SONY

Multi Format Switcher System

MVS-8000X System
MVS-7000X System

(With CCP-8000 Series Center Control Panel)

User's Guide Volume 2 English

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Volume 2

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External Devices

Chapter 12

Control of External Devices

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

- Devices supporting P-Bus (Peripheral II protocol) (referred to as "P-Bus devices" in the manual)
- Devices supporting GPI
- VTRs
- Disk recorder (Sony disk 9-pin protocol and video disk communications protocol)
- Extended VTR (Abekas A53 protocol)

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

Use the Device menu to carry out operations for controlling above external devices.

To access the Device menu

In the menu control block, press the top menu selection button [DEV].
For VTRs, Extended VTRs, and disk recorders, you can also carry out operations using the device control block.

Notes

- To operate P-Bus devices, VTRs, Extended VTRs, and disk recorders in the this system, the following settings are required on the DCU 9-pin serial port.
  - Device type setting
  - Device name
  - Setting of control panel (SCU) to be used

  For details of the settings, see "Making Serial Port Settings" (page 234).
- When using a disk recorder or Extended VTR, be sure to go to the Device >DDR/VTR >File List menu, and recall the file *(see page 27)*.

Shared Functions for External Device Control

Keyframe functions

There are 250 registers, numbered 1 to 250, holding external device control data as keyframe data *(see page 30)* (only 99 registers for the GPI timeline).
The following are the keyframe functions that can be used.

- RECALL (1-250), STORE (1-250), RECALL UNDO, STORE UNDO, empty register search, AUTO SAVE, RECALL MODE (RECALL, RECALL & REWIND)
- EDIT ENABLE, EDIT UNDO
- CONST DUR, EFF DUR, KF DUR, DELAY, PAUSE, INSERT BEFORE, INSERT AFTER, MODIFY, DELETE, COPY, PASTE BEFORE, PASTE AFTER, FROM TO, ALL
- PREV KF, NEXT KF, GOTO TC, GOTO KF, RUN, REWIND, FF, STOP NEXT KF, NORMAL, JOG, KF FADER

Notes

- Actions set in a keyframe are executed only when the keyframe effect is executed in the normal direction. Take care when executing simultaneously with a switcher or DME keyframe effect, since the actions are not executed in the reverse direction.
- The following keyframe functions cannot be used.
  - KF LOOP, EFFECT LOOP, REVERSE, NORMAL/ REVERSE
  - PATH

Saving to registers

Set the data for controlling external devices in the Device menu. You can save the set data in keyframe, snapshot, or shotbox registers *(see page 29)*. You can recall the register in which the data is saved, and carry out operations on it with the keyframe control block.

Editing registers

You can carry out the following operations on the registers in which the data for controlling external devices is saved.

- Copy
- Move
- Swap
- Merge (this cannot be carried out for registers holding VTR, disk recorder, or Extended VTR control data.)
- Lock
- Name

File related functions

As effect data, you can save and recall, using the File menu.

Control of P-Bus Devices

You can control P-Bus devices from this system through the 9-pin serial port of a DCU.

P-Bus device control modes

There are two modes of P-Bus device control, as follows.

Trigger: Operating a previously specified button outputs the command for an action assigned to that button.

Timeline: Carrying out a keyframe effect under the control of the center control panel controls external devices.

In the setup, select which of Trigger mode and Timeline mode to use.

You can set the following actions (set what action command is output to which device) in both modes.

- Store
- Recall
- Trigger

Creating and Editing the P-Bus Timeline

At a keyframe point on the P-Bus timeline, you can set an action. At any single keyframe point you can set actions for a maximum of 24 devices.

For details of keyframe creation and editing operations, see "Creating and Editing Keyframes" (page 44).

For the action setting (or P-Bus timeline editing), use the Device menu.

You can save the data set in the Device menu in keyframe effect registers. Recalling the register starts execution of the keyframe effect, and when this reaches the keyframe point at which actions are set, action commands are output to external devices through the 9-pin serial port assigned to P-Bus.

Notes

Using the P-Bus timeline function requires the P-Bus control mode to be set to [Timeline]. Carry out this setting in the Engineering Setup >Panel >Device Interface menu *(see page 190)*.

Setting an action

1 In the Device menu, press VF2 'P-Bus Timeline.'

The Device >P-Bus Timeline menu appears.
The status area shows two lists. The left list is for setting combinations of devices and actions. The

settings in this list will be saved as keyframe point data. The right list is for selecting the action.

2 Select the P-Bus device for which you want to set an action, by using any of the following methods to specify the device ID.

- Press directly on the list on the left of the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

Knob	Parameter	Adjustment	Setting values
1	ID	Device number	0 to 23

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

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

Knob	Parameter	Adjustment	Setting values
2	Action No	Action	1 to 4 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 250
3	Recall No	Register number for Recall	1 to 250
3	Trigger No	Trigger number	0 to 15

The setting is reflected in the list on the right of the status area.

5 Press [Set].

For the device selected in the list on the left of the status area, this sets the action specified in step **4**.

Repeat steps **2** to **5** as required for other devices.

Testing an action command

To produce a test output of the action command, press [Test Fire].
The action command is output from the 9-pin serial port of the DCU according to the setting in the list on the left of the status area.

Clearing an action setting

To clear the setting for separate devices

1 In the list on the left of the status area, select the device for which you want to clear the action setting.

2 In the list on the right, select "Off."

3 Press [Set].

To clear the action settings for all devices in a single operation

Press [All Off].

Setting the action for a rewind operation

On the P-Bus timeline, when the [REWIND] button in the keyframe control block is pressed the action set for the first keyframe is not executed; when the [RUN] button is pressed, then the first keyframe action is executed.
To execute an action when the [REWIND] button is pressed, it is necessary to set this action (Rewind Action). To carry out this setting, in the Device >P-Bus Timeline menu, press [Rewind Action] to recall the Rewind Action menu. In this setting screen, use the same setting method as in the screen for setting an action on the P-Bus timeline. Alternatively, you can select the reverse arrangement, whereby when the [REWIND] button is pressed, this executes the action set for the first keyframe, and when the [RUN] button is pressed the first keyframe action is not executed. In this case, the Rewind Action setting is still valid.

For details, see "Setting the First Keyframe When a Rewind is Executed" (page 194).

Carrying out a Direct Store

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

1 Using any of the following methods, select the device.

- Press directly on the list on the left of the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

Knob	Parameter	Setting	Setting values
1	ID	Device ID	0 to 23

2 In the Device >P-Bus Timeline menu, press [Direct Store].

The numeric keypad window appears.

3 Enter the register number for which you want to carry out the Learn.
The setting range is from 1 to 250.

4 Press [Enter].

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.

Notes

To use the P-Bus trigger function, the P-Bus control mode must be set to [Trigger]. Make this setting in the Engineering Setup >Panel >Device Interface menu.

For details, see "Setting the Control Mode for P-Bus Devices" (page 190).

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 or Multifunction Flexi Pad 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 or Multifunction Flexi Pad control block

- RUN: Trigger 1
- REWIND: Trigger 4
- NEXT KF: Trigger 7
- PREV KF: Trigger 8

Outputting an action command

As an example, to output a Recall, use the following procedure.

1 In the numeric keypad control block, press the [EFF] button, turning it on.

The [RCALL] button in the numeric keypad control block lights.

2 Press the [P-BUS] button in the numeric keypad control block, turning it on, to select the P-Bus region.

3 Enter the number of the register (1 to 250) to be recalled with the numeric keypad buttons.

4 Press the [ENTER] button in the numeric keypad control block.

Control of GPI Devices

You can control GPI devices from the control panel of this system, or through the GPI output port of a DCU.

GPI timeline

For a keyframe effect controlled from the center control panel, the GPI timeline allows you to set an action (setting a trigger output from a particular GPI output port) at a keyframe point on the GPI timeline. At any keyframe point, you can make a maximum of eight GPI output port settings.

GPI timeline actions

The actions that can be used on the GPI timeline are as follows.

- Control panel GPI output port
- DCU GPI output port

For the GPI output settings (keyframe editing), use the Device menu.

The data set in the Device menu are saved in a keyframe effect register. When you recall this register and start execution of the keyframe effect, and advance the effect to the keyframe point for which the GPI output is set, a trigger pulse is output to the external device from the specified GPI output port.

GPI Timeline Creation and Editing

This section describes how to set GPI output ports to be registered at a keyframe point, and how to carry out creation and editing of the GPI timeline.

For details of keyframe creation and editing operations, see "Creating and Editing Keyframes" (page 44).

GPI output port settings

Set the GPI output port number of the control panel or DCU which outputs GPI pulses at a keyframe point on the GPI timeline.

Use the following procedure. (Use the same procedure to subsequently change the settings.)

1 In the Device menu, press VF1 'GPI Timeline.'

The Device >GPI Timeline menu appears.

The status area shows the "GPI Output" list on the left and the "GPI Port" list on the right.

The "GPI Output" list (on the left) shows the relation between ports 1 to 8 for the GPI timeline and the trigger pulse output destination ports. The content of this list is saved as keyframe data.

The "GPI Port" list (on the right) is for selecting the GPI trigger pulse output destination.

2 Using either of the following methods, select the GPI timeline port you want to set on the GPI Timeline.

- Press directly on the list on the left of the status area.
- Turn the knob.

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

3 Using either of the following methods, trigger output destination.

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

Knob	Parameter	Setting	Setting values
2	GPI Port No	SCU/DCU GPI port to be the trigger output destination	1 to 3 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.

Notes

For the output port you have set here, be sure to set the trigger type to "Rising Edge," "Falling Edge" or "Any Edge."

For details of the trigger type settings, see "Making Control Panel GPI Output Settings" (page 189) and "Making DCU GPI Output Settings" (page 233).

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)

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 (or Flexi Pad control block, or Multifunction Flexi Pad 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 194).

Control of VTRs, Extended VTRs, and Disk Recorders

In this system, for up to 12 VTRs, disk recorders or Extended VTRs connected to a DCU, you can carry out the following manual operations and timeline settings.

- Controlling manually from the device control block (trackball or search dial)
- Saving a start point, stop point, start delay time, variable speed and so on in a data register, then recalling the register to control automatically from the keyframe control block. (Cueup & Play and VTR/disk recorder/ Extended VTR timeline)
- In the Device menu, you can check the following VTR, disk recorder and Extended VTR information:
  - Device name
  - Register number
  - VTR/disk recorder/Extended VTR status
  - Current time
  - Start point
  - Stop point
  - Variable speed
  - Start delay time
  - Loop setting
  - Recue setting

To control a VTR, Extended VTR, or disk recorder in this system, the following settings are required.

- **Button assignment:** For a VTR, Extended VTR, or disk recorder connected to the DCU 9-pin serial port, assign a device selection button in the device control block.
- **Timecode source:** When using a VTR, specify a reference signal used for determining the tape position.

For details, see "Making DCU Serial Port Settings" (page 190) and "Making Detailed Settings on the External Device Connected to the Serial Port" (page 235).

Manual Operation

In the device control block, you can carry out the following operations manually.

- **VTR, disk recorder or Extended VTR selection**
- **Tape transport and disk drive control:** You can use the following tape transport and disk drive control buttons:
  REC, REW, PLAY, FF, CUE UP, VAR PLAY, SHTL, JOG, STANDBY OFF, STOP, and ALL STOP.
  Depending on the settings made in the Setup menu, the CUE UP, PLAY and STOP operations can be carried out from the transition control block.

For details of the operation of the buttons, see "Transition Control Block" in Chapter 2 "Menus and Control Panel" (Volume 1).

- **Setting a start point:** For each selected VTR/disk recorder/Extended VTR you can set the start point timecode value as keyframe data.
- **Setting a stop point:** For each selected VTR/disk recorder/Extended VTR you can set the stop point timecode value as keyframe data.
- **Setting a start delay time:** For each selected VTR/disk recorder/Extended VTR you can set the start delay as key frame data.
- **Recording to VTR or disk recorder:** Record video to the selected VTR/disk recorder.
- **Loop/recue setting:** You can select loop or recue as the playback mode. These operate as follows.
  - **When loop is selected:** Playback repeats from the start to the end of the currently recalled file.
  - **When recue is selected:** When playback reaches the stop point, automatically cue up to the start point.

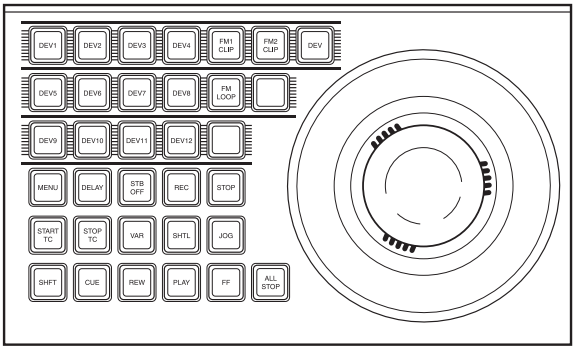
To use the loop or recue function, it is necessary to enable the function in setup.

For details, see "Making Detailed Settings on the External Device Connected to the Serial Port" (page 235).

Controlling the Tape/Disk Transport

To switch to VTR/disk recorder operation mode

To control a VTR/Extended VTR/disk recorder with the device control block (trackball) or device control block (joystick), press the [DEV] button in the device control block, turning it on, to switch the device control block to the VTR/disk recorder operation mode. The button assignment changes as follows (the [SHIFT] button is disabled in VTR/disk recorder operation mode).



Device control block in the VTR/disk recorder operation mode (trackball module)

In the device control block (search dial module), there is no such a mode selection button and you can directly select a device.

Buttons used when the VTR/disk recorder/ frame memory operation mode is enabled

DELAY: Press this button, turning it on, to enter a delay value from the numeric keypad control block.

STB OFF (standby off): Press this button to switch to standby off mode. This button cannot be used for frame memory clip operations.

REC (record): Press this button at the same time as the [Y] button to start recording. This button cannot be used for frame memory clip operations.

STOP: Press this button to stop the tape, disk or frame memory clip.

START TC (start timecode): Press this button to set the timecode of the start point at that time. The timecode of the start point is updated to the current time each time this button is pressed.

When the device the operation applies to is a VTR/disk recorder, the start point updated by the setting of the [MENU] button is as follows.

- **When the [MENU] button is On:** start point of the timeline
- **When the [MENU] button is Off:** start point of Cueup & Play

STOP TC (stop timecode): Press this button to set the timecode of the stop point at that time. The timecode of the stop point is updated to the current time each time this button is pressed.

When the device the operation applies to is a VTR/disk recorder, the stop point updated by the setting of the [MENU] button is as follows.

- **When the [MENU] button is On:** stop point of the timeline
- **When the [MENU] button is Off:** stop point of Cueup & Play

VAR (variable speed playback): Pressing this button and turning the Z-ring plays back the tape, disk or frame memory clip at a variable speed and direction proportional to the rotation angle of the Z-ring. The variable speed range is –1 to +3 times normal playback speed.

SHTL (shuttle): Pressing this button and turning the Z-ring plays back the tape, disk or frame memory clip at a speed and direction proportional to the rotation angle of the Z-ring.

JOG: Pressing this button and turning the Z-ring plays back the tape, disk or frame memory clip at a speed and direction proportional to the rotation of the Z-ring. You can set the Z-ring operation sensitivity to any of six levels, in the setup menus.

You can also change the sensitivity by holding down this button during an operation. You can select the sensitivity in this case from six levels.

For details of the settings, see "Setting Trackball, Joystick, Search Dial, and Double-Click Sensitivity" (page 196).

CUE: Pressing this button cues the tape, disk or frame memory clip automatically to the start point.
REW (rewind): Press this button to rewind the tape, disk or frame memory clip.
PLAY: Press this button to play the tape, disk or frame memory clip.
FF: Press this button to fast forward the tape, disk or frame memory clip.
ALL STOP: Press this button to stop all tape transport/ disk drive/frame memory operations.

Selecting a VTR/Extended VTR/disk recorder

To select the VTR/Extended VTR/disk recorder to be controlled, in the device selection buttons of the device control block, press a selection of those buttons turning them on.

For details on frame memory clip operations, see "Frame Memory Clip Operations" in Chapter 7 (Volume 1).

Controlling the tape/disk transport

Using the buttons in the device control block, you can control the tape transport or the disk transport.

For more details of the effect of buttons in VTR/disk recorder operation mode, see "Device Control Block (Trackball)," "Device Control Block (Joystick)" and "Device Control Block (Search Dial)" in Chapter 2 "Menus and Control Panel" (Volume 1).

If an appropriate setup setting has been made, VTR, Extended VTR, or disk recorder can also be operated with the transition control block (standard type or compact type).

For more details of the effect of buttons in VTR/disk recorder operation mode, see "Transition Control Block (Standard Type)" and "Transition Control Block (Compact Type)" in Chapter 2 "Menus and Control Panel" (Volume 1).

For details of settings in setup, see "Setting Transition Control Block Button Assignments" (page 163).

