressing a panel button cannot change the cross-point settings.

Note

The button ON/OFF state is preserved in each of the “Normal” and “Protect” modes. For example, if the [XPT HOLD] buttons are “ON” in the Normal mode, and you switch to Protect mode, then if the [XPT HOLD] buttons were “OFF” in this mode the previous time, the [XPT HOLD] buttons go off, and if they were “ON” they light.

Setting trackball, joystick, and double-click sensitivity

Use the following procedure.

- 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 [$\times 1$], [$\times 2$], or [$\times 4$].

- 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 [$\times 1$], [$\times 2$], or [$\times 4$].
- 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].

Main split fader specification

In the <Main Split Fader> group of the Panel>Operation menu, select [Left] or [Right].

Screen Saver and Other Settings (Maintenance Menu)

To make settings relating to the screen saver, etc., use the Panel>Maintenance menu.

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 screen 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 each of the following brightnesses independently.

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	Menu screen brightness	1 to 5 ^{a)}

a) The larger the value, the brighter the screen.

Adjusting the alarms

In the Panel>Maintenance menu, make the following settings.

To give audible feedback from menu touch screen operations: Press [Touch Beep], turning it on.

Calibrating the touch panel

Use the following procedure.

- 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 [OK].
- 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.

Setup Relating to Switcher Processor

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 operating bank.

Adjusting the reference phase

To adjust the switcher internal reference phase, adjust the following parameter in the Switcher>Config menu.

Knob	Parameter	Adjustment	Setting values
3	Phase	Switcher internal reference phase	-32.00 to +96.00

Specifying the video switching timing

In the <Switching Timing> group of the Switcher>Config menu, select one of the following.

Any: Not specified

Field 1: Field 1 (odd fields)

Field 2: Field 2 (even fields)

Setting the operation mode

In the <M/E Config> group of the Switcher>Config menu, select the operation mode for each M/E or P/P bank from the following.

- Standard mode
- Multi Program mode
- DSK mode (P/P only)

For details of the modes, see "Switcher Setup" in Chapter 1 (Volume 1).

Note

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.

To assign the output of each bank in Multi Program mode

When you selected [Multi Program] in the procedure described in “Setting the operation mode” (*page 218*), 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.

To set the output configuration for each bank

When you selected [Multi Program] or [DSK] in the procedure described in “Setting the operation mode” (*page 218*), 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 appearing in the status area.
 - Press the arrow keys to scroll the reverse video cursor.

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 18 ^{a)}

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



- 5** In each of the <Key1> to <Key4> groups, select [Enable] or [Disable].

To set 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 appearing in the status area to make the selection.
- Press the arrow keys to scroll the reverse video cursor.

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 18 ^{a)}

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

- 6** In the <Key 1> to <Key 4> groups, select the corresponding key status from the following.

Link: Follow the on/off link setting.

On: Key is always on.

Off: Key is always off.

Setting user regions

Note

If you change the user region settings, the previously stored snapshot data and keyframe effect data can no longer be used.

Use the following procedure.

- 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 to make the setting.

Knob	Parameter	Adjustment	Setting values
1	Region	Region selection	1 ...

- 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] without pressing [Execute].
When you press [Execute], a confirmation message appears.
- 6** Press [Yes].

This assigns a region to a user region.

Assigning PGM/PST logically to an M/E

Use the following procedure.

- 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.

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, input signal phase, and through mode on/off setting.

Making phase adjustment and through mode settings

Use the following procedure.

- 1 In the Switcher>Input menu, select the input signal to which the settings apply.
 - Press directly on the list appearing 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	Src No	Input signal selection	1 to 80

The selected input signal appears in reverse video.

- 2 Press [Input Phase Adj].
- 3 To adjust the phase, adjust the following parameter.

Knob	Parameter	Adjustment	Setting values
2	Phase	Input signal phase	-16 to +16

- 4** To enable through mode, press [Through Mode], turning it on.

Making video process settings

Use the following procedure.

- 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 appearing 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
6	Src No	Input signal selection	1 to 80

- 3** Press [Video Process], turning it on.

- 4** 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	−7.30 to +109.58

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.

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 signal numbers and names, and output signal phase for the signals output from Output 1 to 48.

Assigning output signals

To assign a signal to output from an output port, use the following procedure.

- 1 In the Switcher>Output menu, press [Output Assign].
The Output Assign menu appears.
The status area shows the output ports 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 any of the following.
[Re-Entry Source]: It is possible to make duplicate assignments.
M/E-1 Output 1 to 6 ^{a)}
M/E-2 Output 1 to 6 ^{a)}
M/E-3 Output 1 to 6 ^{a)}
PGM/PST 1 to 6 ^{a)}
DME Monitor Video
DME Monitor Key
^{a)} M/E output signals selected in the M/E Output Assign menu.
[Aux Bus]: It is not possible to make duplicate assignments.
Preset
Edit Preview
AUX 1 to 48

- 3 Using any of the following methods, select the output port number and signal to be assigned.
 - Press directly on the list appearing in the status area to make the selection.
 - Press the arrow keys to scroll the reverse video cursor.
 - Turn the knobs to make the selection.

Knob	Parameter	Adjustment	Setting values
1	Output No	Output port number	1 to 48
2	Source No	Selection of signal to be assigned	

- For output ports not to be assigned, press [Inhibit].

The selected signal appears in reverse video.

- 4 Press [Set] to confirm the assignment.

Selecting the output signal to which settings apply

In the following video clip adjustment, vertical blanking interval adjustment and through mode setting, and safe title setting, use either 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 move the reverse video cursor.

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 ports, use the following procedure.

- 1 In the Switcher>Output menu, press [Video Clip].

The Video Clip menu appears.

The status area shows the output ports and assigned signals, and the white clip, dark clip, and chrominance clip values.

- 2 Adjust the following parameters.

Knob	Parameter	Adjustment	Setting values
1	White Clip	Luminance signal white clip value	90.00 to 109.02
2	Dark Clip	Luminance signal dark clip value	-6.85 to +10.00
3	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

Use the following procedure.

- 1 In the Switcher>Output menu, press [V Blank/Through].

The V Blank/Through menu appears.

The status area shows the output ports 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:** 7 to 20

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
- Program outputs of the M/E and PGM/PST rows
- Clean outputs of the M/E and PGM/PST rows

Making safe title settings

Use the following procedure.

1 In the Switcher>Output menu, press [Safe Title].

The Safe Title menu appears.

The status area shows the output ports and the assigned signals, with the box 1, box 2, and cross 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.

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 ^{a)}

a) Adjustable for Box2

- 5** When in step **3** you selected [Box1] or [Box2], in the <Box1 Adjust> or <Box2 Adjust> group, select the aspect ratio (16:9/14:9/4:3).

Setting the reference output

To adjust the reference output phase with respect to the reference input, adjust the following parameters in the Switcher>Output menu.

Knob	Parameter	Adjustment	Setting values
2	Line	Line phase	-90 to +90
3	Time	Time	-32.00 to +96.00

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 4:3 to an aspect ratio of 4:3, use the following procedure.

- 1** In the Output menu, press [4:3 Crop].

The Output 4:3 Crop menu appears.

The status area shows the output ports and respective 4:3 Crop mode settings.

- 2** Using any of the following methods, select the output port.

- Press directly on the list appearing 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 No	Output port to which setting applies	1 to 48 ^{a)}

a) Depends on what processor output boards are installed.

- 3** Press [4:3 Crop], turning it on.

This enables the crop setting, and this is reflected in the status area.

Note

When the screen aspect ratio of 16:9 is selected for all M/E banks in the System>Format>Active Line/Aspect menu, the setting of 4:3 Crop is disabled.

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 P/P bank.

Selecting the bank to which the settings apply

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 appearing in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob to make the selection.

Knob	Parameter	Adjustment	Setting values
1	Bank	M/E or P/P selection to which settings apply	1 to 4

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 any 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 any 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.

Independent: 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 more details, see “Flip-flop mode and bus fixed mode” in Chapter 1 (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.

Enabling or 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: When the [FTB] button is pressed, a fade-to-black is carried out.

Off: Even when the [FTB] button is pressed, no fade-to-black is carried out.

Note

The PGM2 to PGM4 settings are only valid in Multi Program mode or DSK mode.

Setting a preset color mix

Use the following procedure.

- 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.

- 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 [Key4], turning them on. (See “Transition Types” in Chapter 1 (Volume 1).)

- 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 and Frame Memory (Key/Wipe/FM Menu)

For settings relating to keys, wipes and frame memory, use the Switcher>Key/Wipe/FM menu.

To display the Key/Wipe/FM menu

In the Engineering Setup menu, select VF3 'Switcher' and HF5 'Key/Wipe/FM.'

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 operating bank.

Switching video process memory on or off

In the Switcher>Key/Wipe/FM menu, press [Video Proc Memory], turning it on. (See also "Switcher Setup" in Chapter 1 (Volume 1).)

Settings for the show key function

Use the following procedure.

- 1 In the Switcher>Key/Wipe/FM 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 DSK auto drop function

Use the following procedure.

- 1 In the Switcher>Key/Wipe/FM menu, press [DSK Auto Drop].
The DSK Auto Drop menu appears.
- 2 In the <DSK Auto Drop> group, press one of [DSK1] to [DSK4] for which you want the DSK to be deleted automatically, turning it on.

Automatically naming and saving to frame memory

In the Switcher>Key/Wipe/FM menu, press [FM Auto Store], turning it on.

Selecting the bank to which the settings apply

For the section “Selecting the key memory mode” and subsequent sections, select the operating bank to which the settings apply using any of the following methods, then make the settings.

- Press directly on the list appearing in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob to make the selection.

Knob	Parameter	Adjustment	Setting values
1	Bank	M/E or P/P selection to which settings apply	1 to 4

The selected bank appears in reverse video.

Selecting the key memory mode

In the <Key Memory> group of the Switcher>Key/Wipe/FM menu, select one from Full (full mode)/Simple (simple mode)/Off.

For more details, see “Key Memory” in Chapter 1 (Volume 1).

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.

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 appearing 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	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 to make the setting.

Knob	Parameter	Adjustment	Setting values
2	No	Bus selection	1 to 118 ^{a)}

- a) Only when [Master Bus] is selected, 115 (M/E-1 Trans PGM), 116 (M/E-2 Trans PGM), 117 (M/E-3 Trans PGM), and 118 (P/P Trans PGM) are available. When [Linked Bus] is selected, 115 to 118 are not available.

Note

With one of 115 to 118 selected for [Master Bus], linking is carried out 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 status area reflects the current setting status.

To delete a link

Select the link you want to delete, then press [Clear] in the Internal Bus Link menu.

Making link table settings

Use the following procedure.

- 1** In the 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 appearing 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
4	Main No	Video/key signal for link source ^{a)}	1 to 128
5	No	Video/key signal for link destination ^{a)}	1 to 128

a) When the selected bus has a key source bus set, a key signal is displayed; when other buses are selected, a video signal is displayed.

- 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

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 this menu too, you can 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 appearing 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	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 appearing in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knobs to make the selection.

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	Video or button name selection	1 to 136 ^{a)}

a) These include main pair numbers 1 to 128, and “Cut” and “Auto Trans” on each operating 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 appearing in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob to make the selection.

Knob	Parameter	Adjustment	Setting values
4	Bus	Bus selection	1 to 112

- 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.

To set the delay value

Use the following procedure.

- 1** In the 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.

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.'

Making 9-pin port device interface settings

The description in this section takes the REMOTE3 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 REMOTE3 port from the <Remote3> group.

Editor A: assign Editor A to the REMOTE3 port.

Editor B: assign Editor B to the REMOTE3 port.

AUX: assign AUX to the REMOTE3 port.

DME1: assign DME1 to the REMOTE3 port.

Note

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

Use the following procedure.

- 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 appearing 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	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.

 : Apply the trigger on a rising edge of an input pulse.

 : Apply the trigger on a falling edge of an input pulse.

 : 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, P/P: Set the action for one of the operating 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 appearing 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
3	Action	Action selection	1 to ... ^{a)}
4	Reg No	Register number	1 to 4 ^{b)} 1 to 99 ^{c)}

a) • **Action list when the trigger type is other than “Level”**

When Target is M/E-1, M/E-2, or M/E-3: Cut, Auto Trans

Key1 Cut, Key1 Auto Trans, Key2 Cut, Key2 Auto Trans, Key3 Cut, Key3 Auto Trans, Key4 Cut, Key4 Auto Trans

SS ? Recall, Key1 SS ? Recall, Key2 SS ? Recall, Key3 SS ? Recall, Key4 SS ? Recall

Effect ? Recall, Effect ? Recall & Run, KF Run, KF Stop, KF Rewind, KF Reverse Run, No Action

When Target is P/P: Cut, Auto Trans

DSK1 Cut, DSK1 Auto Trans, DSK2 Cut, DSK2 Auto Trans, DSK3 Cut, DSK3 Auto Trans, DSK4 Cut, DSK4 Auto Trans

FTB Cut, FTB Auto Trans

SS ? Recall, DSK1 SS ? Recall, DSK2 SS ? Recall, DSK3 SS ? Recall, DSK4 SS ? Recall

Effect ? Recall, Effect ? Recall & Run, KF Run, KF Stop, KF Rewind, KF Reverse 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

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

• **Action list when the trigger type is “Level”**

When Target is M/E-1, M/E-2, M/E-3, or P/P: Aspect, No Action

When Target is Common/Setup: Format, Aspect, No Action

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.

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 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 appearing 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	No	Signal format/screen aspect ratio selection	1 to ...

- 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.

Note

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.

Making switcher processor GPI output settings

Use the following procedure.

- 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 appearing 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	Port	Port selection	1 to 8

- 3** In the <Trigger Type> group, select the trigger polarity.

 : The trigger causes the relay contacts to be open-circuit or drives the output high, and holds this state for the specified pulse width.

 : The trigger causes the relay contacts to be shorted or drives the output low, and holds this state for the specified pulse width.

 : Each time the trigger occurs, the relay contacts are alternately closed or opened, or the output is switched between high and low.

Status: Depending on the status, the relay contacts are closed or opened, or the output is switched between high and low.

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 ^{a)}

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-3 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 to make the setting.

Knob	Parameter	Adjustment	Setting values
2	Action	Action selection	1 to ... ^{a)}
5	Reg No	Register number	1 to 4 ^{b)} 1 to 99 ^{c)}

a) • Action list when the trigger type is other than “Status”

When Source is M/E-1, M/E-2, or M/E-3: Cut, Auto Trans

Key1 Cut, Key1 Auto Trans, Key2 Cut, Key2 Auto Trans, Key3 Cut, Key3 Auto Trans, Key4 Cut, Key4 Auto Trans

Key1 SS ? Recall, Key2 SS ? Recall, Key3 SS ? Recall, Key4 SS ? Recall

Effect ? Recall, Effect ? Recall & Run, KF Run, KF Stop, KF Rewind, No Action

When Source is P/P: Cut, Auto Trans

DSK1 Cut, DSK1 Auto Trans, DSK2 Cut, DSK2 Auto Trans, DSK3 Cut, DSK3 Auto Trans, DSK4 Cut, DSK4 Auto Trans

FTB Cut, FTB Auto Trans

DSK1 SS ? Recall, DSK2 SS ? Recall, DSK3 SS ? Recall, DSK4 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”

When Source is M/E-1, M/E-2 or M/E-3: Key1 On, Key2 On, Key3 On, Key4 On
No Action

When Source is P/P: DSK1 On, DSK2 On, DSK3 On, DSK4 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

Use the following procedure.

- 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 to make the setting.

Knob	Parameter	Adjustment	Setting values
1	No	Aux bus selection	0 to 48 ^{a)}

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.

Setup Relating to DME

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.

In the following description, the settings for DME1 are given by way of example, but the settings for DME2 are carried out in a similar way.

Setting the initial crop

Use the following procedure.

- 1** In the DME1 <Aspect> group, 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 2

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 2

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.

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.'

In the following description, the settings for DME1 are given by way of example, but the settings for DME2 are carried out in a similar way.

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.

Making DME GPI input settings

Use the following procedure.





- 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 appearing 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	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.
-  : Apply the trigger on a rising edge of an input pulse.
-  : Apply the trigger on a falling edge of an input pulse.
-  : 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 appearing 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
3	Action	Action selection	1 to ... ^{a)}
4	Reg No	Register number	1 to 99 ^{b)} 1 to 399 ^{c)}

- a) • **Action list 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
- **Action list when the trigger type is “Level”**
 When Target is Ch1, Ch2, Ch3, or Ch4: Aspect, No Action
 When Target is Proc: Format (frame/field rate, number of lines)
 Aspect, No Action
- 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.

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 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 appearing 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	No	Signal format/screen aspect ratio selection	1 to ...

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

Use the following procedure.

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: Depending on the status, the relay contacts are closed or opened, or the output is switched between high and low.

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 appearing 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
2	Action	Action selection	1 to 3 ^{a)}

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

Note

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)

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 assign GPI inputs to DCU parallel input ports, display the DCU>Input Config menu.

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

Use the following procedure.

- 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 appearing 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	Parallel Input	Input port	1 to 102
3	GPI Input	GPI input	1 to 50

- 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

Use the following procedure.

- 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 Engineering Setup, select VF5 ‘DCU’ and HF2 ‘GPI Input Assign.’
The GPI input port setting status appears in the status area.

Making DCU GPI input settings


Use the following procedure.


- 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 appearing 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	No	GPI input	1 to 50

2 In the <Trigger Type> group, select the trigger polarity.

 : Apply the trigger on a rising edge of an input pulse.

 : Apply the trigger on a falling edge of an input pulse.

 : 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 appearing 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
2	Action	Action selection	1 to ... ^{a)}
5	Reg No	Register number	1 to 4 ^{b)} 1 to 99 ^{c)} 1 to 399 ^{d)}

a) • **Action list when the trigger type is other than “Level”**

M/E-1 Cut, M/E-2 Cut, M/E-3 Cut, P/P Cut,
M/E-1 Auto Trans, M/E-2 Auto Trans, M/E-3 Auto Trans,
P/P Auto Trans
M/E-1 Key1 Auto Trans, M/E-1 Key1 Cut
M/E-1 Key2 Auto Trans, M/E-1 Key2 Cut
M/E-1 Key3 Auto Trans, M/E-1 Key3 Cut
M/E-1 Key4 Auto Trans, M/E-1 Key4 Cut
M/E-2 Key1 Auto Trans, M/E-2 Key1 Cut
M/E-2 Key2 Auto Trans, M/E-2 Key2 Cut

M/E-2 Key3 Auto Trans, M/E-2 Key3 Cut
 M/E-2 Key4 Auto Trans, M/E-2 Key4 Cut
 M/E-3 Key1 Auto Trans, M/E-3 Key1 Cut
 M/E-3 Key2 Auto Trans, M/E-3 Key2 Cut
 M/E-3 Key3 Auto Trans, M/E-3 Key3 Cut
 M/E-3 Key4 Auto Trans, M/E-3 Key4 Cut
 P/P DSK1 Auto Trans, P/P DSK1 Cut
 P/P DSK2 Auto Trans, P/P DSK2 Cut
 P/P DSK3 Auto Trans, P/P DSK3 Cut
 P/P DSK4 Auto Trans, P/P DSK4 Cut
 FTB Auto Trans, FTB Cut
 SS ? Recall,
 M/E-1 Key1 SS ? Recall, M/E-1 Key2 SS ? Recall
 M/E-1 Key3 SS ? Recall, M/E-1 Key4 SS ? Recall
 M/E-2 Key1 SS ? Recall, M/E-2 Key2 SS ? Recall
 M/E-2 Key3 SS ? Recall, M/E-2 Key4 SS ? Recall
 M/E-3 Key1 SS ? Recall, M/E-3 Key2 SS ? Recall
 M/E-3 Key3 SS ? Recall, M/E-3 Key4 SS ? Recall
 P/P DSK1 SS ? Recall, P/P DSK2 SS ? Recall
 P/P-1 DSK3 SS ? Recall, P/P-1 DSK4 SS ? Recall
 FM Src1 Field Freeze, FM Src1 Frame Freeze, FM Src1 Freeze Off
 FM Src2 Field Freeze, FM Src2 Frame Freeze, FM Src2 Freeze Off
 Effect ? Recall, Effect ? Recall & Run, KF Run, KF Stop,
 KF Rewind, No Action
 • **Action list when the trigger type is “Level”**
 Simul, Custom, Format (frame/field rate, number of lines)
 (System Format, SWR Format, DME Ch1-Ch4 Format, DME Ch5-Ch8 Format)
 Aspect (System Aspect, SWR Aspect, M/E-1 Aspect, P/P Aspect, DME Ch1-Ch4
 Aspect
 DME Ch1 Aspect, DME Ch2 Aspect, DME Ch3 Aspect, DME Ch4 Aspect), No
 Action
 b) When knob 2 selection is “Key Snapshot”
 c) When knob 2 selection is “Snapshot”
 d) When knob 2 selection is “Effect”

5 To confirm the setting in step 4, press [Action Set].

This confirms the setting, which appears in the status area.