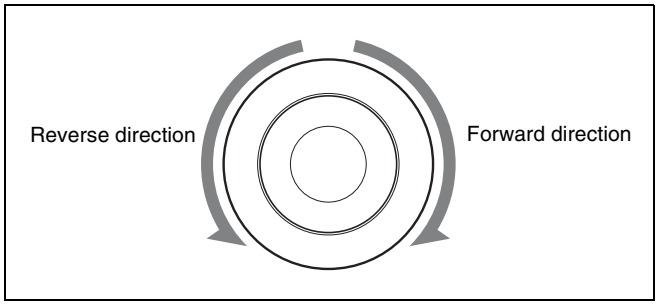
Controlling the tape/disk transport with the search dial

With the device control block, you can play back the material on an external device in variable speed.
This section describes the three playback modes, taking the device control block (search dial) as an example.
If you turn this dial during video playback, the direction and speed of playback depend on the direction and angle of rotation. To use this dial, press the [ENBL] button to the upper right of the dial, lighting it amber. This dial has three operation modes: jog, shuttle, and variable.

To prevent overheating, if the search dial is on continuously for 10 seconds, it is automatically turned off. However, in this state, if a movement of the dial is detected, it switches on again.

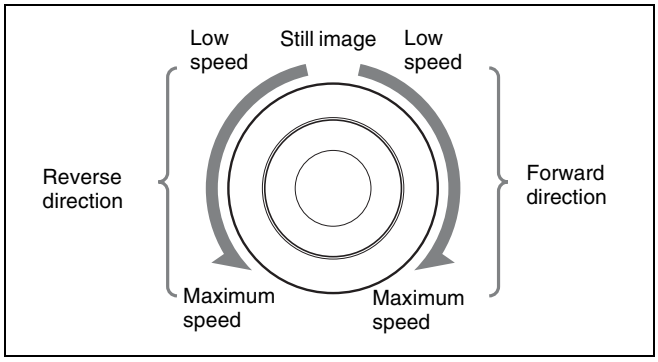
Jog mode

Press the [JOG] button, lighting the button amber, to switch the dial to jog mode. In this mode, you can advance material frame by frame at a speed proportional to the rotation angle of the dial. To show a still image, stop turning the search dial.



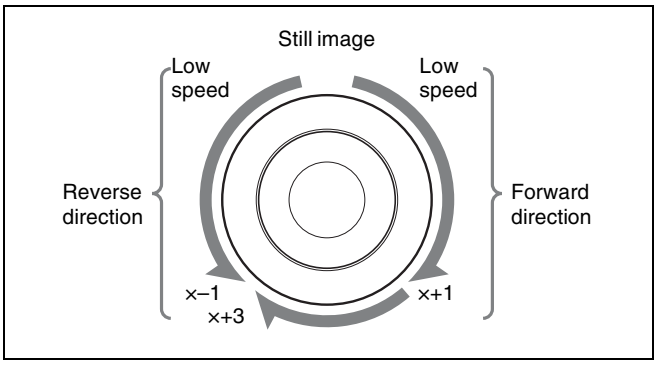
Shuttle mode

Press the [SHTL] button, lighting the button amber, to switch the dial to shuttle mode. In this mode, the playback speed varies in steps according to the rotation angle of the dial, to a maximum of 50 times normal. If the valid angle is exceeded, the dial makes a clicking sound. To show a still image, return the dial to the home position, where it stops with a clicking sound.



Variable mode

Press the [VAR] button, lighting the button amber, to switch the dial to variable mode. In this mode, the playback speed varies according to the rotation angle of the dial from –1 to +3 times normal speed. The dial indicates the positions where the playback speed is –1 times normal speed, +1 times normal speed, and +3 times normal speed by making a clicking sound at those positions. To show a still image (playback speed 0%), return the dial to its home position, where it stops with a clicking sound.



×–1: –1 times normal speed
×+3: +3 times normal speed
×+1: +1 times normal speed

To disable the search dial and end variable mode, press the [STOP] button. Additionally, pressing any of the [REW], [PLAY], [FF], [STB OFF], and [ALL STOP] editing buttons ends the variable mode. For shuttle mode and variable mode, you can set the valid range of the operating angle in the Engineering Setup >Panel >Operation >Sensitivity >Search Dial menu to either of the following.

Narrow operating angle

- Shuttle mode: approx. –150 to +150°
- Variable mode: approx. –120 to +210° (+1 times normal speed is +120°)

Wide operating angle

- Shuttle mode: approx. –180 to +180°
- Variable mode: approx. –200 to +348° (+1 times normal speed is +200°)

Recording to VTRs and disk recorders

You can record to the VTR or disk recorder selected in the device control block. Proceed as follows.

Notes

- Recording is not possible if the VTR or disk recorder is not set to Recorder.
- The disk recorder type must be specified to use the video disk communications protocol *(see page 235)*.
- When using a disk recorder, recording is not possible unless a new file name is specified.
  For details, see "Creating new files" (page 27).

1 Using the buttons of the device control block, select the VTR or disk recorder to which you want to record. You can select more than one button.

The first button pressed lights green to indicate the reference device, and the subsequent buttons light amber.

2 While holding down the [REC] button in the device control block, press the [PLAY] button.

Recording starts. During recording, the [REC] button lights red and the [PLAY] button lights amber.

Notes

Note the following points about recording to a disk recorder.

- The maximum length of time that can be recorded in one operation is 30 minutes.
- If you want to record to a different file than the file used in the previous recording, use the Device >DDR/VTR >File List menu to create a new file.
- If you resume recording without executing [Unload] from the Device >DDR/VTR >File List menu, recording starts at the position in the same file where recording was interrupted.

To stop recording

Press the [STOP] button or the [ALL STOP] button in the device control block.

Checking VTR/Disk Recorder/ Extended VTR Information

You can check the VTR/disk recorder/Extended VTR information (timecode information and operating status) set in the device control block, in the Device menu display. To check the VTR/disk recorder/Extended VTR information, press VF3 'VTR' and HF1 'Cueup & Play' or HF2 'Timeline' in the Device menu.
The Device >DDR/VTR >Cueup & Play menu or Device >DDR/VTR >Timeline menu appears, and a list shows the timecode information and operating status for each device. The columns of the list show the following information.

DEV (device name): DEV1 to DEV12 represent respectively device 1 to device 12.
Reg (register): Number of the register to which settings apply.
Status: Status of each device. The meaning of the indications is as follows.

Operating status display	When VTR, Extended VTR, or Sony disk 9-pin protocol is used	When video disk communications protocol is used
XXXX	Communications with the device are being carried out normally, but status information is not received.	Not communicating, or communicating but the device type cannot be read.
Local	The REMOTE/ LOCAL switch of the device is set to LOCAL.	Port is not open.

Operating status display	When VTR, Extended VTR, or Sony disk 9-pin protocol is used	When video disk communications protocol is used
Tape Out	No tape is loaded (VTR). No file loaded. (Sony disk 9-pin protocol or Extended VTR)	No file loaded.
Rec	Recording.	Recording.
Cue>	Cueing up in the forward direction.	—
Cue<	Cueing up in the reverse direction.	—
Eject	Ejecting cassette.	—
Stb Off	Stopped in standby off mode.	—
Stop	Stopped in standby on mode.	Stopped.
Play	Playing.	Playing.
FF	Fast forwarding.	—
Rewind	Rewinding.	—
Shtl>	Playing in the forward direction in shuttle mode.	—
Shtl<	Playing in the reverse direction in shuttle mode.	—
Var>	Playing in the forward direction in “variable” mode.	Playing in the forward direction in “variable” mode.
Var<	Playing in the reverse direction in “variable” mode.	Playing in the reverse direction in “variable” mode.
Jog>	Playing in the forward direction in jog mode.	Playing in the forward direction in jog mode.
Jog<	Playing in the reverse direction in jog mode.	Playing in the reverse direction in jog mode.
Still	Playing still image.	—

Current: Shows timecode for current device position.
Start TC: Shows timecode for start point set on device.
Stop TC: Shows timecode for stop point set on device.
Variable: Shows the variable speed set for each device.
Delay: Shows start delay time set on device.
Mode: Shows operation mode (Loop or Recue) set for the device (only when the EVS XT server is operated with video disk communications protocol).

Cueup & Play

You can use the device control block or Device menu to save Cueup & Play settings (start point timecode, stop point timecode, start delay time, and so on) for a VTR, disk recorder or Extended VTR in an effect register. By recalling this register, you can operate the following buttons in the keyframe control block to automatically control the VTR, disk recorder or Extended VTR.
[REWIND] button: Cue up to the start point timecode
[RUN] button: Play
With this function you can also stop the VTR, disk recorder or Extended VTR used for playback at the stop point timecode recalled from the same register.

Disk recorder (video disk communications protocol) operation when loop /recue is set

When loop is set: playback repeatedly between the start point and stop point.
When recue is set: when playback reaches the stop point, automatically cue up to the start point.

Notes

- In an effect register set on the VTR/disk recorder timeline, Cueup & Play settings are not possible. To add Cueup & Play settings to such a register, first clear the VTR/disk recorder timeline setting before carrying out the operation.
- When using a disk recorder with Cueup & Play, if you carry out the following sequence of operations, the system may freeze on the frame of the start point.
  1. Press the [RUN] button to play to a point close to the end of a file.
  2. Stop playback.
  3. Press the [RUN] button once more.

  In such cases, first recall a different register, then carry out the following sequence:
  1. Recall the original register again.
  2. Press the [REWIND] button.
  3. Press the [RUN] button.

Making and saving settings relating to Cueup & Play

1 Press the [EFF] button in the numeric keypad control block, turning it on.

This assigns the numeric keypad control block to keyframe operations, and the [RCALL] button lights.

2 Press the region selection button for the region for which you want to make the setting, turning it on.

You can select more than one button.

3 Enter the number of the register to be recalled with the numeric keypad buttons.
To search for an empty register, instead of entering a number, press the [.] (period) button.

The display shows the register number. A letter “e” or “E” after the number indicates the register status, as follows:
e: This register is empty in the selected region.
E: This register is empty in all selectable regions.

4 Press the [ENTER] button.

This recalls the register you selected in step **3**.

5 When using the device control block (trackball) or device control block (joystick), press the [DEV] button in the device control block, turning it on.

Notes

Check that the [MENU] button is not lit. If it is lit, press to turn it off.

6 With the device selection buttons in the device control block, select the VTR, Extended VTR, or disk recorder for which you want to make the setting.

You can select more than one button.
The first button pressed lights green to indicate the reference region, and the subsequent buttons light amber.

7 Set the start point.

- Using the [START TC] button:
  Play the VTR, Extended VTR or disk recorder by control from the device control block. Find the desired start point, and press the [START TC] button at that position.
  If using the [START TC] button, each time you press the button the start point timecode is overwritten.
- Using the [SET START TC]:
  Press the [SET START TC] button in the device control block (search dial).
  The display in the numeric keypad control block shows “START TC.” Enter the desired timecode from the numeric keypad control block, and press [ENTER].
  For details of timecode entry, see “Setting the start point and stop point with the [SET XX] buttons” (page 21).
- Setting with the Cueup & Play menu:
  Set the start point, stop point, and start delay duration *(see page 21)*.

8 Set the stop point or duration.

When two of the start point, stop point and duration are set, the remaining one is automatically determined. For example, if you set the stop point in the following procedure, you do not need to enter the value of the duration.

- Using the [STOP TC] button:
  Play the VTR, Extended VTR or disk recorder by control from the device control block. Find the desired stop point, and press the [STOP TC] button at that point.
  If using the [STOP TC] button, each time you press the button the stop point timecode is overwritten.
- Using the [SET STOP TC] button of the device control block (search dial):
  Press the [SET STOP TC] button in the device control block (search dial). The display in the numeric keypad control block shows “STOP TC.” Enter the desired timecode from the numeric keypad control block, and press [ENTER].
- Using the [SET DUR] button of the device control block (search dial):
  Press the [SET DUR] button in the device control block (search dial). The display in the numeric keypad control block shows “DUR” and the current setting. Enter the desired duration from the numeric keypad control block, and press [ENTER].
  For details of timecode entry, see “Setting the start point and stop point with the [SET XX] buttons” (page 21).
- Setting with the Cueup & Play menu:
  Set the start point, stop point, and start delay duration *(see page 21)*.

9 To set a start delay time, press the [DELAY] button in the device control block, and enter a value in the numeric keypad control block. Alternatively, make the setting in the Device >DDR/VTR >Cueup & Play menu.
If no setting is required, continue to step **10**.

10 Press the [STORE] button, turning it on, in the numeric keypad control block.

11 Enter the number of the register in which to save the settings.

When overwriting the settings in the register recalled in step **3**, continue to step **12** without changing the displayed register number.

12 Press the [ENTER] button.

Automatically cueing up and playing VTR/ Extended VTR/disk recorder

By recalling a register in which you have saved setting data for Cueup & Play, you can control the VTR/Extended VTR/disk recorder automatically in the same way as when automatically executing a keyframe effect.

1 In the numeric keypad control block, press the [EFF] button, turning it on.

The [RCALL] button in the numeric keypad control block lights.

2 With the region selection buttons in the numeric keypad control block, select the region.
You can select more than one button.

3 Enter the number of the register to be recalled with the numeric keypad buttons.

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

The VTR/Extended VTR/disk recorder automatically advances to the timecode value set as the start point. While the VTR/Extended VTR/disk recorder is operating, the [ALL STOP] button in the device control block flashes amber, and when the start point is reached lights green.
If the operating VTR/Extended VTR/disk recorder is selected as the reference region in the device control block, the [CUE] button also flashes and lights in the same way as the [ALL STOP] button. Also, when the start point is reached, the [STOP] button lights amber.

5 Press the [RUN] button in the keyframe control block.

The VTR/Extended VTR/disk recorder is now controlled according to the keyframe data.

Setting the start point and stop point with the [SET XX] buttons

When you enter a timecode and make a setting with the [SET START TC], [SET STOP TC], or [SET DUR] button in the device control block (search dial), the timecode display changes as follows. With these buttons you can set the start point and stop point timecodes, and the duration (the duration is not displayed). When two of these values are set, the remaining one is automatically determined.

Example 1

1 Press the [SET START TC] button, and enter "00000000" from the numeric keypad control block.

START TC	00:00:00:00
STOP TC	--:--:--:--
(DUR (not displayed)	)

2 Press the [SET STOP TC] button, and enter "200" from the numeric keypad control block. This automatically sets DUR.

START TC	00:00:00:00
STOP TC	00:00:02:00
(DUR	0:02:00)

3 Press the [SET DUR] button, and enter "–100" from the numeric keypad control block.
START TC remains the same, and STOP TC changes.[a)]

START TC	00:00:00:00
STOP TC	00:00:01:00
(DUR	0:01:00)

Example 2

1 Press the [SET DUR] button, and enter "200" from the numeric keypad control block.

START TC	--:--:--:--
STOP TC	--:--:--:--
(DUR	0:02:00)

2 Press the [SET STOP TC] button, and enter "01000000" from the numeric keypad control block. This automatically sets START TC.

START TC	00:59:58:00
STOP TC	01:00:00:00
(DUR	0:02:00)

3 Press the [SET STOP TC] button, and without entering anything from the numeric keypad control block, press [ENTER].

The STOP TC display, and the START TC display automatically calculated in step **2** disappear, and the setting of the DUR does not change.

START TC	--:--:--:--
STOP TC	--:--:--:--
(DUR	0:02:00)

a) If after pressing the [SET XX] button you press the [+ / –] button in the numeric keypad control block, you can enter offsets from the existing setting values. Each time you press this button, the sign of the offset cycles through the settings " "(absolute value) → "+" → "–"... , and the sign appears in the numeric keypad control block display. If there is no existing setting value, then it is only possible to enter an absolute value, and not an offset value.

Setting the start point, stop point, and start delay time in a menu

In the Device menu, you can set the start point, stop point, and start delay time.

1 In the Device menu, press VF3 'DDR/VTR' and HF1 'Cueup & Play.'

The Device >DDR/VTR >Cueup & Play menu appears.
The status area shows the device number, register number, status information, current time, start point, stop point, and start delay time.

2 Using any of the following methods, select the device.

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

Knob	Parameter	Adjustment	Setting values
1	Dev	Device number	1 to 12

3 Carry out any of the following operations as required.

- To set the start point, press [Set] in the <Start TC> group.
- To set the stop point, press [Set] in the <Stop TC> group.
- To set the start delay time, press [Set] in the <Delay> group.

A timecode window appears.

4 Set the timecode value for the start point, stop point, or start delay time.

Notes

You can enter a start delay time in the range that depends on the signal format as follows:
00:00 to 59:nn,
where nn = (number of frames per second) – 1 frame.

5 Press [Enter].

Clearing the start point, stop point, and start delay time settings in a menu

In the Device menu, use the following procedure.

1 Press VF3 'DDR/VTR' and HF1 'Cueup & Play.'

2 Using any of the following methods, select the device for which you want to clear the settings.

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

Knob	Parameter	Setting	Setting values
1	Dev	Device number	1 to 12

3 Carry out any of the following operations as required.

- To clear the start point, press [Clear] in the <Start TC> group.
- To clear the stop point, press [Clear] in the <Stop TC> group.
- To clear the start delay time, press [Clear] in the <Delay> group.

This clears the setting of the start point, stop point, or start delay time.

Selecting Loop or Recue as the playback mode

You can set the device operation mode to loop or recue.

Loop: Carry out playback from the start point of a file to the stop point, then indefinitely repeat playback from the start point.

Recue: Carry out playback from the start point of a file to the stop point, then return to the start point and stop.

Notes

Loop and recue functions are only available when the EVS XT server is operated with the video disk communications protocol.

In the Device menu, use the following procedure.

1 Press VF3 'DDR/VTR' and HF1 'Cueup & Play.'

The Device >DDR/VTR >Cueup & Play menu appears.
The status area shows the device number, register number, status information, current time, start point, stop point, start delay time, and playback mode.