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 appearing 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	No	Signal format/screen aspect ratio selection	1 to ...

- 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.

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 GPI outputs to DCU parallel output ports, display the DCU>Output Config menu.

To display the Output Config menu

In Engineering Setup, select VF5 'DCU' and HF3 'Output Config.'

The status area shows output port information.

Assigning a GPI output port

Use the following procedure.

- 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 appearing 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	Parallel Output Slot	Output port slot	2 to 6
2	Parallel Output Port	Output port	1 to 54
5	GPI Output	GPI output	1 to 50

- 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

Use the following procedure.

- 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 Setting (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 Engineering Setup, select VF5 'DCU' and HF4 'GPI Output Assign.'
The GPI output port setting status appears in the status area.


Making DCU GPI output settings


Use the following procedure.


- 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 appearing 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	No	GPI output	1 to 50

2 In the <Trigger Type> group, select the trigger polarity.

 : The trigger causes the relay contacts to be open-circuit or drives the output high, and holds this state for the specified pulse width.

 : The trigger causes the relay contacts to be shorted or drives the output low, and holds this state for the specified pulse width.

 : Each time the trigger occurs, the relay contacts are alternately closed or opened, or the output is switched between high and low.


Status: Depending on the status, the relay contacts are closed or opened, or the output is switched between high and low.

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 ^{a)}

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 appearing 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
2	Action	Action selection	1 to ... ^{a)}
5	Reg No	Snapshot register number	1 to 4

a) • Action list when the trigger type is other than “Status”

When Source Device is SCU: M/E1 Key1 SS ? Recall, M/E1 Key2 SS ? Recall, M/E1 Key3 SS ? Recall
M/E1 Key4 SS ? Recall, M/E2 Key1 SS ? Recall, M/E2 Key2 SS ? Recall, M/E2 Key3 SS ? Recall, M/E2 Key4 SS ? Recall
M/E3 Key1 SS ? Recall, M/E3 Key2 SS ? Recall, M/E3 Key3 SS ? Recall, M/E3 Key4 SS ? Recall
P/P DSK1 SS ? Recall, P/P DSK2 SS ? Recall, P/P DSK3 SS ? Recall, P/P DSK4 SS ? Recall
No Action

When Source Device is DCU: No Action

• Action list when the trigger type is “Status”

When Source Device is SCU: M/E1 Key1 SS ? Recall, M/E1 Key2 SS ? Recall, M/E1 Key3 SS ? Recall, M/E1 Key4 SS ? Recall
M/E2 Key1 SS ? Recall, M/E2 Key2 SS ? Recall, M/E2 Key3 SS ? Recall, M/E2 Key4 SS ? Recall
M/E3 Key1 SS ? Recall, M/E3 Key2 SS ? Recall, M/E3 Key3 SS ? Recall, M/E3 Key4 SS ? Recall
P/P DSK1 SS ? Recall, P/P DSK2 SS ? Recall, P/P DSK3 SS ? Recall, P/P DSK4 SS ? Recall
M/E1 Key1 On, M/E1 Key2 On, M/E1 Key3 On, M/E1 Key4 On
M/E2 Key1 On, M/E2 Key2 On, M/E2 Key3 On, M/E2 Key4 On
M/E3 Key1 On, M/E3 Key2 On, M/E3 Key3 On, M/E3 Key4 On
P/P DSK1 On, P/P DSK2 On, P/P DSK3 On, P/P DSK4 On
Error Make, Error Break, No Action
When Source Device is DCU: Error Make, Error Break, No Action

6 To confirm the selection, press [Action Set].

This confirms the selection, which appears in the status area.

Test firing the trigger

To test fire 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 Engineering Setup, select VF5 'DCU' and HF5 'Serial Port Assign.'

The serial port setting status appears in the status area.

Making serial port settings

Use the following procedure.

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 to make the selection.

Knob	Parameter	Adjustment	Setting values
1	Port No	Serial port	1 to max. ^{a)}

a) The setting value range depends on the DCU port setting.

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 to make the selection.

Knob	Parameter	Adjustment	Setting values
2	Device Type	Protocol selection	1 to 4 ^{a)}

- 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)
 (The "3. VTR" and "4. DDR SD9P" are disabled for the CCP-9000.)

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:** 1 to 5 (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.

To delete the serial port assignment

Use the following procedure.

- 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 to make the selection.

Knob	Parameter	Adjustment	Setting values
1	Port No	Serial port	1 to 30

- 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.

To make detailed settings for a VTR

(These settings are disabled for the CCP-9000.)

Use the following procedure.

- 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, set 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 to make the selection.

Knob	Parameter	Adjustment	Setting values
1	Port No	Serial port	1 to 30

- 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): Normally LTC is used, but when the tape speed is such that LTC cannot be read ($\frac{1}{8}$ normal speed or below), or the LTC cannot be read for some other reason, this is interpolated using CTL pulses or timer counter pulses.

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 to make the selection.

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 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].

This confirms the settings.

9 Repeat steps 5 to 8 as required to set the constants for other VTRs.

To make detailed settings for a disk recorder (Sony disk 9-pin protocol)

(These settings are disabled for the CCP-9000.)

Use the following procedure.

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 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 to make the selection.

Knob	Parameter	Adjustment	Setting values
1	Port No	Serial port	1 to 30

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 to make the selection.

Knob	Parameter	Adjustment	Setting values
1	Item No	Item selection	1 to 4 ^{a)}

- 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. Play After Open Next Delay: maximum 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].

This confirms the setting.

7 Repeat steps 4 to 6 as required to make the settings for other items.

Setup Relating to Router Interface and Tally

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.

Assigning switcher inputs and outputs to S-Bus space

Use the following procedure.

- 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.

Note

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.

Standard (136 × 138): Assign the switcher S-Bus space at full size. You can assign all switcher inputs and outputs to the S-Bus space, but this causes some waste of S-Bus space.

Compact (128 × 128): Assign the switcher S-Bus space at compact size. It is not possible to assign all switcher inputs and outputs to the S-Bus space, but the S-Bus space can be used efficiently.

- 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 ^{a)}
2	Destination	Destination start address	1 to maximum value ^{b)}
3	Level	Level	1 to 8

a) When the matrix size is Standard, the maximum value is 889. For the Compact size, the maximum value is 897.

b) When the matrix size is Standard, the maximum value is 887. For the Compact size, the maximum value is 897.

Making an external box setting

Use the following procedure.

- 1 In the Router/Tally>Router menu, press [External Box Assign].

The External Box Assign menu appears.

The status area shows the external box size, address, and other settings.

- 2 In the <Device> group, select what the setting applies to (External Box 1 to 4).

- 3 In the <Matrix Size> group, select the number of inputs.

No Assign: Do not use.

8×1: Select an external box with 8 inputs and 1 output.

16×1: Select an external box with 16 inputs and 1 output.

32×1: Select an external box with 32 inputs and 1 output.

- 4 Turn the knobs to make adjustments.

Knob	Parameter	Adjustment	Setting values
1	Source	Source start address	1 to 1017 ^{a)} 1 to 1009 ^{b)} 1 to 993 ^{c)}
2	Destination	Destination start address	1 to 1024
3	Level	Level	1 to 8

a) When Matrix Size is 8×1

b) When Matrix Size is 16×1

c) When Matrix Size is 32×1

To couple 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 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.

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.'

Setting the tally groups

Use the following procedure.

- 1 In the <Tally Group> group of the Group Tally menu, select the tally groups.
Group1 to 4: Use groups 1 to 4.
Group5 to 8: Use groups 5 to 8.

- 2 Press [SBus Tally Enable], turning it on or off.

On: Enable the transfer of S-Bus tally information over the S-Bus.

Off: Disable the transfer of S-Bus tally information over the S-Bus.

Wiring Settings (Wiring Menu)

When configuring a system in which the switcher inputs and outputs are connected to a router, it is necessary to set this connection configuration (referred to as “wiring”) in the S-Bus space.

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

Use the following procedure.

- 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

Use the following procedure.

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].

This updates the wiring settings.

Deleting wiring settings

Use the following procedure.

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 appearing in the status area.
- Press the arrow keys to scroll the reverse video cursor.

2 Press [Delete].

This deletes the selected wiring entry.

Sorting wiring settings

In the Router/Tally>Wiring menu, press [Sort].

Every time you press [Sort], the order of wiring settings changes in the following order.

Destination lever order→Destination address order→Source level order

Tally Generation Settings (Tally Enable Menu)

For settings relating to tally generation, use the Router/Tally>Tally Enable menu. 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.

Making new tally generation settings

Use the following procedure.

- 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 8 ^{a)}

a) When you selected Group1 to 4 in the section "Setting the tally groups" (page 262), this is 1:R1, 2:G1, 3:R2, 4:G2, 5:R3, 6:G3, 7:R4, and 8:G4.

When you selected Group5 to 8, this is 1:R5, 2:G5, 3:R6, 4:G6, 5:R7, 6:G7, 7:R8, and 8: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 any 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

Use the following procedure.

- 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].

This modifies the tally generation settings.

Deleting tally generation settings

Use the following procedure.

- 1** Using either of the following methods in the Router/Tally Enable menu, select the tally generation entry you want to delete.
 - Press directly on the list appearing in the status area.
 - Press the arrow keys to scroll the reverse video cursor.
- 2** Press [Delete].

This deletes the selected tally generation entry.

Tally Copy Settings (Tally Copy Menu)

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

Use the following procedure.

- 1 In the Router/Tally>Tally Copy menu, select [New].

The New menu appears.

- 2 Turn the knob to select the copy-from source.

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

Use the following procedure.

- 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].

This updates the tally copy settings.

Deleting tally copy settings

Use the following procedure.

- 1** In the Router/Tally>Tally Copy menu, using either of the following methods, select the tally copy whose settings you want to delete.

- Press directly on the list appearing 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	Copy No	Tally copy setting selection for deletion	1 to ...

- 2** Press [Delete].

This deletes the selected tally copy entry.

Parallel Tally Settings (Parallel Tally Menu)

For settings relating to parallel tally, use the Router/Tally>Parallel Tally menu.

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

Use the following procedure.

- 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 appearing 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	Slot No	Parallel tally slot number	2 to 6
2	Port No	Parallel tally port number	1 to 54

- 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 parameters.

Knob	Parameter	Adjustment	Setting values
3	Type	Tally type	1 to 8 ^{a)}

a) When you selected Group1 to 4 in the section “Setting the tally groups” (page 262), this is 1:R1, 2:G1, 3:R2, 4:G2, 5:R3, 6:G3, 7:R4, and 8:G4.

When you selected Group5 to 8, this is 1:R5, 2:G5, 3:R6, 4:G6, 5:R7, 6:G7, 7:R8, and 8: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

Use the following procedure.

- 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 appearing 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	Slot No	Parallel tally slot number	2 to 6
2	Port No	Parallel tally port number	1 to 54

- 2 Press [Clear].

This deletes the selected parallel tally entry.

Serial Tally Settings (Serial Tally Menu)

To make serial tally settings, display the Router/Tally>Serial Tally menu.

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

Use the following procedure.

- 1 In the <Serial Tally Port> group of the Serial Tally menu, select the port to which the setting applies.
- 2 In the <Tally Type> group, press the tally types to select. (You can select up to four.)

Note

The selectable tally types depend on the settings in the Group Tally menu.

Making the serial tally source address settings

To set the serial tally source address for each port, use the following procedure.

- 1 In the 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 to make the selection.

Knob	Parameter	Adjustment	Setting values
1	Bit No	Bit selection	1 to 128

- 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].
This confirms the setting.

Clearing a source address setting

To clear a source address setting for a particular bit

In the 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 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.

Simple Connection of the MKS-8080/8082 AUX Bus Remote Panel

Procedure for Simple Connection

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, refer to 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 CCP-9000 Center Control Panel.

Set the STATION ID switches S903 on the front of the CA-45 board in the SCU SLOT 1 to 001 (switch 1 only to the OPEN position).
- 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-8000 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, refer to 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 CCP-9000.

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 unset, 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 routing switcher cannot be connected in cascade, no route setting is required, and this is unset.

O: SET AVAILABLE SOURCE/DESTINATION

Set the source and destination ranges so that the MVS-8000 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.

Z: SET PANEL STATUS

The various settings are the same as the factory default settings.



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Operations on Individual Files

You can save or recall the contents of an individual file or register. Carry out these operations in the File menu.

Displaying the Individual Menus

Use the following procedure.

- 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’ combination.

Button	HF1	HF2	HF3	HF4
VF1	Setup	Initial Status	Key Memory	Video Proc Memory
VF2	Effect 1-99	Effect 101-199	Effect 201-299	—
VF3	Snapshot	—	—	Key Snapshot
VF4	Shotbox	—	—	—
VF5	Frame Memory	—	—	—

The following description refers to the example of carrying out operations on snapshot files, but the procedure is similar in the other menus.

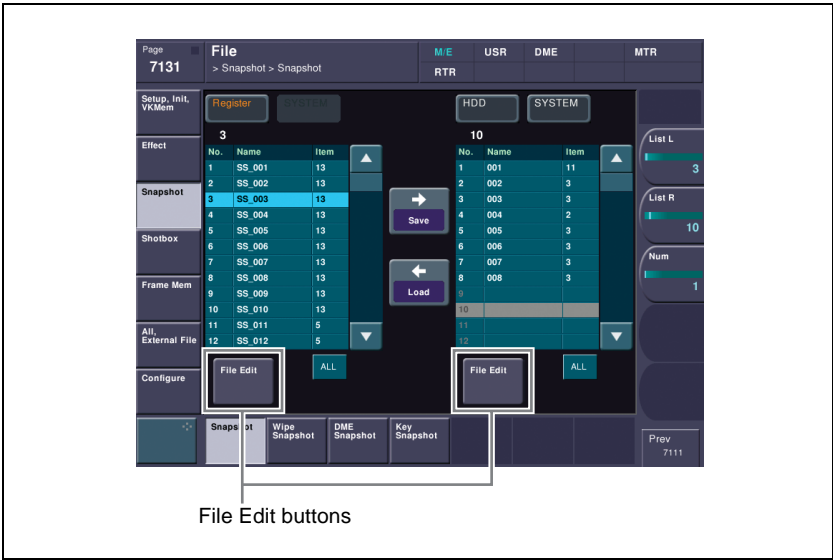
Viewing Detailed File Information

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.’

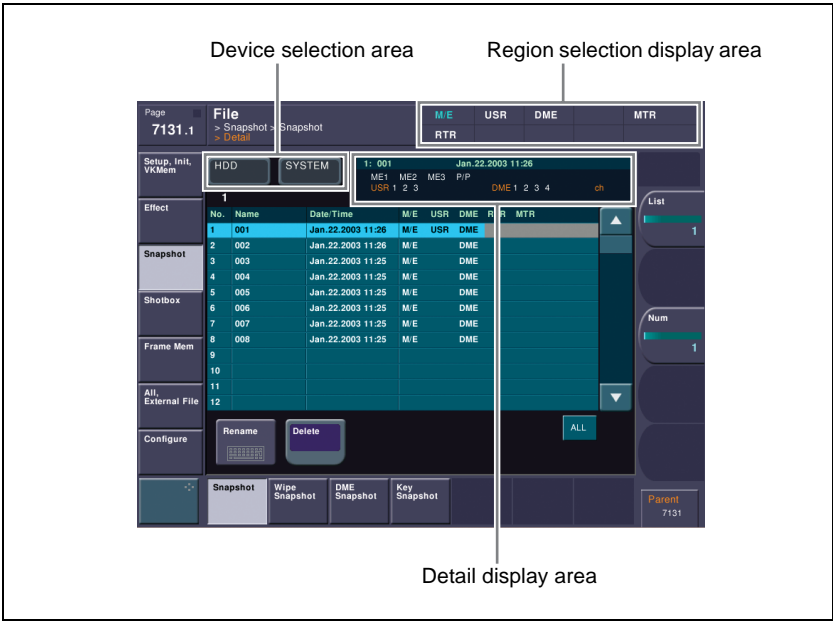
The Snapshot menu appears.

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.



- 3 Selecting a particular file displays more detailed information about that file in the detail display area at the top right of the file list.

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
- Frame memory
- Setup
- Initial status

In the above list, for setup and initial status, you can subdivide the files for manipulation by device, using the same operation as for region selection.

To make a region selection

Use the following procedure.

- 1 Press the region selection display area at the top right of the screen (*see page 277*).

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, remote panel hard disk, and so on. You can then further select a directory.

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 (*see page 186*) before using it for the first time.

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].

This selects the memory card as the location holding the files.
- 3** To select a directory, in the device selection area, press [SYSTEM] (default setting).

If there are any directories on the memory card, a pull-down menu appears.
To create a new directory, see “Creating a New Directory” (page 288).
- 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.

- 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 278).
- 4** 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 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.

Recalling Files

As an example, to recall 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 278).
- 4 Using any of the following methods, select the register to which you want to recall, and the file to be recalled.
 - 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 recalled	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 recalls the contents of the selected file from the specified location.

Copying Files

You can copy files either within a directory or between directories, on the hard disk, memory card, or remote panel.

As an example, to copy a snapshot file from memory card to remote panel 1, 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 278.*)
- 3 In the device selection area on the right, select the destination of the copied file (in this case [Remote PNL1] 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.

Renaming Files

You can rename a file on the hard disk or memory card. 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 278.*)

- 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 to make the selection.

Knob	Parameter	Adjustment	Setting values
1	List	File selection	1 to 99

- 4 Press [Rename].

The keyboard window appears. (*See “Menu Operations” in Chapter 2 (Volume 1).*)

- 5 Enter a name of not more than eight characters, and press [Enter].

The name you have entered is reflected in the status area.

Deleting Files

You can delete data from the hard disk or memory card. 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 278.*)

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
2	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.

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

Use the following procedure.

- 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 (*see page 186*) before using it for the first time.

- 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 278.*)
- 2** If there are registers you do not want to save, in the <Category> group, exclude them from the operation.

For details of the data to which operations apply, see "Files" in Chapter 1 (Volume 1).

- 3** Press the [→ Save] button.

A confirmation message appears.

- Select "Yes" to carry out the batch save.
- Select "No" to cancel the batch save.

Batch Recalling Files

To recall files from hard disk or memory card, use the following procedure.

- 1** In the device selection area of the All menu, select where the files are held ([HDD] or [Memory Card] and directory). (*See page 278.*)
- 2** If there are files you do not want to recall, in the <Category> group, exclude them from the operation.

For details of the data to which operations apply, see “Files” in Chapter 1 (Volume 1).

- 3** Press the [← Load] button.

A confirmation message appears.

- Select “Yes” to carry out the batch recall.
- Select “No” to cancel the batch recall.

Batch Deleting Files

To delete files from hard disk or memory card, use the following procedure.

- 1** In the device selection area of the All menu, select where the files are held ([HDD] or [Memory Card] and directory). (*See page 278.*)
- 2** Press the [Delete All] button.

A confirmation message appears.

- Select “Yes” to delete all files from the selected directory.
- Select “No” to cancel the batch delete.

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 “Files” in Chapter 1 (Volume 1).

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.

- 1** In the Import/Export menu, press the device selection area on the left to select [Frame Memory (.BMP)].
- 2** Press the device selection area on the right to select [Memory Card]. It is not possible to select a directory.
- 3** Using any of the following methods, select the register into which the data is to be imported and the file.
 - 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 selection.

Knob	Parameter	Adjustment	Setting values
1	List L	Register selection	1 to ...

Knob	Parameter	Adjustment	Setting values
2	List R	File selection	1 to ...

4 Press [← Import].

This transfers the external file to the frame memory register.