2 Using any of the following methods, select the device.

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

Knob	Parameter	Adjustment	Setting values
1	Dev	Device number	1 to 12

3 In the <Mode> group, press [Loop] or [Recue], turning it on.

VTR/Disk Recorder/Extended VTR Timeline

For a keyframe effect controlled from the center control panel, the timeline allows you to set a VTR, disk recorder or Extended VTR action at a keyframe point on the timeline.

Timeline actions

The actions that can be used on the timeline are as follows.

- Start
- Stop
- Cue up
- Variable speed

Notes

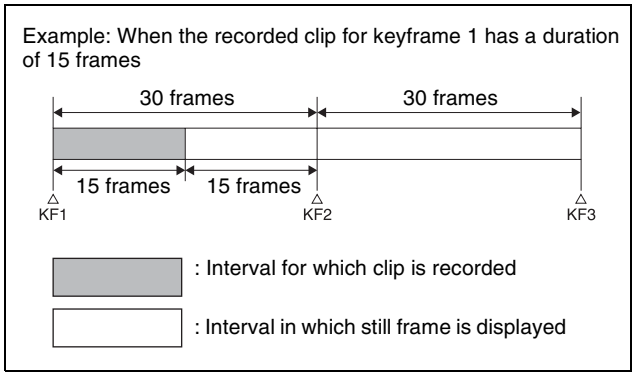
- The timeline does not support loop and recue.
- For a disk recorder, the maximum number of files for a single register is eight.

For the action settings (VTR/disk recorder/Extended VTR timeline editing), use the Device menu.
The data set in the Device menu are saved in a keyframe effect register. When you recall this register and start execution of the keyframe effect, and advance the effect to the keyframe point for which the action is set, an action command is output to the external device through the 9-pin serial port assigned to the VTR, disk recorder or Extended VTR.

Notes

When executing a timeline using a disk recorder or Extended VTR, note the following points.

- It is not possible to use loop and recue on the timeline.
- When carrying out keyframe settings, be sure to recall the file for operation first.
- If the duration of the recorded video clip is less than the keyframe duration, after playback to the end of the clip, the remainder of the keyframe duration is filled with a still of the last frame of the clip *(see figure below).*



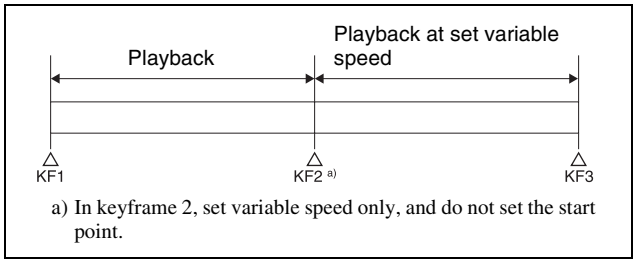
In this example, when keyframe 1 is executed, the first 15 frames consist of clip playback and the remaining 15 frames show the 15th frame as a still image.
When executing the timeline using a disk recorder, also take note of the following points.

- Set the keyframe duration to at least 30 frames.
- From pressing the [RUN] button to the time when the effect actually starts execution may take around one second.
  In order that pressing the [RUN] button after [REWIND] make the effect start execution as soon as possible, set cueing up of the file for operation as rewind operation [1)].
  In the first keyframe [2)] to be executed with [RUN], for the cued-up file, do not set the start point, but set only the start command.

1) If the setting when the [REWIND] button is pressed is for the first keyframe to be executed, then the first keyframe is executed, and otherwise the setting for the Rewind Action is carried out.

2) If the setting when the [REWIND] button is pressed is for the first keyframe to be executed, then the second keyframe is executed, and otherwise the first keyframe is executed.

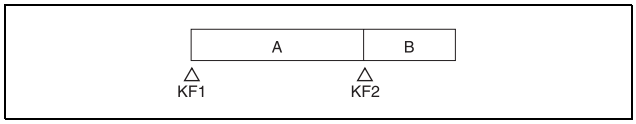
- To execute an effect, be sure to carry out a Rewind.
  For example, when the start command only is set for a keyframe, playback starts from the current position, in the same way as with a VTR (no automatic cue-up).
- During file playback, to play the next keyframe at variable speed, for the next keyframe set variable speed only, and do not set the start point *(see figure below).*



a) In keyframe 2, set variable speed only, and do not set the start point.

- When using a disk recorder with the VTR/disk recorder timeline, if you carry out the following sequence of operations, the system may freeze on the frame of the start point.
  1. Press the [RUN] button to play to a point close to the end of a file.
  2. Stop playback.
  3. Press the [RUN] button once more.

  In such cases, first recall a different register, then carry out the following sequence:
  1. Recall the original register again.
  2. Press the [REWIND] button.
  3. Press the [RUN] button.
- Some operating limitations apply when the video disk communications protocol is used. These are explained with reference to the following figure, which illustrates creation of a timeline that plays from the video of file A to the video of file B.



- Operation with no problems:

KF1 action setting	Operating status of file A	KF2 action setting
Start	Playing	Start

- Black video or still image appears momentarily when play switches from file A to file B:

KF1 action setting	Operating status of file A	KF2 action setting
Start	Playing	Cueup
Variable Speed set	Playing at variable speed	Cueup
Cueup	Cueup	Cueup

- Partial operating limitation:

KF1 action setting	Operating status of file A	KF2 action setting
Start	Playing	Variable Speed set [a)]
Variable Speed set	Playing at variable speed	Variable Speed set [a)]
Cueup	Cueup	Variable Speed set [a)]

a) Failure to operate when variable speed is set to minus value. However, operates when the file B action is set to Start, and then variable speed is set to minus after file B starts playing.

- Play does not switch from file A to file B:

KF1 action setting	Operating status of file A	KF2 action setting
Variable Speed set	Playing at variable speed	Start
Cueup	Cueup	Start

If play continues to show video of file A without switching to file B, a Stop action is required in file A in order to switch to file B.

VTR/disk recorder/Extended VTR timeline editing

This section describes how to set an action at a keyframe point, and how to edit the timeline.

For details of the operations for keyframe creation and editing, see "Creating and Editing Keyframes" (page 44).

To set an action in the menu

1 In the Device menu, press VF3 'DDR/VTR' and HF2 'Timeline.'

The Device >DDR/VTR >Timeline menu appears.
The status area shows two lists.
The upper list shows the device number, register number, keyframe number, and action type (start point, stop point, and variable speed) set for the keyframe.
The lower list is used for setting the action for the device selected above, and shows the port name, current file, current time, status information, start point, stop point, variable speed, and file name (for a disk recorder or Extended VTR).

2 Using any of the following methods, select the device for which you want to set the action.

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

Knob	Parameter	Setting	Setting values
1	Dev	Device number	1 to 12

3 To set the name of a file when using an Extended VTR or disk recorder, recall the file using the Device >DDR/VTR >File List menu.

Notes

- There is a limit of eight disk recorder files that can set on a single timeline.
- If you have not set the file name when using an Extended VTR, the file recalled in the Extended VTR when the keyframe point is passed is the subject of the action.

For details of settings required to recall a file, see "Sharing Disk Recorder/Extended VTR File Lists" (page 191).

When not using an Extended VTR or disk recorder, or when the file name has not been set for an Extended VTR, skip to step **4**.

4 In the <Action> group, select the action.

Cueup: Output a command to cue up to the currently displayed start point.
Start: Output a Play command.

Notes

When the stop point and variable speed are both set, the variable speed setting takes priority.

Stop: Output a Stop command.

Notes

Before executing the Stop command, if the timecode for the set stop point has been reached, or on an Extended VTR or disk recorder if the end of the file has been reached, then at that point the device stops.

5 To set a start point, in the <Start TC> group, press the [Set] button.

A timecode window appears.
If you do not want to set the start point, skip to step **8**.

Notes

For a disk recorder on which the start point is not set, the file recalled in the disk recorder when the keyframe point is passed is the subject of the action.

6 Set the start point as a timecode value.

7 Press [Enter].

The new start point setting is reflected in the status area.

8 To set the stop point, in the <Stop TC> group press the [Set] button.

A timecode window appears.
If you do not want to set the stop point, skip to step **11**.

9 Set the stop point as a timecode value.

10 Press [Enter].

The new stop point setting is reflected in the status area.

11 To set the variable speed, in the <Variable Speed> group, carry out either of the following.

- Press [Fit].
  Without setting a speed value, this automatically carries out playback according to automatically calculated values for the duration and keyframe duration to fit the set start point and stop point.
- Press the [Set] button, and adjust the parameter with the knob.

Knob	Parameter	Setting	Setting values
2	Variable	Variable speed	–100 to +200 a)

a) The setting range of the variable speed depends on the type of connected device.

The new variable speed setting is reflected in the status area.

Repeat steps **2** to **11** as required for other devices.

To carry out start point and stop point settings and cueing up operations in the device control block

With the following buttons in the device control block, you can set the start point or stop point of a keyframe point on the timeline, or carry out a cueing up operation.

Notes

- When using the device control block (trackball or joystick), check that the [MENU] button in the block is lit amber. If it is not lit, press it, turning it on.
- When using the device control block (search dial), check that the [TIMELINE] is lit amber.

[START TC] button: Set the start point of the keyframe point to the current time.

[STOP TC] button: Set the stop point of the keyframe point to the current time.

[SET START TC] button (of the device control block (search dial)): Enable to input the timecode of the start point of the keyframe point with the numeric keypad control block.

[SET STOP TC] button (of the device control block (search dial)): Enable to input the timecode of the stop point of the keyframe point with the numeric keypad control block.

[SET DUR] button (of the device control block (search dial)): Enable to input the duration between the start point and stop point of a keyframe point with the numeric keypad control block.

[CUE] button: Cue up to the start point set for the keyframe point.

To display or check the settings, use the Device >DDR/VTR >Timeline menu.

To test an action command output

To test an action command output, select the desired device from the upper list in the status area, and press [Test Fire].
An action command is output from the DCU 9-pin serial port, according to the settings in the list.

To clear the start point, stop point, and variable speed settings

1 In the upper list in the status area, select the device for which you want to clear the settings.

2 Carry out any of the following operations as required.

- To clear the start point setting, press [Clear] in the <Start TC> group.
- To clear the stop point setting, press [Clear] in the <Stop TC> group.
- To clear the variable speed setting, press [Clear] in the <Variable Speed> group.

To set the action for a rewind operation

On the VTR/disk recorder/Extended VTR timeline, when the [REWIND] button in the keyframe control block is pressed the action set for the first keyframe is not executed; when the [RUN] button is pressed, then the first keyframe action is executed.
To execute an action when the [REWIND] button is pressed, it is necessary to set this action (Rewind Action). To carry out this setting, in the Device >DDR/VTR >Timeline menu, press [Rewind Action] to recall the Rewind Action menu. In this setting screen, use the same setting method as in the screen for setting an action on the VTR/disk recorder timeline.
Alternatively, you can select the reverse arrangement, whereby when the [REWIND] button is pressed, this executes the action set for the first keyframe, and when the [RUN] button is pressed the first keyframe action is not executed. In this case, the Rewind Action setting is still valid.

For details of the setting, see "Setting the First Keyframe When a Rewind is Executed" (page 194).

Disk Recorder/Extended VTR File Operations

Material held on a disk recorder/Extended VTR is managed in units of files. You can recall a file to play it back. (In the case of an Extended VTR, the register number is recalled.)
To carry out disk recorder/Extended VTR file operations, use the Device menu.

Accessing the file list

Before playback and suchlike operations on a disk recorder/Extended VTR, it is first necessary to display a list of the disk recorder files on the DCU. The file list includes the following information.

- File name
- Date of last update [1)]
- Duration of recorded material [1)]

To recall the file list, use the Device menu.

1) Not displayed in the case of an Extended VTR

Recalling a file

In the recalled list of files, select the file you want to play back, and open the file.

File list sharing

You can connect multiple DCU serial ports to a single disk recorder/Extended VTR.
You can share the recalled list of files between serial ports connected to the same disk recorder/Extended VTR.

For settings relating to file list sharing, see "Sharing Disk Recorder/Extended VTR File Lists" (page 191).

File creation

To record a new file on the disk recorder, use the Device menu to create a new file.

Notes

In the case of an Extended VTR, it is not possible to record a new file.

Refreshing (recalling) the disk recorder/ Extended VTR file list

1 In the Device menu, press VF3 'DDR/VTR' and HF3 'File List.'

The Device >DDR/VTR > File List menu appears.
In the status area, two lists appear.
The upper list shows the selected device name, and the currently selected file name (register number), and set file name.
The lower list shows a list of files for the selected device (the device appearing in the upper list). In this list is shown the file name (register number) set when the material was recorded, the length of the file data (timecode value), and the file update information.

Notes

- File update information is not shown when using the video disk communications protocol.
- When using an Extended VTR, the length of file data and file update information are not shown, and the register number is shown in place of the file name.

2 Select the device for which you want to recall the file list, using the knob.

Knob	Parameter	Setting	Setting values
1	Dev	Device number	1 to 12

3 Press the [File List Update] button.

This starts the process of recalling the file list, and a message box appears.
When the file list recall is completed, the message box disappears.

To cancel recalling the file list
During the recall, press the [Cancel] button in the message box.

File list sharing

You can share the recalled file list across serial ports connected to the same disk recorder *(see page 191).*

Sorting files in the list

You can sort the files in the list by name, number, or update date.

1 In the Device menu, press VF3 'DDR/VTR' and HF3 'File List.'

The Device >DDR/VTR >File List menu appears.

2 Select the device for which you want to recall the file list, using the knob.

Knob	Parameter	Setting	Setting values
1	Dev	Device number	1 to 12

3 In the <Sort> group, press one of [File Name], [File No], and [Update].

File Name: Sort in alphabetical order of file name.
File No: Sort in ascending file number order.
Update: Sort in file update date order, newest first.

Notes

- Files cannot be sorted by the file update date and time when using the video disk communications protocol.
- When using an Extended VTR, it is not possible to sort files.

This sorts the files in the selected order.

Recalling a file

To recall a file from the file list, use the following procedure.

Notes

Files cannot be recalled when the disk recorder is set to Recorder.

1 In the Device menu, press VF3 'DDR/VTR' and HF3 'File List.'

The Device >DDR/VTR >File List menu appears.

2 Select the device from which you want to recall a file, using the knob.

Knob	Parameter	Setting	Setting values
1	Dev	Device number	1 to 12

3 Using any of the following methods, select the file you want to recall.

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

Knob	Parameter	Setting	Setting values
2	No	File selection	1 to 5000 a) 0 to 99 b)

a) For disk recorders. The range of setting values depends on the total number of files.
b) For Extended VTRs. The range of setting values depends on the total number of files.

4 Press [Load].

This recalls the selected file, and the file name appears at the top of the status area.

Creating new files

A file name must be specified to record to a new file on a disk recorder.

Notes

- New files cannot be created when the disk recorder is set to Player or Recorder/Player.
- In the case of Extended VTRs, new files cannot be created.

1 In the Device menu, press VF3 'DDR/VTR' and HF3 'File List.'

The Device >DDR/VTR >File List menu appears.

2 Press [New File].

The keyboard window appears.

3 Enter a file name and press [Enter].

When using the Sony disk recorder 9-pin protocol: Up to 23 characters.
When using the video disk communications protocol: Up to 8 characters (in Fixed 8 Character mode) or 23 characters (in Variable Length mode)

For details of how to select the file name character count mode in the video disk communications protocol, see "Making Detailed Settings on the External Device Connected to the Serial Port" (page 235).

The name appears as the current file name at the top of the status area.

When the loaded file is not a target for recording

When a file that is not a target for recording is loaded in the disk recorder, proceed as follows.

1 In the Device menu, press VF3 'DDR/VTR' and HF3 'File List.'

The Device >DDR/VTR >File List menu appears.

2 Press [Unload].

The current file name at the top of the status area is cleared.

Chapter 13 Keyframe Effects

Regions

The term “region” refers to some sort of functional block of the system.
When saving or recalling snapshot registers and effect registers, or creating or editing effects, you first select the region to which the operation applies. You can also select multiple regions simultaneously.

Classification of the regions

The regions are classified as follows.

- Master region
- The following 36 regions
  - Switcher: M/E1 to M/E4, PGM/PST, User1 to User8
  - DME: DME ch1 to DME ch8 (inclusive of Global)
  - External devices: P-Bus, Router, Device 1 to Device 12, GPI, Macro

Only the regions assigned to the region selection buttons of the numeric keypad control block or Multifunction Flexi Pad control block can be used simultaneously *(see page 162)*.

Regions applicable to keyframe operations

All the regions less the Router region.

Regions applicable to snapshot operations

Twenty-two regions, that is, the above regions less the external devices’ regions (P-Bus, Device 1 to Device 12, and GPI) and the Macro region.

“User” regions

You can optionally assign the following regions to the regions User1 to User8 *(see page 201)*. The User regions shown in parenthesis are the default assignments.

- Color backgrounds 1 and 2 (User1)
- AUX1 to AUX48 (User2)
- Frame Memory 1 to 8 (User4)
- Color correctors 1 and 2

Notes on saving or recalling a frame memory still image for or by a snapshot/keyframe

- The saving and recalling of frame memory images for snapshots and keyframes is restricted to the still images or clips on the eight frame memory outputs. The settings made for frame memory images in the Freeze menu or other menus do not apply to snapshots or keyframes.
- To reproduce a frame memory still image or a clip of them by recalling a snapshot or keyframe, you must have the same images that were present in the frame memory when you saved the snapshot or keyframe. Therefore, when saving a snapshot or keyframe using frame memory, you must also save the images to a storage media such as the hard disk.