Exporting Frame Memory Data

As an example, to save image data from frame memory in a different format on a memory card, use the following procedure.

- 1 In the Import/Export menu, press the device selection area on the left to select [Frame Memory (.BMP)].
- 2 Press the device selection area on the right to select [Memory Card]. It is not possible to select a directory.
- 3 Using any of the following methods, select the data 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 knob to make the selection.

Knob	Parameter	Adjustment	Setting values
1	List L	Register selection	1 to ...

4 Press [→ Export].

This adds the image data from the frame memory in a different 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, delete, or write-protect 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

To create a new directory, use the following procedure.

- 1** In the device selection pull-down menu, select [HDD] or [Memory Card].
(See page 278.)
- 2** Press [New].
The keyboard window appears. (See "Menu Operations" in Chapter 2 (Volume 1).)
- 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.

Renaming a Directory

To rename a directory, use the following procedure.

- 1** In the device selection pull-down menu, select [HDD] or [Memory Card].
(See page 278.)
- 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 to make the selection.

Knob	Parameter	Adjustment	Setting values
1	List	Directory selection	1 to ...

3 Press [Rename].

The keyboard window appears. (See “Menu Operations” in Chapter 2 (Volume 1).)

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

To delete a directory, use the following procedure.

1 In the device selection pull-down menu, select [HDD] or [Memory Card].
(See page 278.)

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 to make the selection.

Knob	Parameter	Adjustment	Setting values
1	List	Directory selection	1 to ...

3 Press [Delete].

A confirmation message appears.

- Select “Yes” to delete the directory.
- Select “No” to cancel the deletion.

Write-Protecting a Directory

To write-protect a directory, use the following procedure.

1 In the device selection pull-down menu, select [HDD] or [Memory Card].
(See page 278.)

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 to make the selection.

Knob	Parameter	Adjustment	Setting values
1	List	Directory selection	1 to ...

3 Press [Protect].

This protects the specified directory, and this write-protect status is reflected in the status area.



Chapter 18 Macros

Not supported in version 2.00.



Chapter 19 DIAGNOSIS

Not supported in version 2.00.


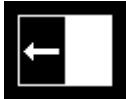















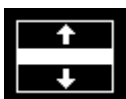








Appendix










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Wipe Pattern List

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	


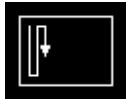



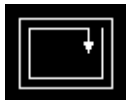
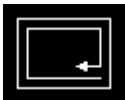
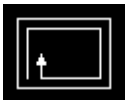

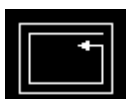






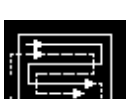


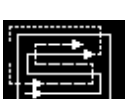








Enhanced Wipes

26		27		29		49	
300		301		302		303	
304							

Appendix




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					

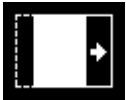
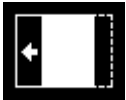


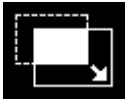
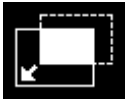
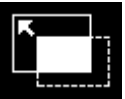

Random/Diamond Dust Wipes

270		271		272		273	
274							




DME Wipe Pattern List

DME Wipe Patterns Available in One-Channel Mode









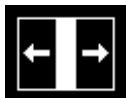


Slide

1001		1002		1003		1004	
1005		1006		1007		1008	





Split

1011		1012		1013	
------	---	------	---	------	---

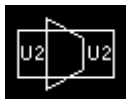
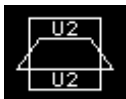
Squeeze

1021		1022		1023		1024	
1025		1026		1027		1028	
1029		1030		1031			





Door

1041		1042		1043		1044	
------	---	------	---	------	---	------	--


Flip tumble

1101		1102	
------	---	------	---














Frame in-out

1201		1202		1203		1204	
------	---	------	---	------	---	------	--














Picture-in-picture

1251	
------	---

Page turn

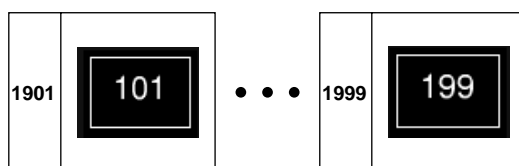
1301		1302		1303		1304	
1305		1306		1307		1308	
1309		1310		1311		1312	
1313							

Page roll

1321		1322		1323		1324	
1325		1326		1327		1328	
1329		1330		1331		1332	
1333							


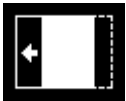


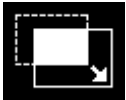
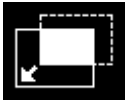
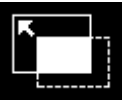

Appendix

User programmable DME


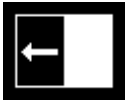








DME Wipe Patterns Available in Two-Channel Mode

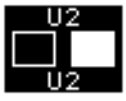

Slide

2601		2602		2603		2604	
2605		2606		2607		2608	

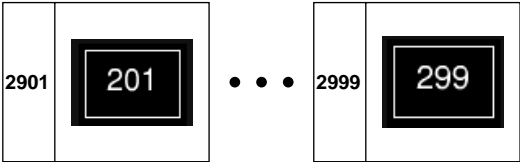
Squeeze

2621		2622		2623		2624	
2625		2626		2627		2628	

Picture-in-picture

2651		2652	
------	---	------	---

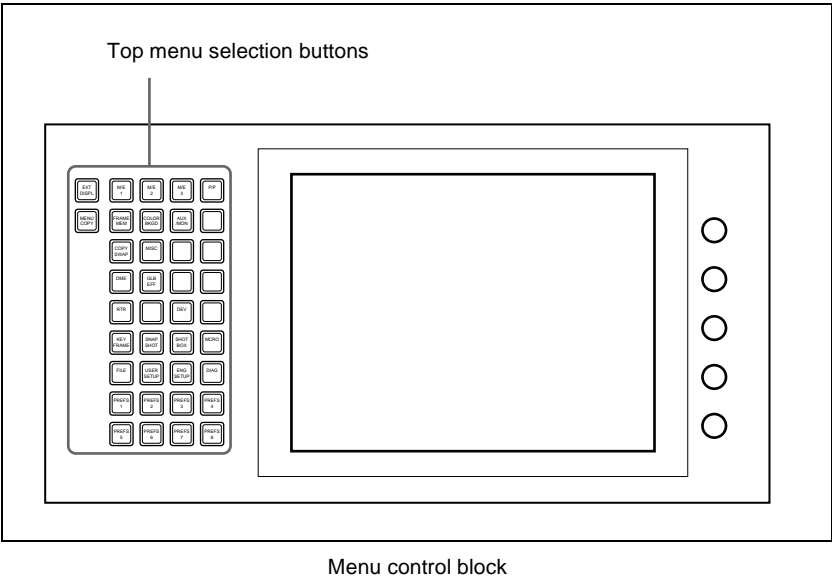
User programmable DME



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.

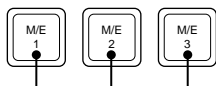
For more details, see “Menu Organization” in Chapter 2 (Volume 1).

M/E-1 to M/E-3 Menus

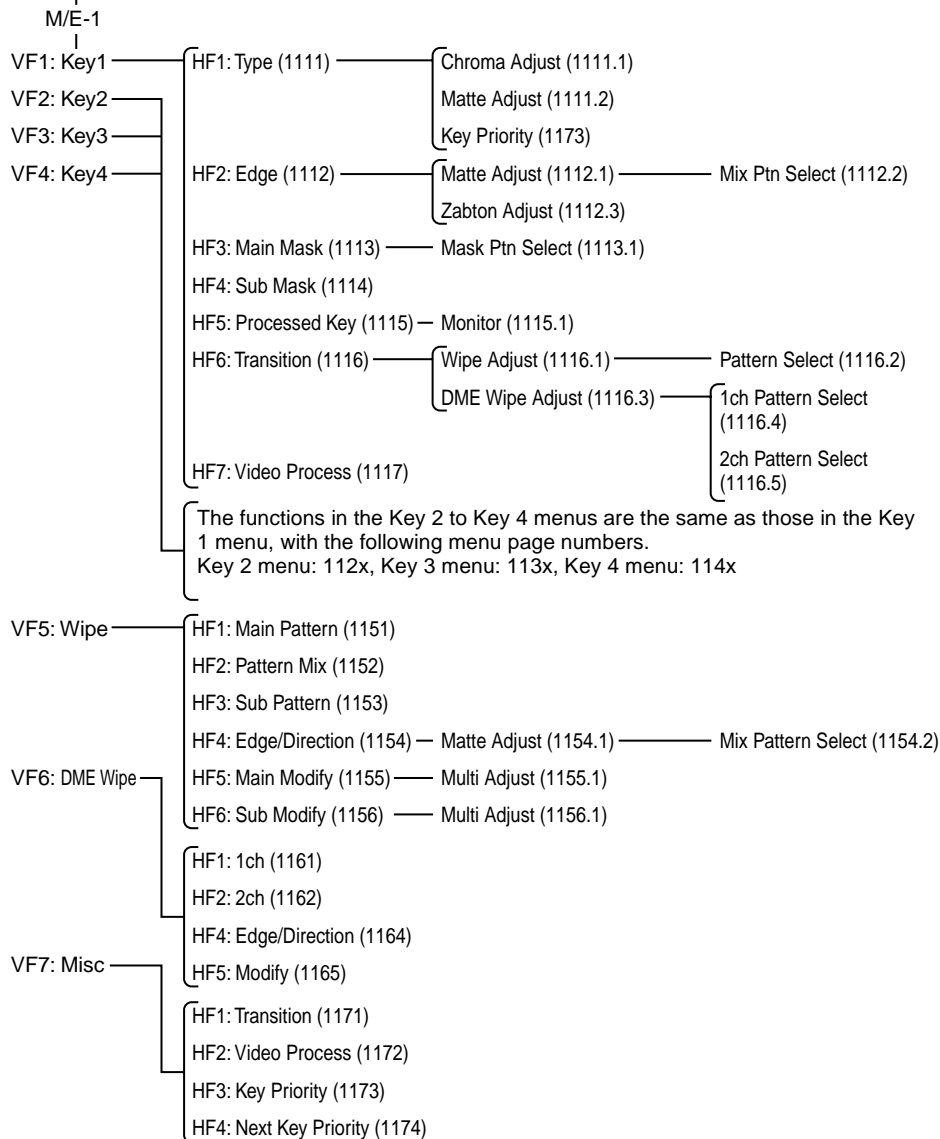
The functions in the M/E-1, M/E-2, and M/E-3 menus are the same, but the menu page numbers are distinguished as follows.