Reference region

When multiple regions are selected, only one region appears in the displays for menu and numeric keypad operations. This is called the “reference region.”
The reference region is determined according to the following precedence.

M/E1 >M/E2 >M/E3 >M/E4 >P/P >User1 >User2 >User3 >User4 >User5 >User6 >User7 >User8 >DME ch1>DME ch2 >DME ch3 >DME ch4 >DME ch5 >DME ch6 >DME ch7 >DME ch8 >Device1 >Device2 >Device3 >Device4 >Device5 >Device6 >Device7 >Device8 >Device9 >Device10 >Device11 >Device12 >P-Bus >GPI >Router >Macro

Master region

The regions saved in a master snapshot register or master timeline register and the register numbers saved in such regions can be recalled at a time as the master region.
The master region can be saved or recalled using the numeric keypad control block or Multifunction Flexi Pad control block.

Registers

A register is an area of memory in a device which holds a snapshot *(see chapter 16)*, keyframe, macro *(see chapter 13)*, and so on.

Keyframe effect registers

Dedicated effect registers

There are 99 dedicated registers for keyframe effects in each region, numbered 1 to 99.

Shared user-programmable DME registers

In addition to the 99 DME registers for each region (i.e. each channel), there are also shared registers for each processor as shown in the following table. These are used for user-programmable DME.

Register number	Register allocation
101 to 199	Shared register for one-channel effects
201 to 299	Shared register for two-channel effects
301 to 399	Shared register for three-channel effects

Notes

When operating with these shared registers, be sure to select the appropriate regions depending on the number of channels.
When recalling registers in the 200 range, select two consecutive channels for the regions, as for example [DME1] and [DME2]. Similarly, for registers in the 300 range, select three consecutive registers.

Registers for P-Bus Device regions

There are 250 registers for P-Bus and Device1 to Device12 in each region, numbered 1 to 250.

Work register

This is a temporary register used when editing keyframes. When you recall an effect, it is read from the effect register into the work register, and when you save, the contents of the work register are written to the effect register.

Master timeline registers

There are 99 master timeline registers, numbered 1 to 99, for each control panel. They store keyframe effect regions and the register numbers saved in the regions.

Snapshot registers

These are registers for snapshots, and there are 99, numbered 1 to 99 for each region.

Master snapshot registers

There are 99 master snapshot registers, numbered 1 to 99, for each control panel. They store snapshot regions and the register numbers saved in the regions.

Keyframes

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

Effects

By arranging a number of keyframes on the time axis, and interpolating between successive keyframes, you can create an effect in which there is a continuous change from each keyframe to the next.
You can save the sequence of keyframes representing a single effect in a register. Then by recalling this register, you can replay the same effect *(see page 28 and 29)*.

Saving and Recalling Effects

To create a new effect, first recall an empty register, then create the keyframes one at a time in this register. To run an effect, it is also necessary to set the time and the path.
To edit an existing effect, recall the register holding the effect, then make the changes.
When you have finished creating or editing the effect, save it in the recalled register or another specified register.

Auto save function

When you recall an effect, the currently recalled effect is automatically saved in a register. This is called the auto save function. You can disable this function in a Setup menu.

Effect Attributes

An individual effect may also have attached special conditions relating to switcher or DME operation when the effect is recalled.
These conditions are called “attributes” of the effect, and can be added when the keyframe effect is saved or recalled.

Type of attribute

The attribute that can be attached to an effect is as follows.

Effect dissolve: The transition from the state before the effect recall to the state at the effect start point is carried out smoothly, by a dissolve. The dissolve duration can be set in the Effect menu.

Temporary attributes

When a keyframe is recalled, independently of the attributes held in the register, you can also enable or disable temporary attributes. These temporary attributes are set when the keyframe effect is recalled.

Effect Editing

For editing operations such as to insert, delete, or modify a keyframe, it is necessary to stop the effect at the corresponding point on the time axis. This is termed an “edit point.”
You can edit either on a keyframe within the effect, or at any point between keyframes.

Insert: Insert the current image as a keyframe. Inserting a keyframe in an existing effect may change the duration of the effect *(see page 31)*.

Modify: Modify a keyframe. You can modify a single keyframe or a range of keyframes in the effect together.

Delete: Delete a keyframe. You can delete a single keyframe or a range of keyframes in the effect together. Deleting keyframes from an effect reduces the duration of the effect *(see page 31)*.
After deleting a keyframe, you can reinsert the keyframe with a paste operation.

Copy: Copy a keyframe. You can copy a single keyframe or a range of keyframes in the effect together.

Paste: Paste the keyframe last copied or deleted anywhere within the effect.

Pause: You can set a pause on a particular keyframe, so that when the effect is run it pauses on this keyframe. You can make this setting on any number of keyframes. To restart the paused effect, repeat the operation to run the effect.

KF Loop: Execute the effect the specified number of times through the keyframes in the specified range.

Undo an edit operation: Undo the effect of the last operation to insert, modify, delete, or paste a keyframe.

Duration modes

In keyframe editing, there are two duration modes; switch between them in the keyframe operation section *(see page 44)*.

Variable duration mode: In this mode, inserting or deleting a keyframe increases or reduces the duration.

Constant duration mode: In this mode, inserting or deleting a keyframe does not change the duration. This is useful for keyframe editing of an effect with a fixed duration.

In the variable and constant duration modes, the keyframes to which a modify operation applies, and the effect of a paste operation are different.

Difference in keyframes to which a modify operation applies

Effect position	Variable duration mode	Constant duration mode
On a keyframe	Applies to currently selected keyframe	Applies to currently selected keyframe
Between two keyframes	Applies to previous keyframe	Modify operation not possible [a)]

a) A new keyframe is inserted at the effect position.

Difference in the effect of a paste operation

Variable duration mode: The copied keyframe is inserted at the specified position.

Constant duration mode: The copied keyframe is written over the specified position.

Transition mode

You can use an effect created with keyframes as a DME wipe pattern on the switcher. In this case, it is necessary to set the transition mode (the way in which the effect behaves) *(see page 48)*.

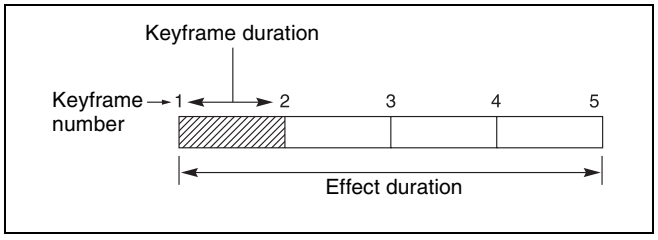
Time Settings

Keyframe duration and effect duration

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

Keyframe duration: This is the time from the keyframe to the next keyframe. You can set this time in the keyframe control block *(see page 52)*.
In constant duration mode *(see page 30)*, it is not possible to change the keyframe duration setting.

Effect duration: This is the total execution time of the effect, from the first keyframe to the last. You can set this time in the keyframe control block *(see page 53)*. When you change the effect duration, the keyframe duration for each keyframe in the effect is automatically recalculated proportionally.



Keyframe duration and effect duration

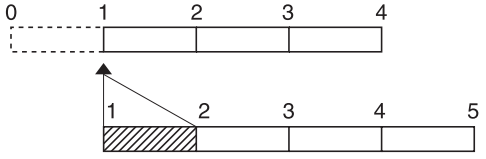
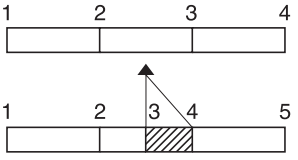
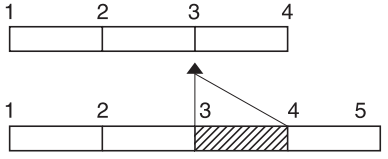
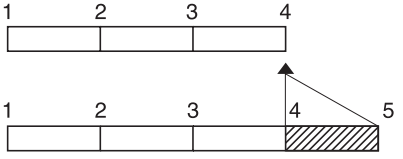
The effect duration may also be changed by inserting or deleting keyframes.

Changes in the effect duration caused by inserting a keyframe

- When the effect is stopped on a keyframe, inserting a keyframe increases the effect duration by the duration of the inserted keyframe.
- When the effect is stopped between two keyframes, inserting a keyframe does not change the effect duration.

Notes

In constant duration mode *(see page 30)*, the duration of the current keyframe is reduced to zero, and the new keyframe is inserted with the previous duration of the current keyframe. Thus the effect duration does not change.

Insertion position	Change in effect duration
Insertion before the first keyframe	
Insertion between two keyframes	
Insertion at an existing keyframe	
Insertion at the last keyframe	

Keyframe insertion position and the change in effect duration

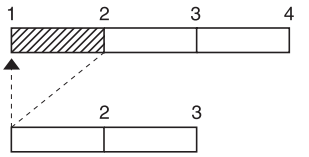
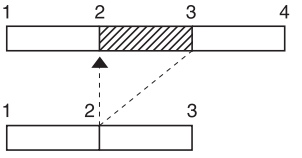
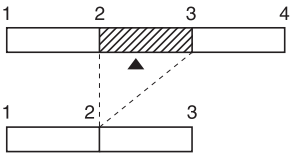
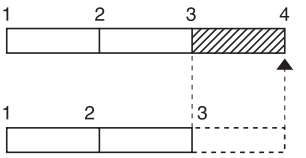
Changes in the effect duration caused by deleting a keyframe

- When the effect is stopped on a keyframe, a delete operation deletes the keyframe, and reduces the effect duration by the duration of the deleted keyframe.
- When the effect is stopped between two keyframes, a delete operation deletes the preceding keyframe, and reduces the effect duration by the duration of the deleted keyframe.

Notes

In constant duration mode *(see page 30)*, the duration of the keyframe before the deleted keyframe is increased by

the duration of the deleted keyframe. Thus the effect duration does not change.

Deletion position	Change in effect duration
Deletion of the first keyframe	
Deletion of an intermediate keyframe	
Deletion between two keyframes	
Deletion of the last keyframe	

Keyframe deletion position and the change in effect duration

Delay setting

You can set the delay from the time of executing an operation to run the effect, and the effect actually starting (that is, the delay until the first keyframe). You can make this setting in the keyframe control block.
Note that changing the delay does not alter the duration of the effect.

Paths

The term “path” refers to the specification of how interpolation is carried out from one keyframe to the next. Images are interpolated from an edit point to the next one according to the path setting.

For details of the path setting procedure, see “Path Setting” (page 54).

Switcher path settings

Carry out path settings in the Key Frame menu.
For each menu, the following settings are available.

M/E-1 to M/E-4, and P/P menus

Item		Paths that can be set
M/E1 to M/E4, P/P All		For each M/E and PGM/PST, path settings for the following items are made simultaneously.
Key1 to Key8		Overall path settings for items relating to keys 1 to 8 are made simultaneously.
	Key1 All to Key8 All	
	Source	Key source path for keys 1 to 8
	Fill	Key fill path for keys 1 to 8
	Proc	Proc path for keys 1 to 8
	Trans	Transition path for keys 1 to 8
Bkgd/Util		Overall path settings for items relating to the background and utility buses are made simultaneously.
	Bkgd/Util All	
	Bkgd A	Path for background A
	Bkgd B	Path for background B
	Util 1	Path for utility 1
	Util 2	Path for utility 2
	DME 2nd Video	Path for video to be used for second DME channel
Wipe/DME Wipe		Overall path settings for items relating to wipes and DME wipes are made simultaneously.
	Wipe/DME Wipe All	
	Wipe	Path for wipes
	DME Wipe	Path for DME wipes
Trans	–	Transition path for each M/E and P/P bank

User1 to User8 menus

The items that can be adjusted depend on the settings in the Setup menu.

For details, see “Setting User Regions” (page 201).

Item		Paths that can be set
User1 All to User8 All		Overall path settings for the following items for each “User” are made simultaneously.
FM All		Overall path settings for frame memory items are made simultaneously.
FM Still Store		Overall path settings for frame memory freeze image output are made simultaneously.
	FM Still Store All	
	FM Still Store 1 to 8	Paths for frame memory freeze image outputs 1 to 8
Aux		Overall path settings for AUX buses are made simultaneously.
	Aux All	
	Aux 1 to 48	Paths for Aux 1 to 48

Item		Paths that can be set
Color Bkgd		Overall path settings for color backgrounds are made simultaneously.
	Color Bkgd All	
	Color Bkgd 1	Paths for color background 1
	Color Bkgd 2	Paths for color background 2
CCR		Overall path settings for color corrector
	CCR All	
	CCR 1	Path for color corrector 1
	CCR 2	Path for color corrector 2

Paths relating to DME

DME 3D Trans Local menu

Item		Paths that can be set
3D Trans Local All		Overall path settings for local channel three-dimensional transform items are made simultaneously.
Loc Size		Overall path settings for items relating to image size changes and movement are made simultaneously.
	Loc Size All	
	Size	Path for image size
	Post Loc X, Post Loc Y	Paths for movement in the x- and y-axes
	Post Size	Path for size
Loc XYZ		Overall path settings for items relating to image movement are made simultaneously.
	Loc XYZ All	
	Loc X, Loc Y, Loc Z	Paths for the x-, y- and z-axes
Rot		Overall path settings for items relating to image rotation are made simultaneously.
	Rot All	
	Rot X, Rot Y, Rot Z	Paths for the x-, y- and z-axes
Spin		Overall path settings for items relating to spin are made simultaneously.
	Spin All	
	Spin Src X, Spin Src Y, Spin Src Z	Paths for the x-, y- and z-axes
	Spin X, Spin Y, Spin Z	Paths for the x-, y- and z-axes
Asp		Overall path settings for items relating to aspect ratio are made simultaneously.
	Asp All	
	Rate X, Rate Y	Paths for the x- and y-axes
Skew		Overall path settings for items relating to skew are made simultaneously.
	Skew All	
	Skew X, Skew Y	Paths for the x- and y-axes
	Aspect	Path for aspect ratio
Pers		Overall path settings for items relating to perspective are made simultaneously.
	Pers All	
	Pers X, Pers Y, Pers Z	Paths for the x-, y- and z-axes
Axis Loc		Overall path settings for items relating to image rotation axis are made simultaneously.
	Axis All	
	Axis X, Axis Y, Axis Z	Paths for the x-, y- and z-axes

DME 3D Trans Global menu

Item		Paths that can be set
3D Trans Global All		Overall path settings for three-dimensional transform items in the global channel are made simultaneously.
Loc Size		Overall path settings for items relating to image size changes and movement are made simultaneously.
	Loc Size All	
	Size	Path for image size
	Post Loc X, Post Loc Y	Paths for movement in the x- and y-axes
	Post Size	Path for size
Loc XYZ		Overall path settings for items relating to image movement are made simultaneously.
	Loc XYZ All	
	Loc X, Loc Y, Loc Z	Paths for the x-, y- and z-axes
Rot		Overall path settings for items relating to image rotation are made simultaneously.
	Rot All	
	Rot X, Rot Y, Rot Z	Paths for the x-, y- and z-axes
Spin		Overall path settings for items relating to spin are made simultaneously.
	Spin All	
	Spin Src X, Spin Src Y, Spin Src Z	Paths for the x-, y- and z-axes
	Spin X, Spin Y, Spin Z	Paths for the x-, y- and z-axes
Pers		Overall path settings for items relating to perspective are made simultaneously.
	Pers All	
	Pers X, Pers Y, Pers Z	Paths for the x-, y- and z-axes

Item		Paths that can be set
Axis Loc		Overall path settings for items relating to image rotation axis are made simultaneously.
	Axis All	
	Axis X, Axis Y, Axis Z	Paths for the x-, y- and z-axes

DME Effect menu

Item		Paths that can be set
Effect All		Overall path settings for DME effect items are made simultaneously.
Edge		Overall path settings for edge items are made simultaneously.
	Edge All	
	Border	Path for border
	Crop/Edge Soft	Path for crop/edge softness
	Beveled Edge	Path for beveled edge
	Key Border	Path for key border [a]
	Art Edge	Path for art edge [a]
	Flex Shadow	Path for flex shadow [a]
	Wipe Crop	Path for wipe crop [a]
	Color Mix	Path for color mix [a]
Video Modify		Overall path settings for video modify items are made simultaneously.
	Video Modify All	
	Defocus/Blur	Path for defocus/blur
	Multi Move	Path for “multi-move”
	Color Modify	Path for color modify
	Mosaic	Path for mosaic
	Mask	Path for mask
	Sketch	Path for sketch
	Metal	Path for metal
	Dim/Fade	Path for dim/fade [a]
	Glow	Path for glow
Freeze		Path for freeze
Non-Linear		Path for nonlinear effects
Corner Pin		Path for corner pinning
Light		Overall path settings for lighting items are made simultaneously.
	Light All	
	Lighting	Path for lighting
	Spot Lighting	Path for spotlighting [a]
Trail		Path for trails
In/Out		Overall path settings for items relating to input/output are made simultaneously.
	In/Out All	
	Bkgd	Path for background
	Video/Key	Path for video/key

a) This cannot be used on the MVE-8000A.

DME Global Effect menu

Item	Paths that can be set
Global Effect All	Overall path settings for DME global effect items are made simultaneously.
Combine	Path for combiner
Shadow	Path for shadow
Brick	Path for brick

Types of path

Path types for Curve

There are five types, as follows.

OFF: Executing the effect causes no change.

Step: There is no interpolation between keyframes, so that the effect parameters are updated each time a keyframe is passed.

Linear: Linear interpolation between keyframes, resulting in constant speed movement.

S-Curve: The rate of change accelerates and decelerates before and after a keyframe, so that the rate of change is maximum midway between two keyframes.

Spline: The effect follows a smooth curved path from each keyframe to the next.

Path types for Hue

There are four types, as follows.

CW: The hue changes in a clockwise direction as seen on a Vectorscope.

CCW: The hue changes in a counterclockwise direction as seen on a Vectorscope.

Short: The hue changes in whichever of the clockwise and counterclockwise directions is shorter.

Long: The hue changes in whichever of the clockwise and counterclockwise directions is longer.

Path types for Xpt

There are two types, as follows.

Xpt Hold off: When replaying a keyframe, change the inputs to the settings saved in memory.

Xpt Hold on: When replaying a keyframe, do not change the inputs.

Effect Execution

By using the [RUN] button in the keyframe control block, you can replay the effect as a continuous sequence of images. This is referred to as effect execution.

Range of execution

Each time the [RUN] button is pressed, the range of execution of the effect is from timecode 01:00:00:00 or the current time (the position at which the current effect is stopped) to the end point of the effect. However, if there is a pause set on a keyframe, the execution range is up to that point. Pressing the [RUN] button again resumes the effect, which then runs to the next pause point or the end of the effect.

Run mode setting

You can select from the following run modes for when the effect is executed.

DIRECTION: Specify the effect execution direction.

STOP NEXT KF: Run the effect, and stop at the next keyframe.

EFFECT LOOP: Repeat the effect in an endless loop.

Make these settings in the keyframe control block.

For details, see "Run mode setting" (page 35).

Master Timelines

You can save the regions selected for a keyframe effect and the register numbers saved in the regions in a master timeline register so that operation can be applied to two or more regions at a time.

To save master timeline registers, use the numeric keypad control block, Multifunction Flexi Pad control block or menu; to recall them you can use the numeric keypad control block, menu, the Flexi Pad control block or the Multifunction Flexi Pad control block.

For details, see "Creating and Saving a Master Timeline" (page 58).

Sequence of Keyframe Operations

The following table shows the principal operations involved in the sequence from creating keyframes to executing an effect. For details of each operation, see the page number in parenthesis.

For the overview of keyframes, see "Keyframes" in Chapter 1 (Volume 1).

Recalling a register ***(see page 38)***
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 42)***
Select the region in which editing applies, and set the edit points.

⬇

Creating and editing keyframes ***(see page 44)***
Create the keyframes that make up the effect, using operations to create, insert, modify, or delete keyframes.

⬇

Time settings ***(see page 52)***
Set the overall duration of the effect or the duration of each keyframe.

⬇

Path setting ***(see page 54)***
Set the type of interpolation used between successive keyframes.

⬇

Executing effects ***(see page 55)***
This provides a smooth effect, based on the time and path settings.

⬇

Saving effects ***(see page 57)***
Save a completed effect in a register.

Displaying the Timeline Menu

By displaying the Timeline menu, you can view keyframe effects on the timeline for each region, and the associated information.

Recalling the Timeline menu

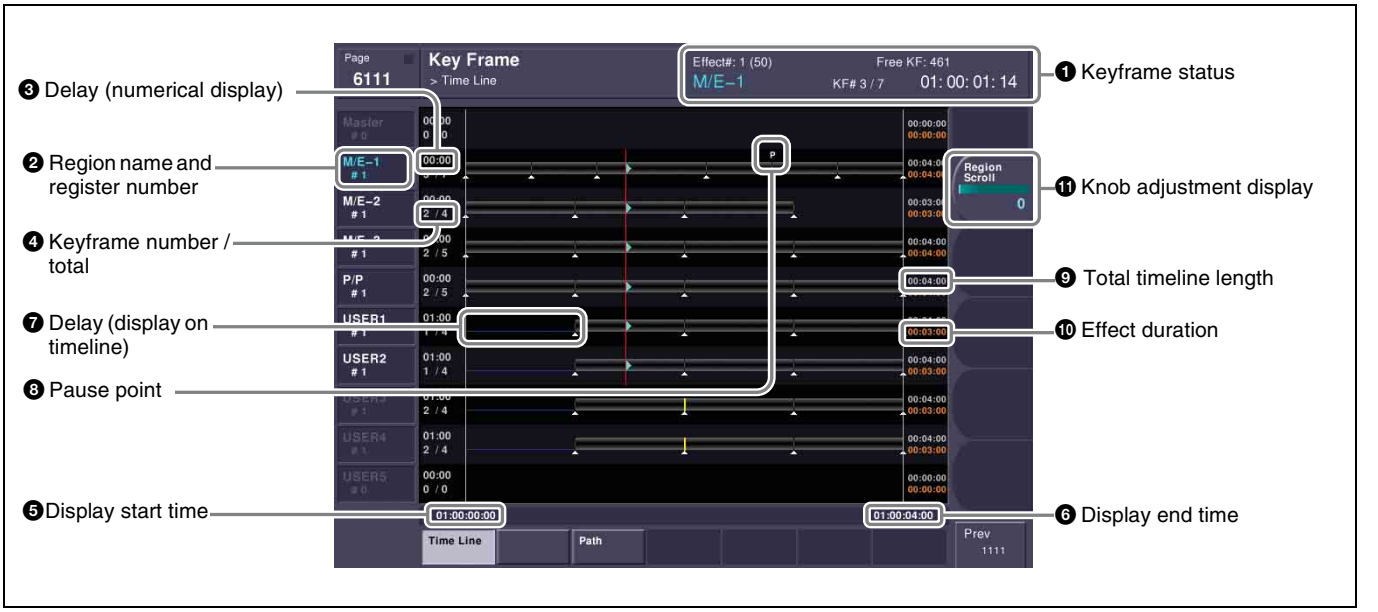
1 In the menu control block, press the top menu selection button [KEY FRAME].

2 Select HF1 ‘Time Line.’

The Time Line menu appears.

Interpreting the Timeline Menu

The following are the main parts of the menu display.



Key Frame >Timeline menu

❶ 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.

❷ 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

❸ Delay (numerical display)
This shows the delay between carrying out an effect operation, and the start of the actual effect.

❹ Keyframe number / total
This shows the number of the keyframe at the cursor position, and the total number of keyframes in the register.

❺ Display start time
This shows the timecode value for the timeline display start point.

❻ Display end time
This shows the timecode value for the timeline display end point.

❼ Delay (display on timeline)
When a delay is set, the interval is shown by a blue line.

❽ Pause point
A “P” appears where a pause is set.

❾ Total timeline length
The total time of delays and effect duration appears in white.

❿ Effect duration
The total duration of the effect appears in orange.

⓫ Knob adjustment display
Turning the corresponding knob scrolls the timeline display, allowing you to see the timeline for regions that were previously hidden.

Settings in the Timeline Menu

Selecting the region to be displayed

The Timeline menu shows a timeline for each region, but you can also restrict the regions to be shown.

Recalling the Timeline Assign menu

1 In the menu control block, press the top menu selection button [KEY FRAME].

2 Select HF5 'Timeline Assign.'

The Key Frame >Timeline Assign menu appears. The right of the status area shows a list of the regions (including the global region) assigned to the region selection buttons in the numeric keypad control block. The left shows the regions in order of precedence, and whether each region is shown on the Timeline menu.

Deciding which regions appear on the timeline

In the Timeline Assign menu, press [Active Region], toggling it on or off.

On: The regions for which the region selection buttons in the numeric keypad control block are lit are shown in the precedence order *(see next item)* set in this menu, followed by the regions for which the buttons are off, in the same order.

Off: The regions appear according to the precedence order *(see next item)* and display on/off setting *(see page 37)* set in this menu.

Deciding the precedence order for timeline display

To change the precedence order, insert and delete regions in the list, in the desired order.

1 In the Timeline Assign menu, use any of the following methods to select the desired precedence order position and the region you want to insert.

- Press directly on the precedence order position in the list on the left and the region you want to insert in the list on the right.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knobs to make the setting.

Knob	Parameter	Adjustment	Setting values
1	Priority	Precedence order of insertion position	1 to upwards
2	Region	Region to be inserted	1 to upwards

2 In the <Priority> group, press [Insert].

This inserts the selected region before the specified precedence order.
If the inserted region is already present in a different precedence order, it is deleted from that precedence order.

3 To delete a region from a precedence order, use any of the following methods to select the region.

- Press directly on the list on the left of the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

Knob	Parameter	Adjustment	Setting values
1	Priority	Precedence order assigned to the region to be deleted	1 to upwards

4 To carry out the deletion, press [Delete] in the <Priority> group.

This deletes the selected region from the precedence order list.

Setting the display of regions in the Timeline menu on or off

When [Active Region] is off, to select which regions are displayed in the Timeline menu, use the following procedure.

1 In the Timeline Assign menu, use any of the following methods to select the region.

- Press directly on the list on the left of the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

Knob	Parameter	Adjustment	Setting values
1	Priority	Region selection	1 to upwards

2 For no display, press [Display], turning it off. To display, press once more, turning it on.

When [Active Region] is off, regions with the "Display Off" setting are not displayed in the Timeline menu.

To return to the default precedence order and timeline menu display settings

Press [Default] in the <Priority> group.

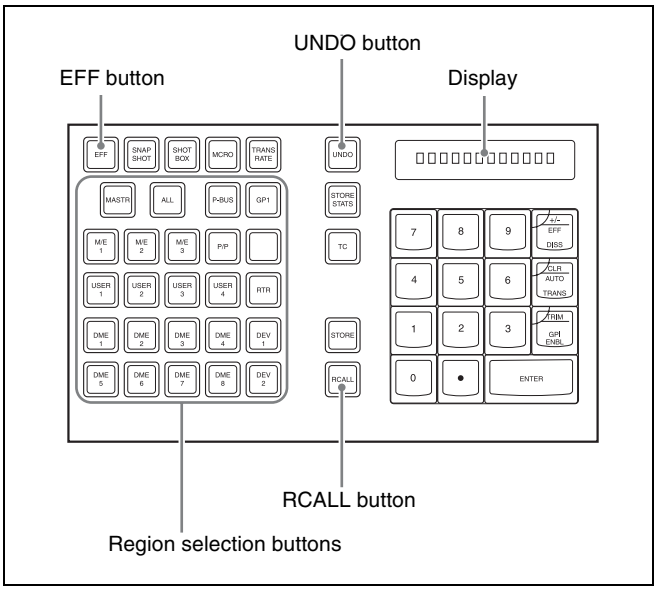
Recalling a Register

Use the numeric keypad control block or Multifunction Flexi Pad control block to recall a register. For each region there are 99 registers dedicated to keyframes, numbered from 1 to 99.
When creating an effect as a user programmable DME, use a 3-digit register number which is commonly used for all DME regions (channels).

For a description of the concept of regions and registers, see "Regions" (page 28) and "Registers" (page 29).

The master timeline can also be recalled from the standard-type Flexi Pad control block.

Recalling a register from the numeric keypad control block



Numeric keypad control block

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

This allocates the numeric keypad control block to keyframe operations, and the [RCALL] button lights.

2 Press the button corresponding to the region you want to select, turning it on.
You can also press more than one button.

[M/E 1], [M/E 2], [M/E 3], [M/E 4], [P/P]: These select the corresponding M/E-1, M/E-2, M/E-3, M/E-4, and PGM/PST regions.

Notes

To select M/E 4, it is necessary to assign M/E 4 to a button *(see page 162)*.

[USER 1] to [USER 8]: These select the User regions.
[DME 1] to [DME 8]: These select the DME channels.
[DEV 1] to [DEV 12]: These select the regions Device 1 to Device 12, respectively.
[P-BUS]: This selects P-Bus.
[GPI]: This selects GPI.
[MCRO]: This selects Macro.
[ALL]: This selects all valid regions.
[MASTR]: This selects the master timeline *(see page 58)*

Notes

The regions that can be selected simultaneously are those assigned to the region selection buttons in the numeric keypad control block *(see page 162)*.
It is not possible to select [MASTR] and other regions simultaneously. If selected simultaneously, the master timeline takes precedence.
The first button pressed lights green as the reference region, and any subsequently pressed buttons light amber.
Pressing one of the amber-lit buttons, while holding down [EFF], turns the button green to indicate its corresponding region as the new reference region.

For details of the precedence order for becoming the reference region, see "Reference region" (page 28).

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), and to search for an empty register in the 300 range, press [3], [0], [0], [.] (period).
The register number appears in the display. If the number is followed by a letter 'e' or 'E,' this indicates the following.
e: The selected register is empty for the regions selected in step **2**.
E: The selected register is empty for all currently selectable regions.

4 To apply a temporary attribute (effect dissolve), press the [+/–/EFF DISS] button.

Notes

It is not possible to apply temporary attributes to the master timeline.

5 Press the [ENTER] button.

This recalls the specified register.
When the master timeline is recalled, the region selection buttons light according to the saved region information.

To undo the recall of a register

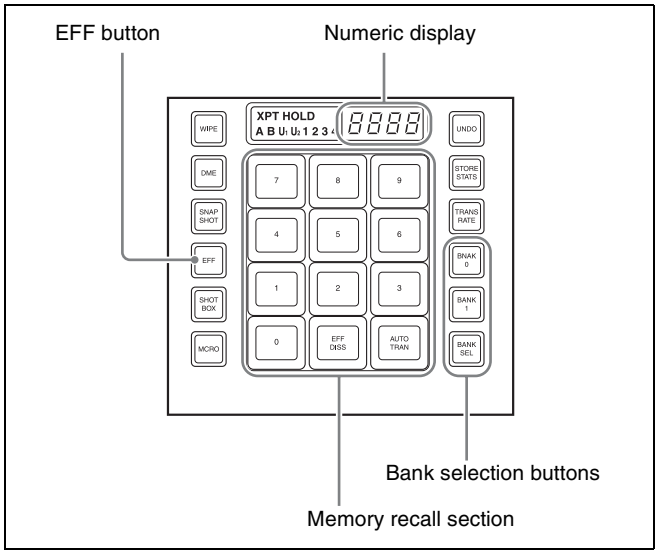
Immediately after recalling the register, press the [UNDO] button to undo the operation.

Notes

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

Recalling the master timeline in the Flexi Pad control block

Whichever block you recall the master timeline from, the region set when it was saved is recalled.



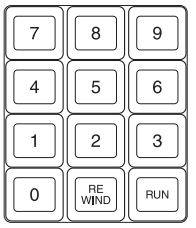
Flexi Pad control block (standard type)

1 In the Flexi Pad control block, press the [EFF] button.

This assigns the Flexi Pad control block to master timeline operation.
The previously selected bank number and last recalled register number appear in the numeric display.

2 Using any of the following methods, select the bank to be recalled.

To select bank 0: press the [BANK 0] button.
To select bank 1: press the [BANK 1] button.
To select any of banks 0 to 9: press the [BANK SEL] button; the memory recall section display changes as shown in the following figure; press one of 0 to 9.

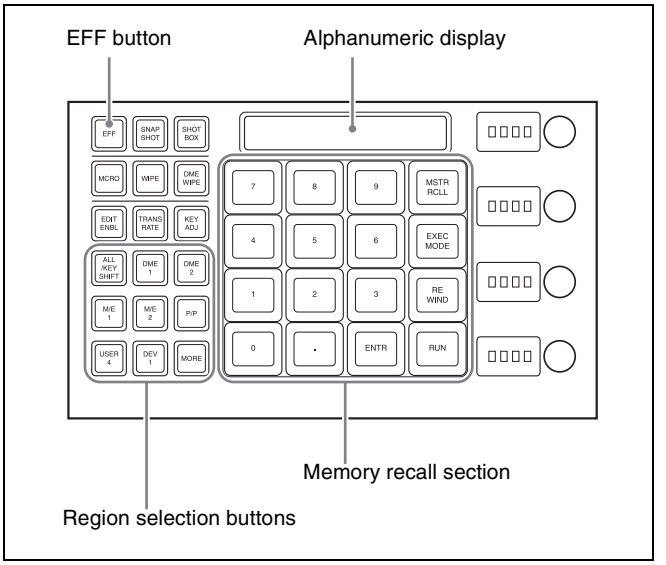


The selected bank number appears in the numeric display.
The memory recall section buttons show the register names corresponding to the selected bank, and the register status.
Note that by a setting in the Setup menu, you can select either register names or register numbers to be displayed.
Lit orange: register holding the master timeline
Lit yellow: last recalled register
Off: empty register

3 Press the button in the memory recall section which shows the desired register name.

The button you pressed lights yellow, and the master timeline is recalled. The numeric display shows the bank number, followed by the selected register number.

Recalling a register from the Multifunction Flexi Pad control block



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

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], [M/E 2], [M/E 3], [M/E 4], [P/P]: These select the corresponding M/E-1, M/E-2, M/E-3, M/E-4, and PGM/PST regions.

Notes

To select M/E 4, it is necessary to assign M/E 4 to a button *(see page 252)*.