M/E-1 menus: 11xx, M/E-2 menus: 12xx, M/E-3 menus: 13xx
In this section, the numbers for the M/E-1 menus are given as examples.

Appendix



[M/E 1], [M/E 2], and [M/E 3] buttons

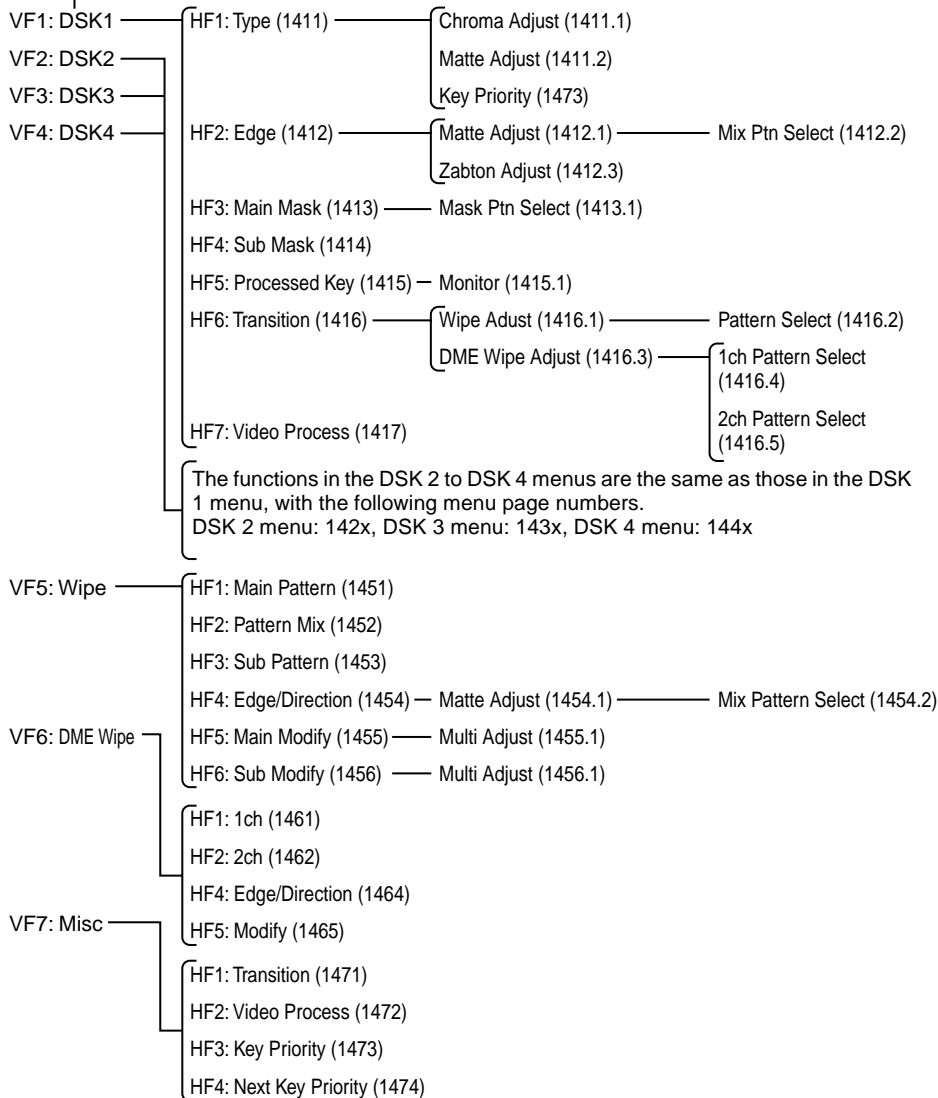


PGM/PST Menu

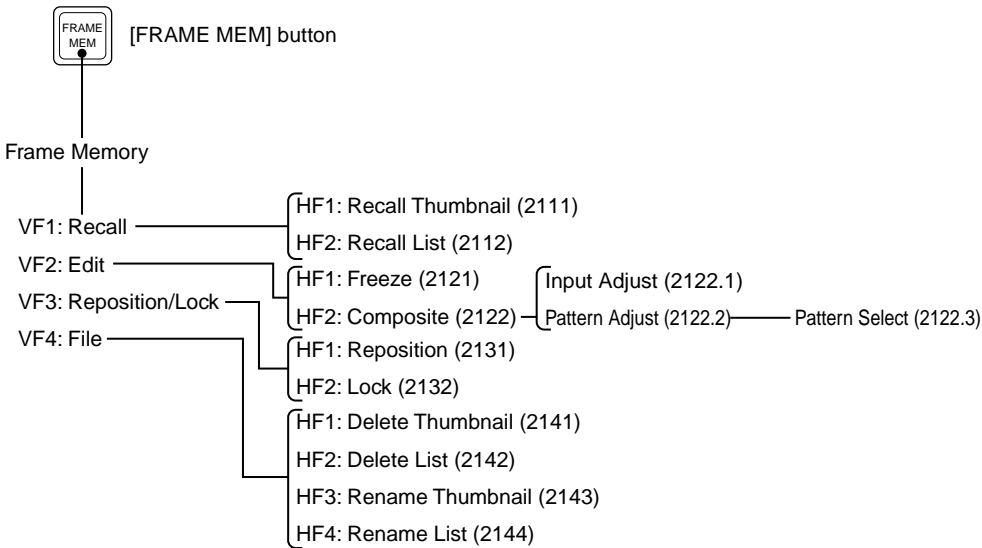


[P/P] button

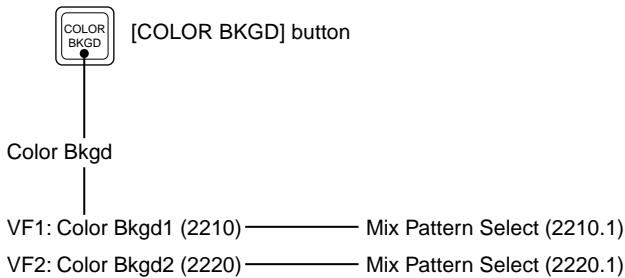
PGM/PST



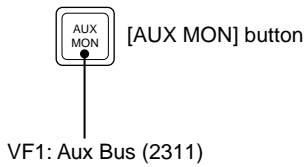
Frame Memory Menu



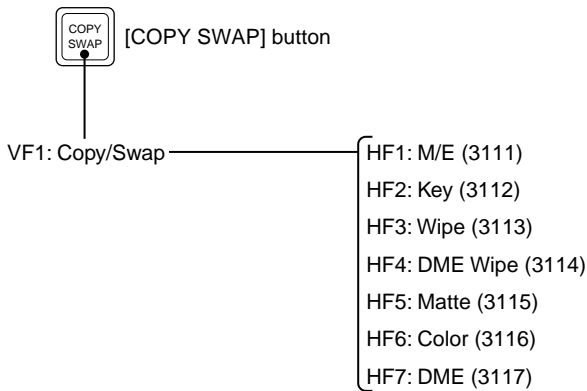
Color Bkgd Menu



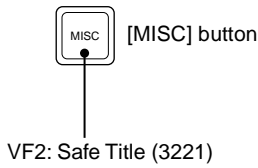
AUX/MON Menu



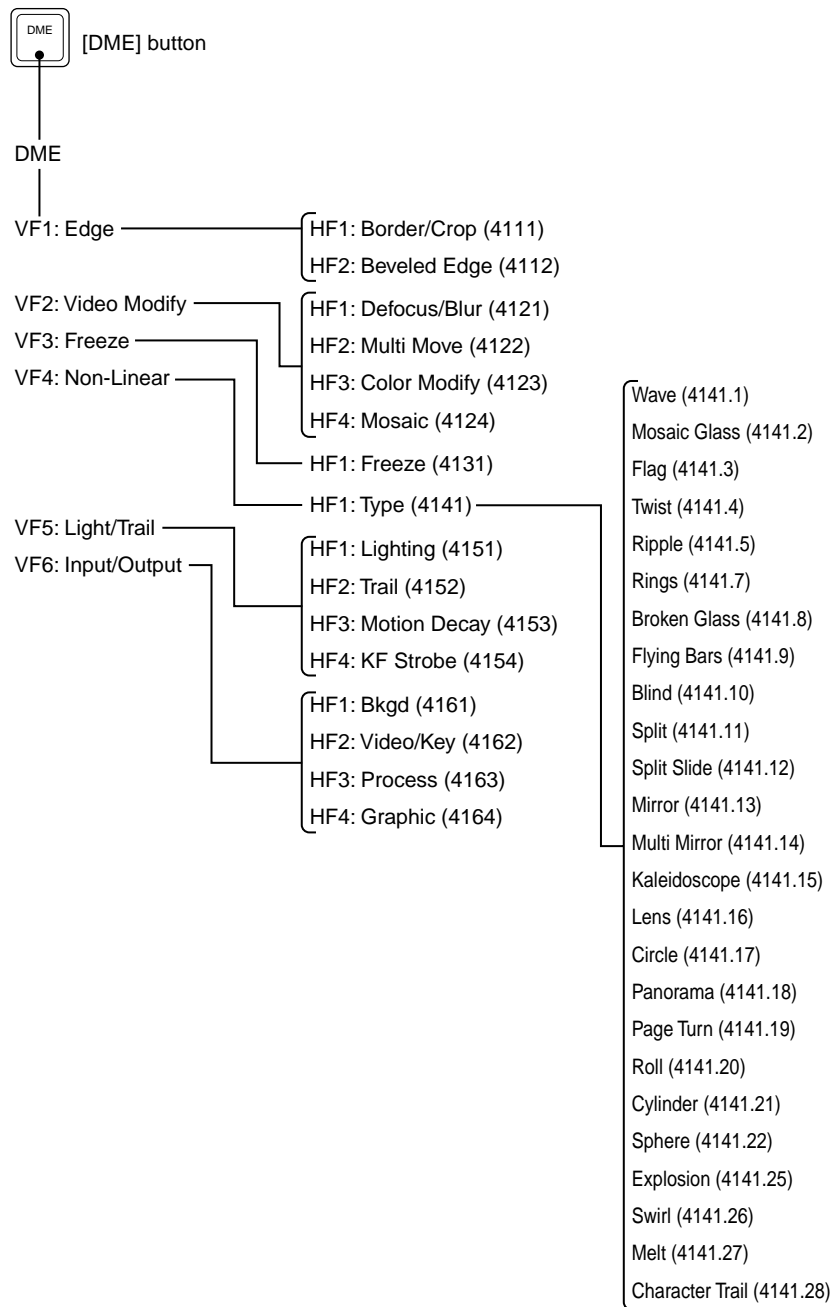
Copy/Swap Menu



MISC Menu

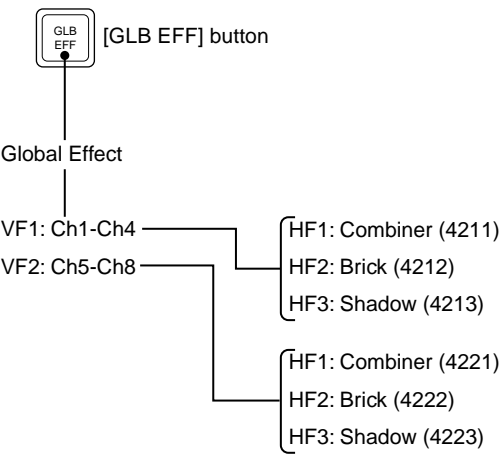


DME Menu

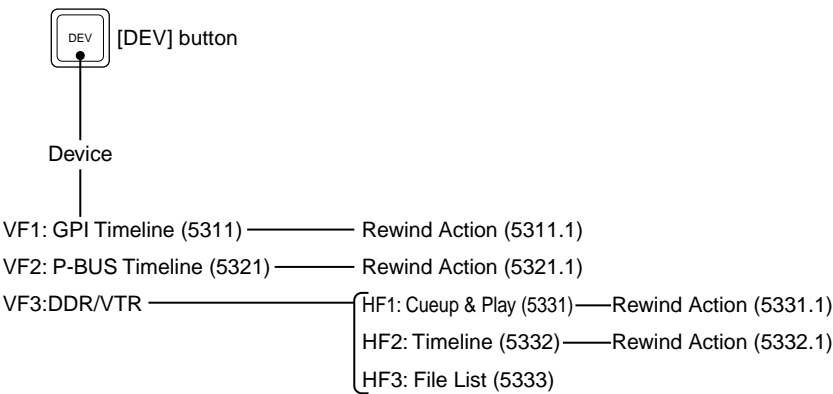


Appendix

Global Effect Menu

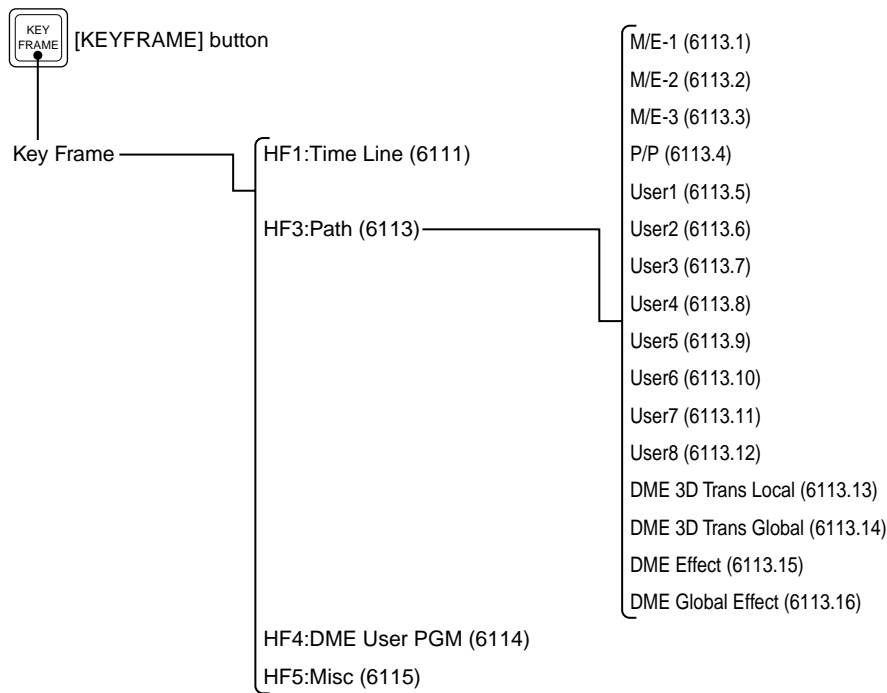


Device Menu

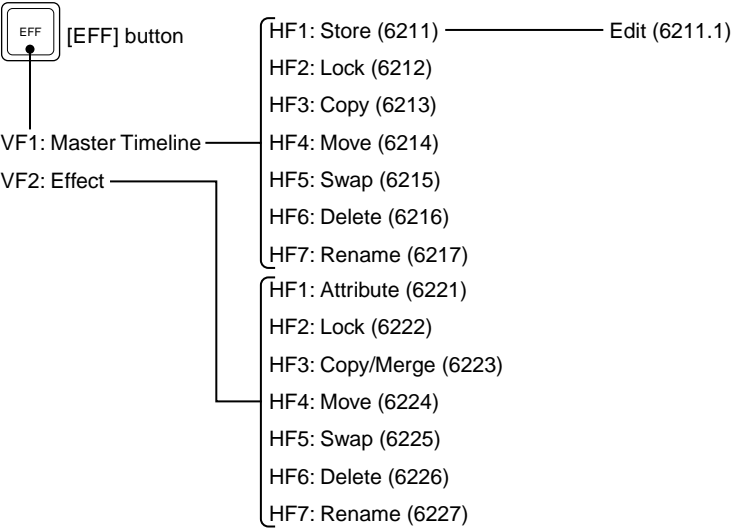