[USER 1] to [USER 8]: These select the User regions.
[DME 1] to [DME 8]: These select the DME channels.
[PBUS]: This selects P-Bus.
[GPI]: This selects GPI.
[MCRO]: This selects Macro.
[DEV 1] to [DEV 12]: This selects device.
[ALL]: This selects all valid regions.
[MSTR]: This selects the master timeline.

For details, see "Creating and Saving a Master Timeline Using the Buttons in the Multifunction Flexi Pad Control Block" (page 59).

Notes

The regions that can be selected simultaneously are those assigned to the region selection buttons in the Multifunction Flexi Pad control block, and those displayed on the memory recall section buttons when the [MORE] button is pressed *(see page 162)*.
When [MSTR] and other regions are selected simultaneously, the master timeline takes precedence.
The first button pressed lights green as the reference region, and any subsequently pressed buttons light amber.
Pressing one of the amber-lit buttons, while holding down [EFF], turns the button green to indicate its corresponding region as the new reference region.

For details of the precedence order for becoming the reference region, see "Reference region" (page 28).

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), and to search for an empty register in the 300 range, press [3], [0], [0], [.] (period).
The register number appears in the display. If the number is followed by a letter ‘e’ or ‘E,’ this indicates the following.

e: The selected register is empty for the regions selected in step **2**.

E: The selected register is empty for all currently selectable regions.

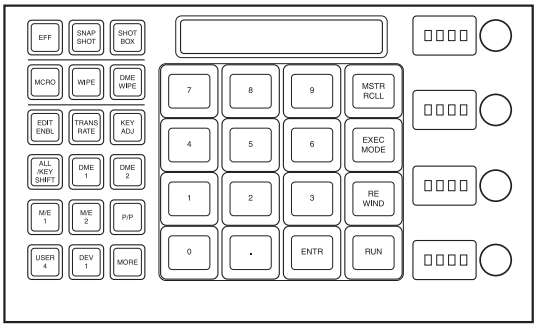
4 Press the [ENTER] button.

This recalls the specified register.
When the master timeline is recalled, the region selection buttons light according to the saved region information.

To recall the master timeline

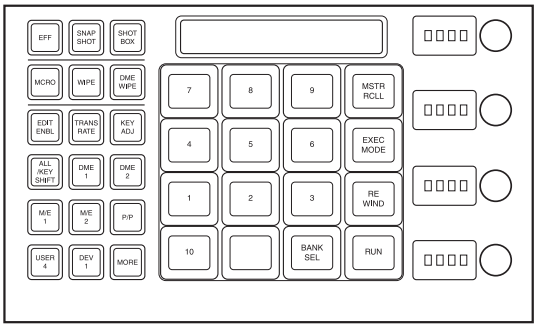
1 In the Multifunction Flexi Pad control block, press the [EFF] button.

This switches the Multifunction Flexi Pad control block to the effect operation mode.



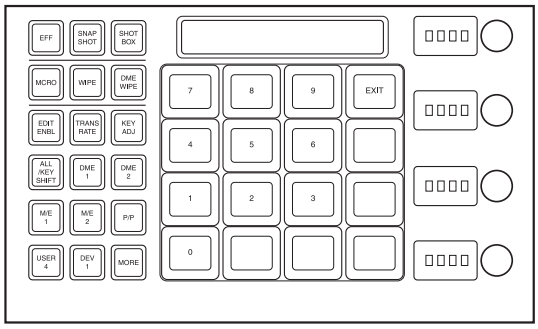
2 Press the [MSTR RCLL] button.

This switches the memory recall section to the master timeline recall mode.



3 Press the [BANK SEL] button.

This switches the memory recall section to the bank selection mode.



4 Press the number of the desired bank.

This selects the bank, and the buttons in the memory recall section show the register states as follows.
Lit yellow: Last recalled register
Lit orange: Register holding data
Off: Empty register

5 Press the number of the desired register.

The button you pressed lights yellow, and this recalls the master timeline.
The alphanumeric display shows the selected bank and register numbers.

Specifying the Region and Edit Points

Selecting the Region in Which Editing Applies

Selecting by control panel

Select the region in which the editing is applied by the effect consisting of keyframes, using the region selection buttons in the numeric keypad control block or Multifunction Flexi Pad control block.

*See step **2** of "Recalling a register from the numeric keypad control block" (page 38).*

Selecting by menus

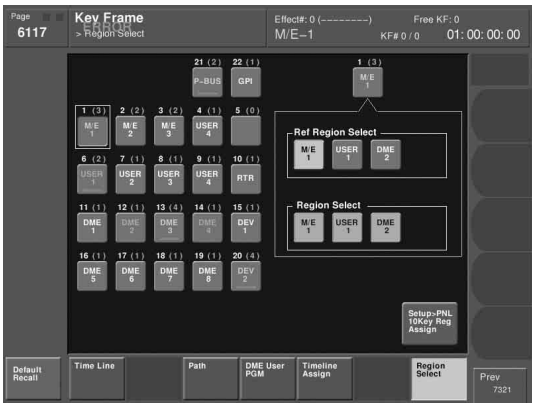
This is convenient for selecting some of the regions assigned to the numeric keypad control block or changing the reference region.

Notes

The function of region selection buttons in the numeric keypad control block or Multifunction Flexi Pad control block is linked to the menu. If you carry out region selection by pressing a region selection button, then all the regions assigned to that button are selected.

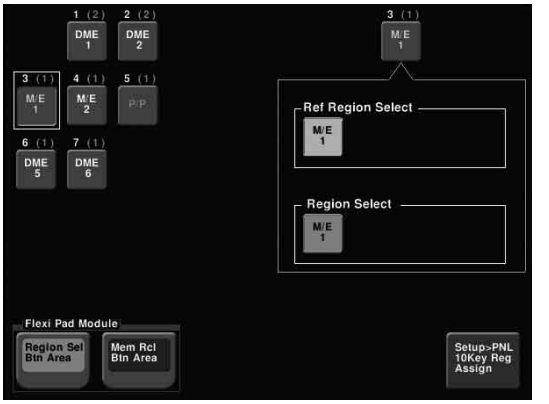
1 In the Key Frame menu, press HF7 'Region Select.'

The Key Frame >Region Select menu appears.
On the left of the status area, region selection buttons appear.
Depending on the region selection state, the following indications appear.
Green text: the assigned regions include the reference region.
Orange text: one of the assigned regions is selected.
White text: no assigned region is selected.
When any one or more of the regions assigned to the region selection buttons is not selected, a red bar appears within the button indication. The [STORE] and [RCALL] buttons in the numeric keypad control block flash amber.

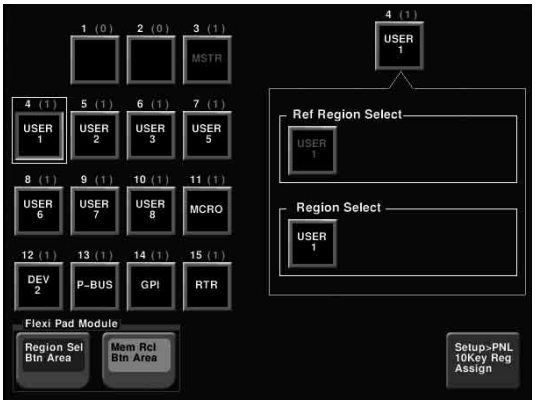


When using the CCP-6224/6324 Control Panel, the buttons in the <Flexi Pad Module> group appear at the lower left of the status area, and if you press either [Region Sel Btn Area] or [Mem Rcl Btn Area] button, you can select a region assigned to a region selection button in the Multifunction Flexi Pad control block or a button in the memory recall section.

Selection screen for regions assigned to region selection buttons



Selection screen for regions assigned to buttons in the memory recall section



2 Press a button indication on the left of the status area, to select the button you want to assign.

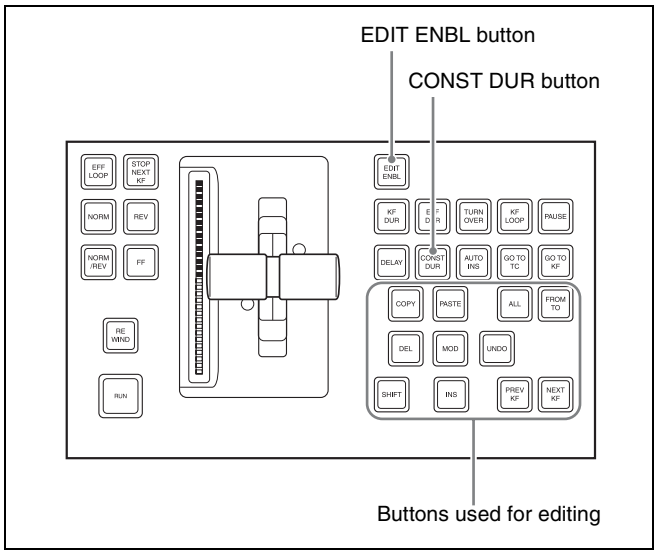
The regions currently assigned to the button you pressed appear on the right side of the status area.

3 In the <Region Select> group, press the button for the region you want to select, turning it on.

4 In the <Ref Region Select> group, press the button indication you want to make the reference region.

The button you pressed lights green.

Setting the Edit Points



Keyframe control block

To set the edit points, use any of the following operations in the keyframe control block.

- To move the edit point to the keyframe immediately after the current time (the position at which the effect is currently stopped), press the [NEXT KF] button.
- To move the edit point to the keyframe immediately before the current time, press the [PREV KF] button.
- To move the edit point to a keyframe specified by number, press the [GO TO KF] button, then enter the keyframe number with the numeric keypad in the numeric keypad control block or Multifunction Flexi Pad control block, and press the [ENTER] button to confirm.
- To move the edit point to a specified timecode, press the [GO TO TC] button, then enter the timecode value with the numeric keypad in the numeric keypad control block, or Multifunction Flexi Pad 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] button or [GO TO 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 (–).

Notes

You can also specify edit points in the Multifunction Flexi Pad control block *(see page 51)*.

Creating and Editing Keyframes

For this operation you can use the numeric keypad control block and keyframe control block, or the Multifunction Flexi Pad control block. In the following, the case of using the numeric keypad control block and keyframe control block is described as an example.

For details of Multifunction Flexi Pad control block, see "Keyframe Creation and Editing in the Multifunction Flexi Pad Control Block" (page 51).

Creation

Creating new keyframes

To create new keyframes, after recalling an empty register, use the following procedure to create and insert each new keyframe. Use the keyframe control block for carrying out the operation.

1 Press the [EDIT ENBL] button, turning it on.

This enables effect editing in the keyframe control block.

2 Create the image you want to be the first keyframe.

3 Press the [INS] button.

This takes the current image as the first keyframe. You can make a setting in the Setup menu so that when you recall an empty register, the system state at that point is automatically captured as the first keyframe.

4 Create the image you want to be the next keyframe.

5 Press the [INS] button.

This inserts the current image as the second keyframe after the first keyframe.

Repeat steps **4** and **5** to create the required number of keyframes.

To insert a new keyframe before an existing keyframe

Hold down the [SHIFT] button and press the [INS] button, to insert a new keyframe before the current keyframe.

Insertion

Inserting keyframes

To insert a keyframe in an existing effect, use the following procedure in the keyframe control block.

1 Press the [EDIT ENBL] button, turning it on.

2 Stop the effect at the desired edit point.

3 Create the image for the keyframe you want to insert.

4 Press the [INS] button.
When the edit point is on a keyframe, to insert the new keyframe before the existing keyframe, hold down the [SHIFT] button and press the [INS] button.

This inserts the current image as the new keyframe. Inserting a keyframe may change the total duration of the effect.

For details, see "Time Settings" (page 31).

Modification

Modifying keyframes

Use the following procedure in the keyframe control block.

1 Press the [EDIT ENBL] button, turning it on.

2 Stop the effect at the desired edit point.

When the edit point is on a keyframe, this is what you modify. If the edit point is between two keyframes, the previous keyframe is what you modify.

Notes

In constant duration mode *(see page 30)* modification is only possible when the edit point is on a keyframe.

3 Using image transformations or adding special effects, modify the keyframe.

4 Press the [MOD] button.

Modifying more than one keyframe simultaneously

You can modify a number of keyframes simultaneously. There are three different cases for this operation.

- Modifying from the edit point to a particular keyframe
- Modifying all keyframes in the effect
- Modifying the keyframes in a specified range

The different procedures for these cases are now described.

To modify from the edit point to a particular keyframe

1 Press the [EDIT ENBL] button, turning it on.

2 Stop the effect at the first keyframe of the range to be modified.

3 Carry out the necessary modifications.

4 Press the [FROM TO] button, turning it on.

The display in the numeric keypad control block shows the current keyframe number, followed by "TO."

5 Enter the number of the last keyframe to be modified from the numeric keypad control block and press the [ENTER] button to confirm.

6 Press the [MOD] button. Alternatively, hold down the [SHIFT] button and press the [MOD] button.

For the difference in the result, see "Differences in the changes when a number of keyframes are modified" (page 45).

To modify all keyframes in the effect

1 Press the [EDIT ENBL] button, turning it on.

2 Carry out the necessary modifications on any keyframe.

3 Press the [ALL] button, turning it on.

4 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 45).

To modify the keyframes in a specified range

1 Press the [EDIT ENBL] button, turning it on.

2 Stop the effect at any keyframe within the range to be modified.

3 Carry out the necessary modifications.

4 Press the [FROM TO] button, turning it on.

The display in the numeric keypad control block shows the current keyframe number, followed by "TO."

5 Using the numeric keypad in the numeric keypad control block, carry out the following operations.

- To set the first keyframe in the range to be modified, press the [CLR] button, then enter the keyframe number, and press the [ENTER] button to confirm.
- To set the last keyframe in the range to be modified, enter the keyframe number from the numeric keypad, and press the [ENTER] button to confirm.

6 Press the [MOD] button. Alternatively, hold down the [SHIFT] button and press the [MOD] button.

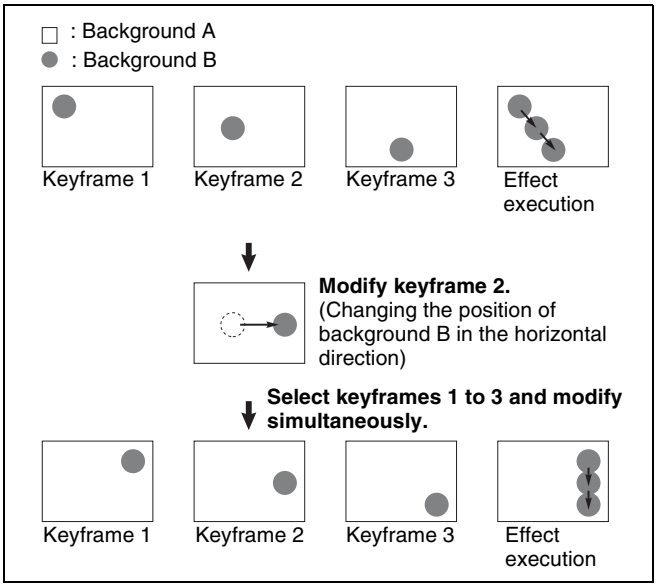
For the difference in the result, see "Differences in the changes when a number of keyframes are modified" (page 45).

Differences in the changes when a number of keyframes are modified

When you select a number of keyframes to modify, and press the [MOD] button alone or in combination with the [SHIFT] button, the result of the operation differs as shown below.

Modifying the keyframes by pressing the [MOD] button alone

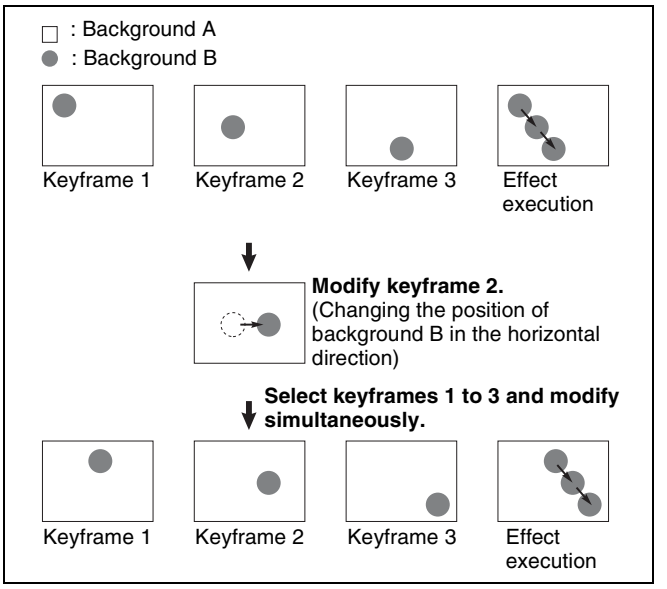
The modified parameter values are taken as absolute values, and applied to all of the selected keyframes.



Result:
The horizontal position of background B in keyframes 1 and 3 is now the same as that in keyframe 2.
In all keyframes, the vertical position remains unchanged as the parameter is not changed.

Modifying the keyframes by holding down the [SHIFT] button and pressing the [MOD] button

The modified parameter values are taken as relative values, which modify all of the selected keyframes.



Result:
Background B of keyframes 1 and 3 is moved in the horizontal direction by the same amount as in keyframe 2.

Deletion

Deleting keyframes

1 Press the [EDIT ENBL] button, turning it on.

2 Stop the effect at the desired edit point.

When the edit point is on a keyframe, this is what you delete. If the edit point is between two keyframes, the previous keyframe is what you delete.