Appendix

Key Frame Menu

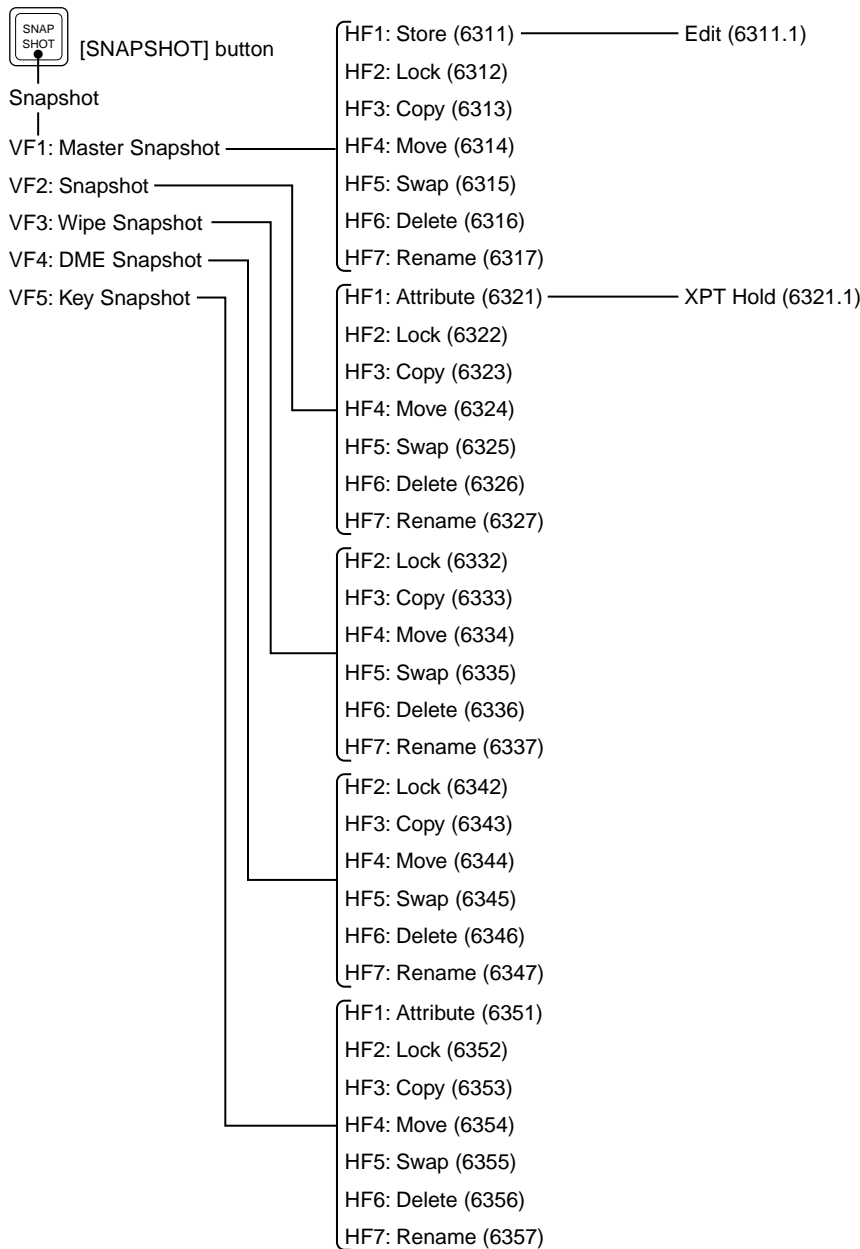


Effect Menu

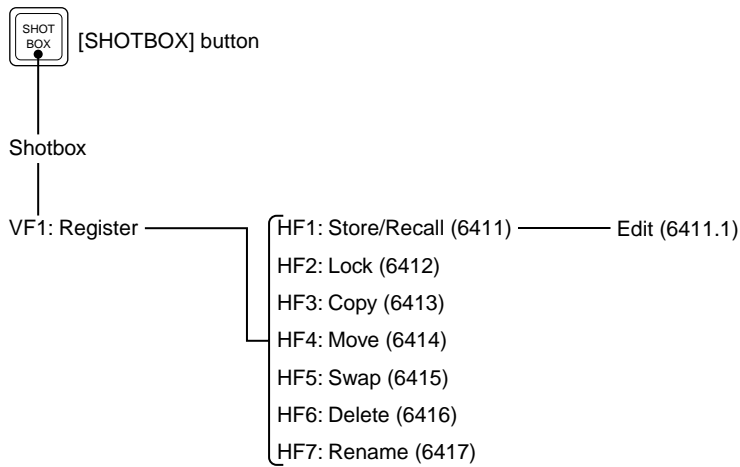


Appendix

Snapshot Menu

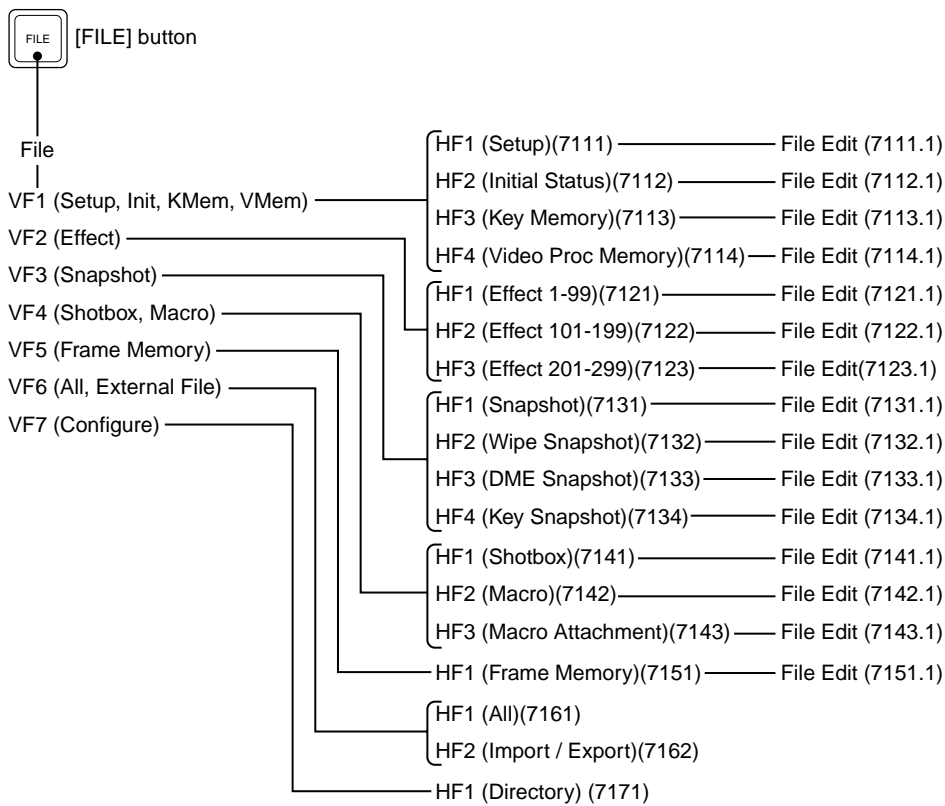


Shotbox Menu



Appendix

File Menu



Engineering Setup Menu



[ENG SETUP] button

Engineering Setup

VF1: System

VF2: Panel

VF3: Switcher

VF4: DMF

VF5: DCU

VF6: Router/Tally

to following
pages

HF1: Network Config (7311)

HF2: System Config (7312)

Panel Assign (7312.1)

Switcher Assign (7312.2)

HF3: Format (7313)

Active Line/Aspect (7313.1)

Switcher Aspect (7313.2)

DME Aspect (7313.3)

HF4: Start Up (7314)

HF5: Initialize (7315)

HF6: Install (7316)

Detail Information (7316.1)

HF7: Maintenance (7317)

HF1: Config (7321)

DSK Fader Assign (7321.1)

Key Trans Link (7321.2)

External Bus Link (7321.3)

Link Matrix Adjust (7321.4)

Link Table Adjust (7321.5)

Link Bus Adjust (7321.6)

10 Key Region Assign (7321.7)

Program Button (7321.8)

Transition Module (7321.9)

HF2: Xpt Assign (7322)

Source Select (7322.1)

Multi Xpt Assign (7322.2)

Sub Table Assign (7322.3)

Name Export (7322.5)

Source Select (7322.4)

HF3: Aux Assign (7323)

HF4: Pref/Utility (7324)

Utility Module Assign (7324.1)

HF5: Device Interface (7325)

GPI Input (7325.1)

H/L Set (7325.2)

GPI Output (7325.3)

DCU Serial Port Assign (7325.4)

HF6: Operation (7326)

Region Priority (7326.1)

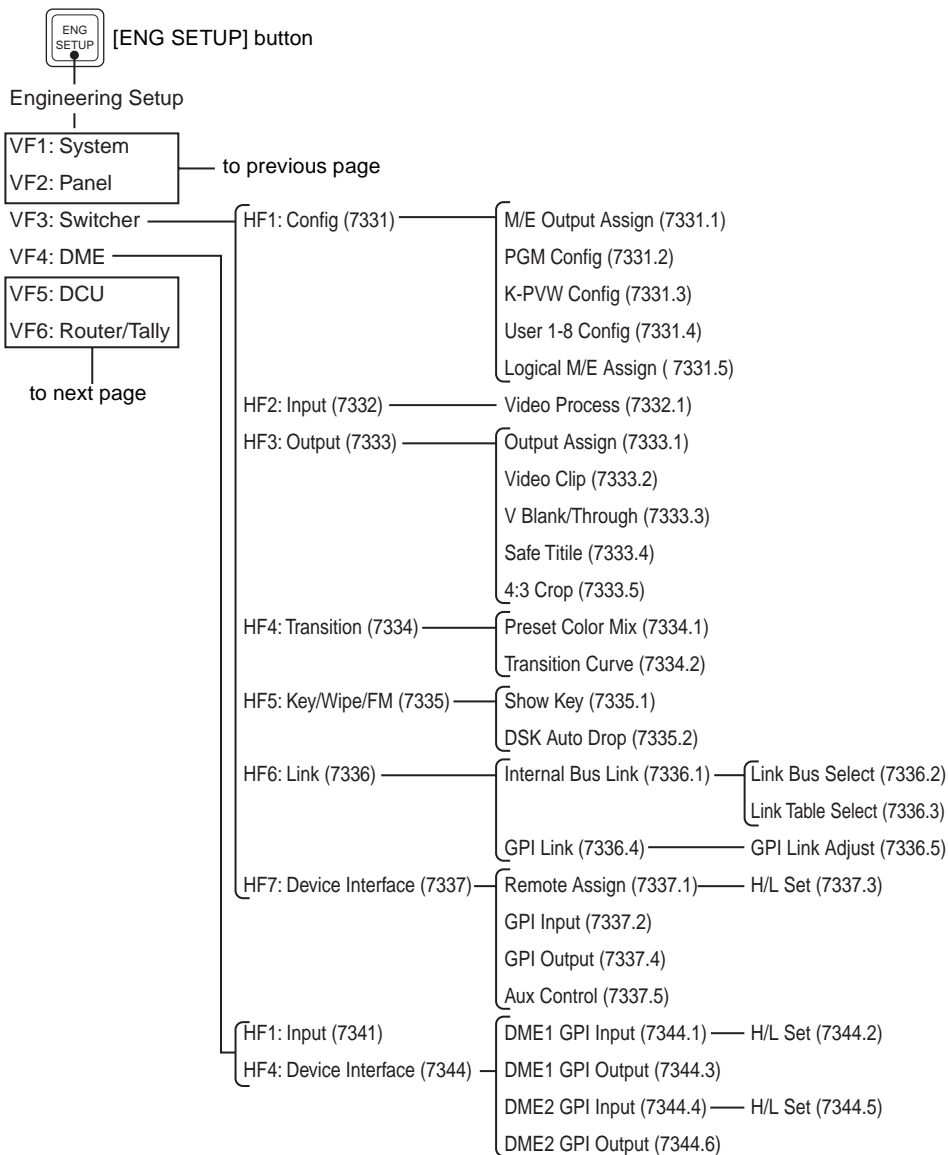
Effect Mode (7326.2)

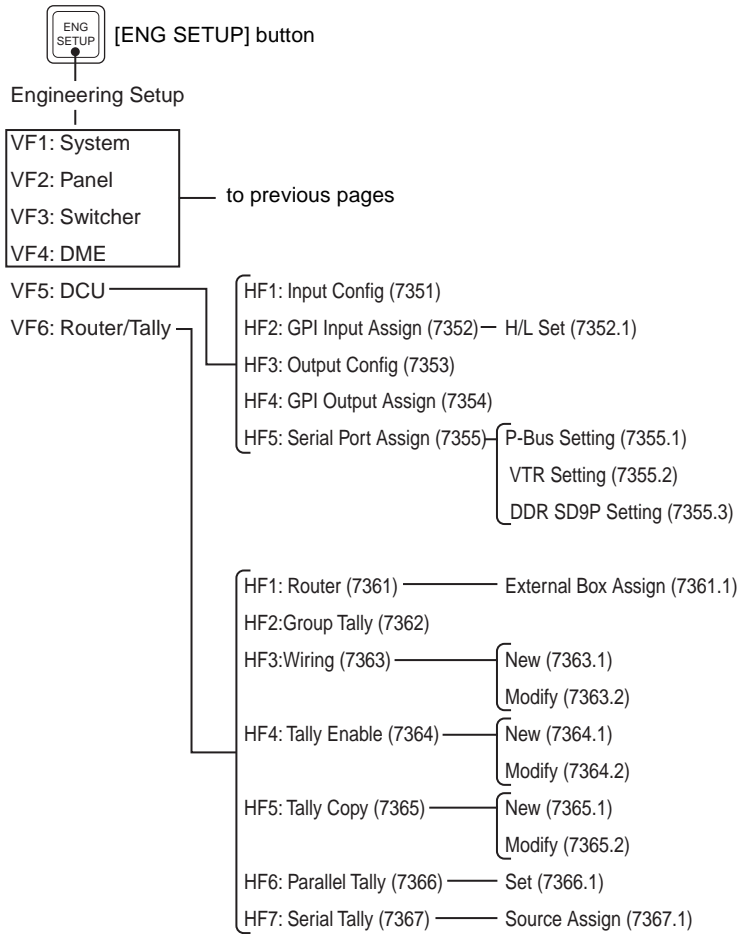
Flexi Pad Mode (7326.3)

Custom Button (7326.4)

Sensitivity (7326.5)

HF7: Maintenance (7327)





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