3 To delete a number of keyframes in a single operation, press the [FROM TO] button or the [ALL] button, turning it on.

For how to specify a range of keyframes, see "Modifying more than one keyframe simultaneously" (page 44).

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

For details, see "Changes in the effect duration caused by deleting a keyframe" (page 31).

Movement

Moving keyframes

1 Press the [EDIT ENBL] button, turning it on.

2 Stop the effect at the edit point you want to move.

3 To move a number of keyframes in a single operation, press the [FROM TO] button, turning it on, to specify the keyframes.

For how to specify a range of keyframes, see "Modifying more than one keyframe simultaneously" (page 44).

4 Press the [DEL] button.

This deletes the keyframe, and saves it in the paste buffer.

5 Move the edit point to the position to which you want to move the keyframe.

6 Press the [PASTE] button.

This inserts the keyframe you have moved after the current keyframe. In constant duration mode, the moved keyframe overwrites the edit point.

To insert the moved keyframe before a keyframe
Hold down the [SHIFT] button, and press the [PASTE] button to insert the moved keyframe before the current keyframe.

Copying

Copying keyframes

1 Press the [EDIT ENBL] button, turning it on.

2 Stop the effect at the edit point you want to copy.

3 To copy a number of keyframes in a single operation, press the [FROM TO] button or the [ALL] button, turning it on.

For how to specify a range of keyframes, see "Modifying more than one keyframe simultaneously" (page 44).

4 Press the [COPY] button.

This copies the specified keyframe, and saves it to the paste buffer.

5 Move the edit point to the position where you want to insert the copied keyframe.

6 Press the [PASTE] button.

This inserts the keyframe you have copied after the current keyframe. In constant duration mode, the copied keyframe overwrites the edit point.

To insert the copied keyframe before a keyframe
Hold down the [SHIFT] button, and press the [PASTE] button to insert the copied keyframe before the current keyframe.

Pause

To apply a pause to a keyframe, use the following procedure.

1 Press the [EDIT ENBL] button, turning it on.

2 Stop the effect on the keyframe to which you want to apply a pause.

3 Press the [PAUSE] button.

Keyframe Loop (Repeated Execution of a Specified Range)

By setting the range of the loop within the effect, and the number of loop executions, you can execute the loop range repeatedly.

Notes

It is only possible to set one keyframe loop for each region.

Creating a new keyframe loop

To specify the loop range and loop count, carry out the following procedure.

1 Press the [EDIT ENBL] button, turning it on.

2 Stop the effect on the keyframe you want to make the first of the loop range (start point). (Here, by way of example, keyframe 2 is taken as the start point.)

3 Press the [KF LOOP] button in the keyframe control block, turning it on.

The numeric keypad control block display shows the start point keyframe number as follows.

FM 2 TO

The example shown means “from (keyframe) 2 to...,” where the end keyframe is to follow.

4 With the numeric keypad buttons of the numeric keypad control block, enter the number of the last keyframe in the loop range (end point). (Here, by way of example, keyframe 5 is the end point.)

FM 2 TO 5

5 Press the [ENTER] button to confirm the entry.

The display changes as follows, prompting you to enter the loop count.

COUNT

6 Enter the loop count. (Here, by way of example, “15” is entered.)

- To specify a loop count, enter a number in the range 1 to 99.
- To specify an endless loop, enter “0” (zero).

COUNT 15

7 Press the [ENTER] button to confirm the entry.

The start point, end point, and loop count that you have set are reflected in the Timeline menu.
If you enter the loop count as “0” (endless loop), the count is shown as “inf” (infinity).
The numeric keypad control block display changes back to the state shown in step **4**.

Changing the keyframe loop settings

To change the loop range or count for the currently recalled effect, carry out the following procedure.

1 When the [KF LOOP] button in the keyframe control block is lit amber, press it, turning it green.

The numeric keypad control block display shows the current loop range.
If, for example, the start point is keyframe 2 and the end point is keyframe 5, this appears as follows.

FM 2 TO 5

2 To change the loop range, press the [CLEAR] button in the numeric keypad control block.
To change the loop count only, press the [ENTER] button, then skip to step **6**.

When you press the [CLEAR] button, this appears as follows.

FM TO

3 Enter the keyframe number for the new start point, and press the [ENTER] button.

4 Enter the keyframe number for the new end point, and press the [ENTER] button.

The display shows the currently set loop count.

5 To change the setting, press the [CLEAR] button.

This clears the set loop count.

COUNT

6 Enter the new loop count, and press the [ENTER] button.

Executing a keyframe loop

In the keyframe control block, press the [RUN] button.
The set loop range is executed repeatedly for the set loop count number of times.
The 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.

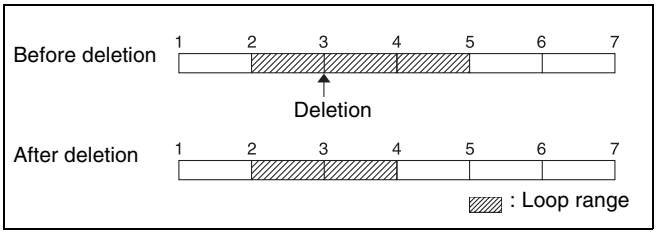
Canceling keyframe loop execution

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

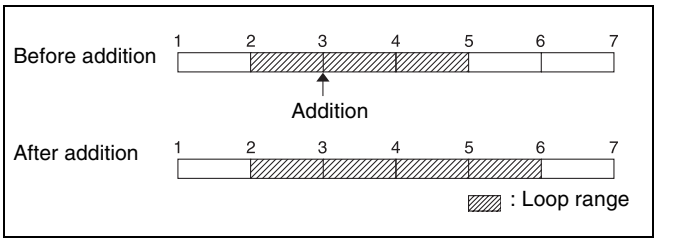
Changes to the loop range caused by keyframe insertion/deletion

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

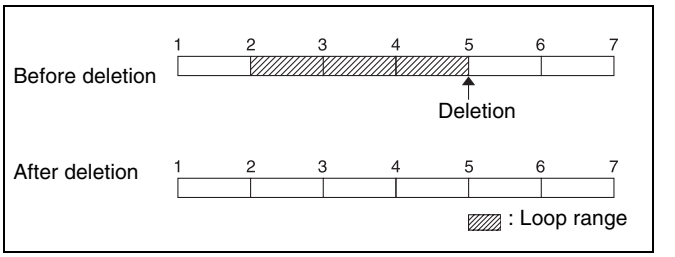
Example 1: If keyframe 3 is deleted, the loop end point moves forward as follows.



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 page 30)*.

- To select variable duration mode, turn the [CONST DUR] button off.
- To select constant duration mode, press the [CONST DUR] button, turning it on.

Transition Mode Settings for User Programmable DME

To create an effect for user programmable DME, it is necessary to set the transition mode.

User programmable DME in transition mode

For the transition mode set when creating a keyframe effect for a user programmable DME pattern, the following can be used.
Single: single transition mode
Flip tumble (Flip Tumble): flip tumble transition mode
Dual: dual transition mode

Picture-in-picture (PinP): one-channel and two-channel picture-in-picture transition mode

Compress: a type of picture-in-picture, in which the new image is the background, and the currently visible image shrinks, and then expands to its original size. (See example in the next item.)

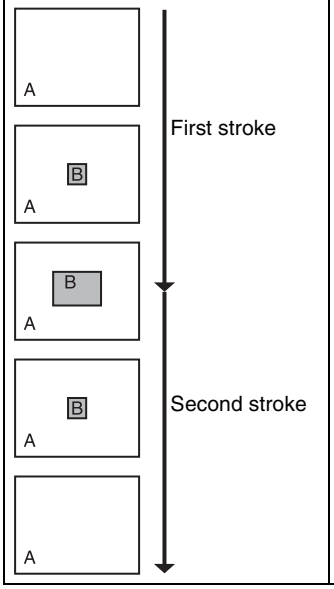
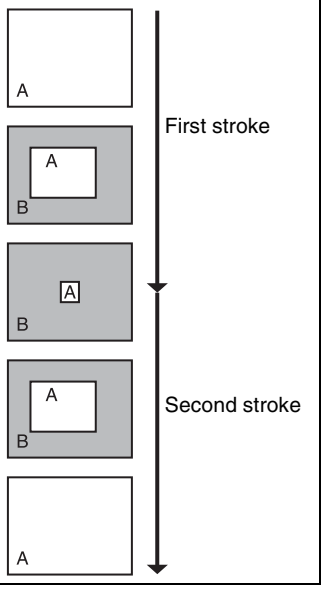
Frame in-out (Frame I/O): frame in-out transition mode. When the first transition completes, if you move the position of the image, you can move it both horizontally and vertically.

Frame in-out H (Frame I/O H): a type of frame in-out mode, which is specified when creating a transition effect in the horizontal direction.
The image movement is reflected at both the transition start point and end point. *(See page 49.)*
The operation is carried out according to DME wipe patterns 1202, 1203, or 1204.

Frame in-out V (Frame I/O V): a type of frame in-out mode, which is specified when creating a transition effect in the vertical direction.
The image movement is reflected at both the transition start point and end point. *(See page 50.)*

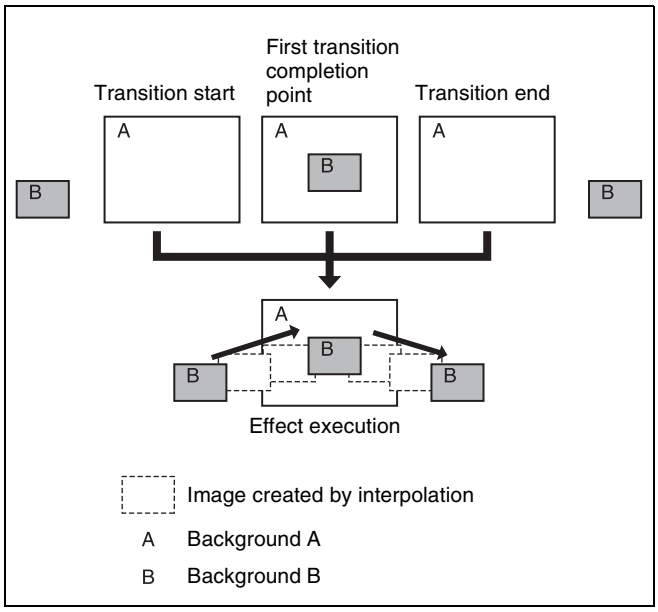
Transition mode "Compress"

The change in the image when the transition mode is set to "Compress" is as follows, in comparison to the case of "Picture-in-picture."

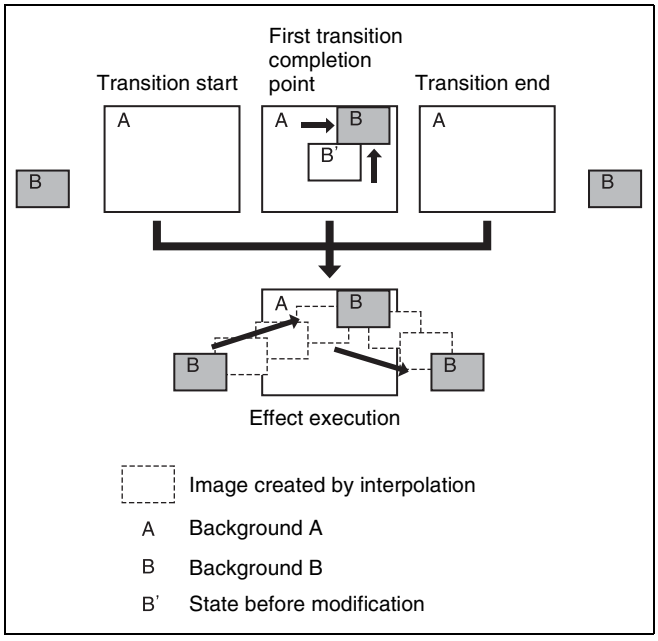
Example of the image change in the transition mode "Picture-in-picture" (one-channel mode)	Example of the image change in the transition mode "Compress"
	

Transition mode "frame in-out"

In this mode, when the first transition has completed, you can move the image with the positioner in both horizontal and vertical directions, but the image position at the transition start point and end point does not change.
The description is of an example of creating an effect such as the following.

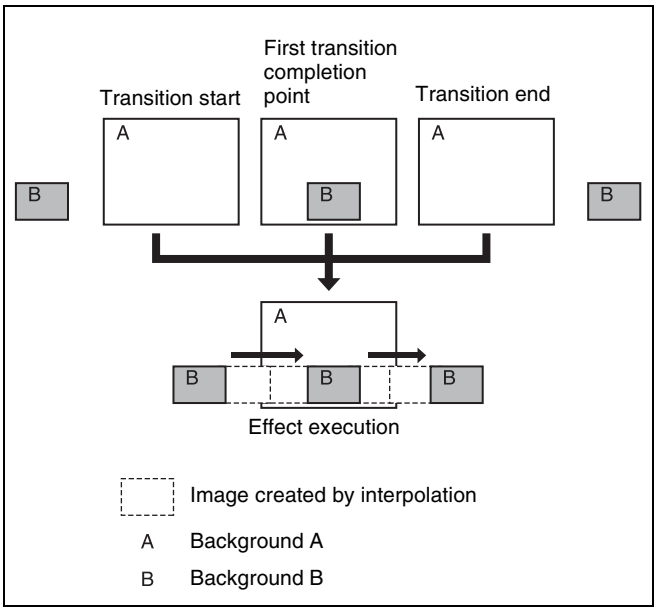


At the first transition completion point, if you move the image with the positioner, the transition appears as in the following figure.

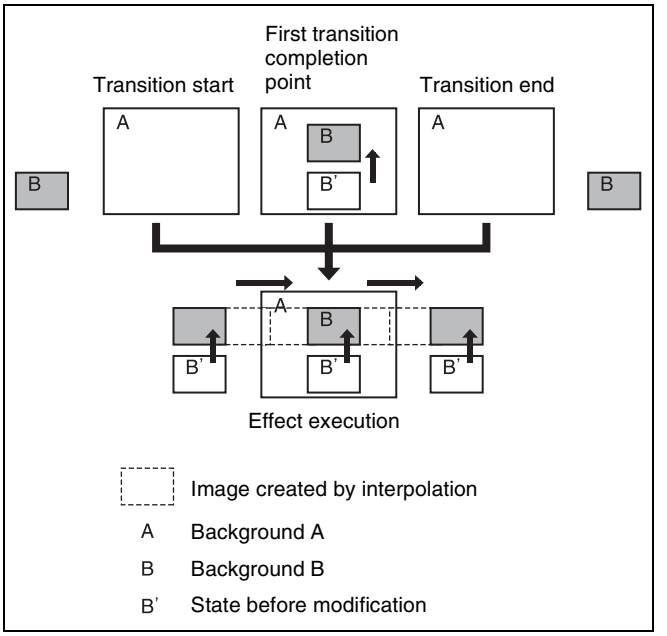


Transition mode "frame in-out H"

This mode is specified when creating a transition effect in the horizontal direction.
In this mode, when the first transition has completed, you can move the image with the positioner in both horizontal and vertical directions. The image at the transition start point and end point also moves.
The description is of an example of creating an effect such as the following.



At the first transition completion point, if you move the image with the positioner, the transition appears as in the following figure.

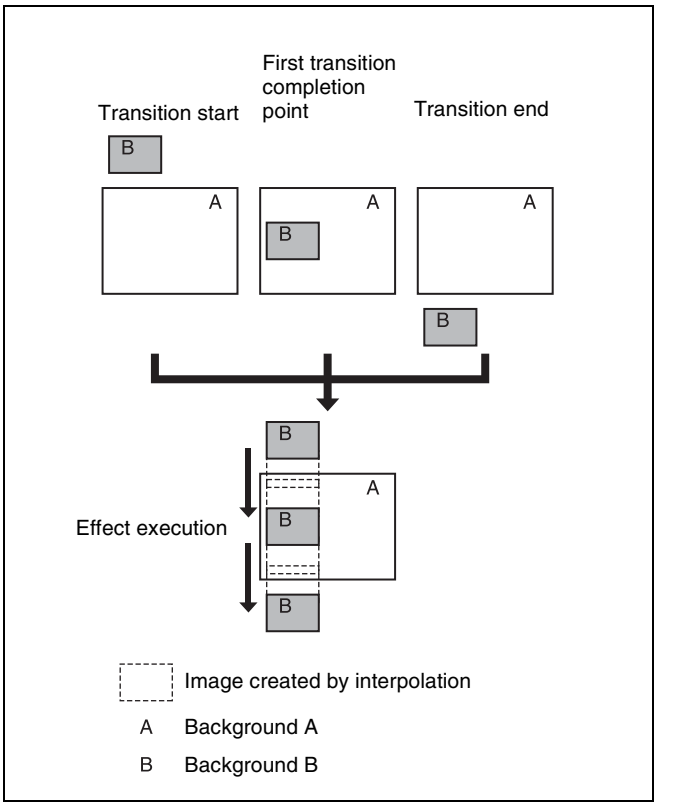


Transition mode “frame in-out V”

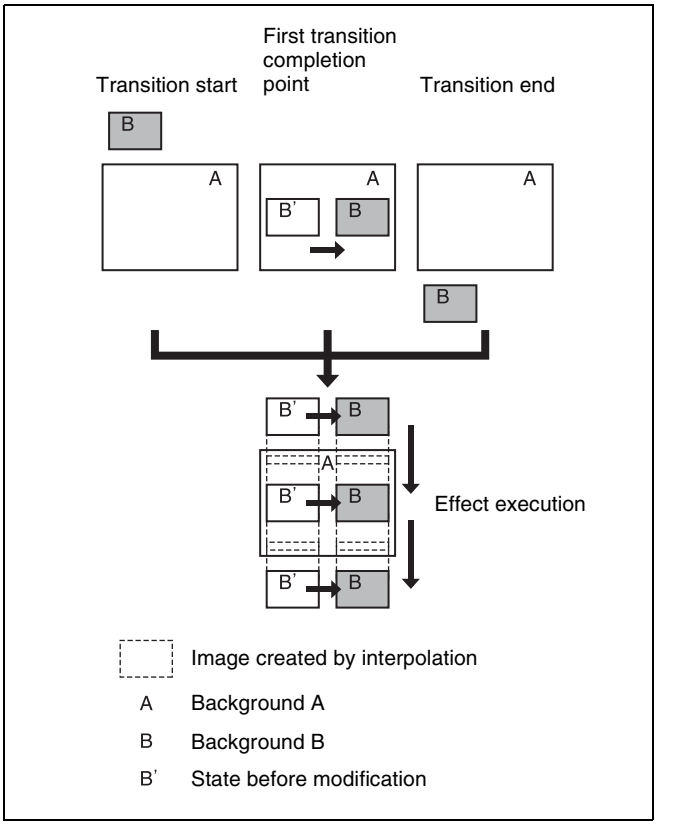
This mode is specified when creating a transition effect in the vertical direction.

In this mode, in the state at completion of the first transition, you can move the image with the positioner in both horizontal and vertical directions. The image at the transition start point and end point also moves.

The description is of an example of creating an effect such as the following.



At the first transition completion point, if you move the image with the positioner, the transition appears as in the following figure.



Signals forming part of the background for a DME wipe

For a two-channel mode page turn, page roll, brick, frame in-out, and so on, the part of the pattern shown in gray is filled with the signal selected on the DME external video bus.
For three-channel mode brick, the part of the pattern shown in dark gray is filled with the DME external video signal, and the light gray portion with the signal selected as follows.

For details on the pattern, see "DME Wipe Pattern List" in Appendix (Volume 1).

For a DME dedicated interface

- When the DME channel used is 3 or 4, the signal selected on the DME utility 1 bus.
- For channel 7 or 8, the signal selected on the DME utility 2 bus.

For a DME SDI interface

Signal selected on the AUX bus assigned in the Engineering Setup >Switcher >Device Interface >DME Type Setting >DME SDI interface menu. (The AUX bus is determined by which DME channel is being used.)

Notes

For the SDI interface on the DME, in some cases the AUX bus is used in place of the DME external bus *(see page 222)*.

Setting the transition mode

1 In the Key Frame menu, select HF4 'DME User PGM.'

The DME User PGM menu appears.

2 In the <Transition Mode> group, select the transition mode according to the DME wipe action.

Single: select single transition mode.
Flip/Tumble: select the flip/tumble transition mode.
Dual: select dual transition mode.
P in P: select picture-in-picture mode.
Compress: select compress mode.
Frame I/O: select frame in-out transition mode.
Frame I/O H: select frame in-out transition mode in the horizontal direction.
Frame I/O V: select frame in-out transition mode in the vertical direction.

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

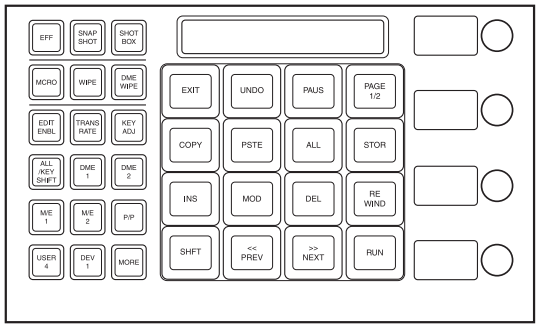
Notes

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.

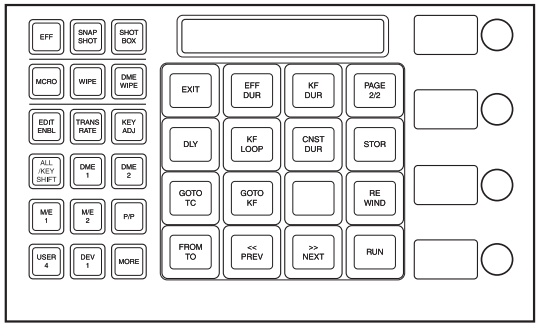
Keyframe Creation and Editing in the Multifunction Flexi Pad Control Block

To create and edit a keyframe in the Multifunction Flexi Pad control block, press the [EFF] button to switch to effect operation mode, then press the [EDIT ENBL] button.
The [EDIT ENBL] button lights red, and the memory recall section switches to the effect editing mode as shown in the following illustration.

- Buttons in the memory recall section in effect editing mode (first page)
  Press the [PAGE 1/2] button to switch to the next button display.



- Buttons in the memory recall section in effect editing mode (second page)
  Press the [PAGE 2/2] button to switch to the previous button display.



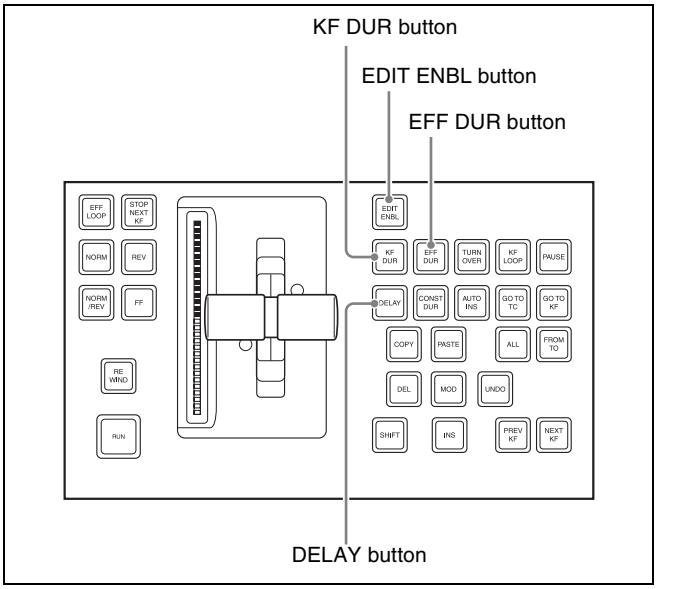
In this mode, you can carry out keyframe creation and editing, using the following buttons.
[EXIT] button: Forcibly exit editing mode.
[UNDO] button: Undo the last keyframe insertion, modification, deletion, paste or other operation.
[PAUS] button: Add a pause setting to a keyframe *(see page 47)*.
[COPY] button: Copy a keyframe *(see page 46)*.

[PSTE] button: Paste a keyframe *(see page 46)*.
[ALL] button: Select all keyframes in an effect *(see page 44)*.
[STOR] button: Save the effect *(see page 58)*.
[INS] button: Insert a keyframe *(see page 44)*
[MOD] button: Modify a keyframe *(see page 44)*.
[DEL] button: Delete a keyframe *(see page 46)*.
[REWIND] button: Move to the first keyframe in the effect *(see page 56)*.
[SHFT] button: Enable the shift function of the button pressed together with this one.
[<< PREV] button: Move the edit point to the previous keyframe *(see page 43)*.
[>> NEXT] button: Move the edit point to the next keyframe *(see page 43)*.
[RUN] button: Run the effect *(see page 56)*.
[EFF DUR] button: Set the effect duration *(see page 53)*.
[KF DUR] button: Set the keyframe duration *(see page 52)*.
[DLY] button: Set a delay *(see page 53)*.
[KF LOOP] button: Set a keyframe loop *(see page 47)*.
[CNST DUR] button: Switch the duration mode *(see page 48)*.
[GOTO TC] button: Move the edit point to the specified timecode position *(see page 43)*.
[GOTO KF] button: Move the edit point to the specified keyframe position *(see page 43)*.
[FROM TO] button: Switch to the mode for inputting ranges with the numeric keypad *(see page 44)*.

Time Settings

You can determine the execution time of an effect by setting either the keyframe durations or the effect duration *(see page 31)*.

Setting the Keyframe Duration



Keyframe control block

Setting the keyframe duration

You can set the value of the keyframe duration independently for each keyframe, by the following method.

1 Press the [EDIT ENBL] button, turning it on.

2 Stop the effect on the keyframe for which you want to set the duration.

The time from this keyframe to the following keyframe is what you set.

3 Press the [KF DUR] button, turning it on.

The display in the numeric keypad control block shows “KF DUR” followed by the duration of the current keyframe (seconds:frames).

4 Using the numeric keypad in the numeric keypad control block, enter the timecode value for the keyframe duration, as a maximum of four digits.

For example, to set 9 seconds and 20 frames, enter 920. You can also use the [TRIM] button to enter a difference value *(see page 43)*.

5 Press the [ENTER] button to confirm the entry.

This changes the keyframe duration to the new setting.

Notes

In addition to the above operation, the keyframe duration may also be automatically changed as a result of changing the effect duration. *(See the next section.)*

Setting the Effect Duration

To set the effect duration, use the following procedure.

1 Press the [EDIT ENBL] button, turning it on.

2 Press the [EFF DUR] button, turning it on.

The display in the numeric keypad control block shows "DUR" followed by the effect duration (minutes:seconds:frames).

3 Using the numeric keypad in the numeric keypad control block, enter the timecode value for the effect duration, as a maximum of six digits.

For example, to set 3 minutes 7 seconds and 15 frames, enter 30715. You can also use the [TRIM] button to enter a difference value *(see page 43)*.

4 Press the [ENTER] button.

Notes

In addition to the above operation, the effect duration may also be changed as a result of inserting or deleting keyframes.

For details, see "Time Settings" (page 31).

Setting the Delay

To set the delay *(see "Delay setting" (page 32))*, use the following procedure.

1 Press the [EDIT ENBL] button, turning it on.

2 Press the [DELAY] button, turning it on.

The display in the numeric keypad control block shows "DELAY" followed by the delay time (seconds:frames).

3 Using the numeric keypad in the numeric keypad control block, enter the timecode value for the delay, as a maximum of four digits.

You can also use the [TRIM] button to enter a difference value *(see page 43)*.

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

Path Setting

The term “path” *(see page 32)* refers to the specification of how interpolation is carried out from one keyframe to the next.
Set keyframe paths in the Key Frame >Path menu.

To access the Key Frame >Path menu
In the menu control block, press the top menu selection button [KEY FRAME], then select HF3 ‘Path.’

Basic Procedure for Path Settings

Selecting the category

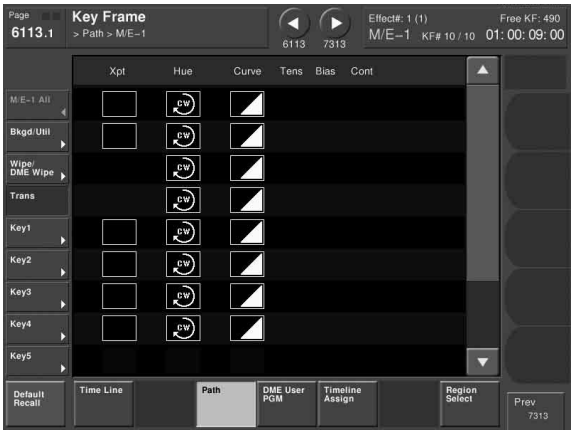
From the 16 buttons in the function button area, select the category for which you want to make the setting.
First row: path settings for the switcher M/E1 to M/E4, and PGM/PST banks
Second and third rows: path settings for User1 to User8
Fourth row: path settings for DME local channel and global channel 3D transforms and effects

Making switcher path settings

This section describes settings for M/E-1 Key1 as an example.
The area for the VF buttons shows the names of items. A ▶ sign by a button indicates that pressing it opens a more detailed setting menu.
The status area shows the settings for Xpt, Hue, and Curve. However, depending on the item, these parameters may or may not be present.

Notes

Whenever you set a path or modify its setting, be sure to press the [MOD] button in the keyframe control block. The setting does not become effective unless the [MOD] button is pressed.



Changing the path type for Curve

1 In the Path menu, press [M/E-1].

The M/E-1 menu appears.

2 Press the Curve path type indication for the Key1 item that you want to change.

A path selection window appears.

3 Press the indication for the desired path type, to select it.

OFF **OFF:** Executing the effect causes no change.

Step: There is no interpolation between keyframes, so that the effect parameters are updated each time a keyframe is passed.

Linear: Linear interpolation between keyframes, resulting in constant speed movement.

S-Curve: The rate of change accelerates and decelerates before and after a keyframe, so that the rate of change is maximum midway between two keyframes.

Spline: The effect follows a smooth curved path from each keyframe to the next.

The status area reflects the selected path type.
At this point, depending on the setting for Curve, the effect for Hue and Xpt is also affected as shown in the following table. In the menu, the Hue and Xpt settings do not change, but the path type indication is dimmed out.

Curve setting	Hue change	Xpt change
OFF	Does not change	Hold
Step	Changes as with the Step setting	Is not affected

4 If you selected Spline as the path type, set the following parameters, using the knobs.

Knob	Parameter	Adjustment	Setting values
1	Tens	Spline interpolation tension	–4.00 to +4.00
2	Bias	Spline interpolation bias	–4.00 to +4.00
3	Cont	Spline interpolation continuity	–4.00 to +4.00

Changing the path type for Hue

1 Press the Hue path type indication for the item that you want to change.

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.

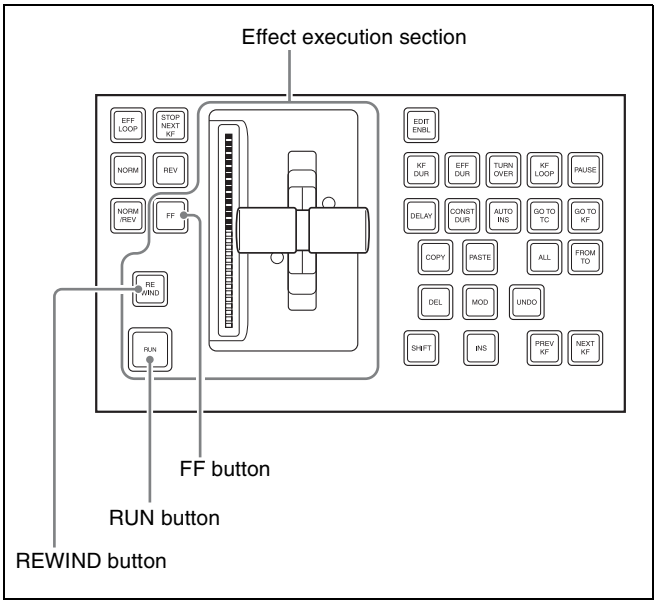
Xpt Hold on: When replaying a keyframe, do not change the inputs.

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 page 34)*. It is also possible to execute an effect from the device control block, the standard type Flexi Pad control block or the Multifunction Flexi Pad control block.

For details, see "Menus and Control Panel" in Chapter 2 (Volume 1).

Executing Effects in the Keyframe Control Block



Keyframe control block

Executing an effect automatically

1 Select the region in which you want to execute the effect, using the region selection buttons in the numeric keypad control block *(see page 38)*.

2 With the numeric keypad, enter the number of the register in which the effect you want to execute is saved, and press the [ENTER] button to confirm.

This recalls the effect saved in the register.

3 In the keyframe control block, press the [RUN] button.

The [RUN] button lights amber and the effect is executed automatically.

Executing an effect manually

In step **3** above, operate the fader lever.

To use the transition control block fader lever as a keyframe fader

Press the [KF] button in the transition control block, turning it on, to execute a keyframe effect with the fader lever in the same control block.
You can also assign the [KF] button to a transition type selection button in the transition control block *(see page 163)*.

Notes

- It is not possible for the [KF] button to be on for multiple banks (M/E or PGM/PST) at the same time. If you press the [KF] button in more than one bank, only the last button pressed remains on.
- If a macro is assigned to the transition control block fader lever, then while in use as a keyframe fader the macro is not executed.

Moving to the first keyframe of the effect

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

Moving to the last keyframe of the effect

To move to the last keyframe of the effect, press the [FF] button.

Setting the Run Mode

You can set the run mode in which an effect is executed when you press the [RUN] button.

Specifying the effect execution direction

To specify the effect execution direction, press the [NORM] button or the [REV] button, turning it on. When you press one, turning it on, the other automatically goes off.
To execute the effect so as to obtain the effects of the [NORM] and [REV] buttons alternately, press the [NORM/REV] button, turning it on.

When the [NORM] button is lit: The effect is executed in the direction from the first keyframe to the last keyframe.

When the [REV] button is lit: The effect is executed in the direction from the last keyframe to the first keyframe.

When the [NORM/REV] button is lit: Each time the effect is executed, the direction reverses.

Executing an effect up to the next keyframe

1 Press the [STOP NEXT KF] button, turning it on.

2 Press the [RUN] button.

This executes the effect as far as the next keyframe. When the [REV] button is lit, it is executed as far as the previous keyframe.

Repeating an effect

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

2 Press the [RUN] button.

This executes the effect repeatedly, from the first keyframe to the last keyframe.
When the [REV] button is lit, the effect is executed in the reverse direction.

3 To stop the repeating effect, press the [EFF LOOP] button, turning it off, or press the [REWIND] button.

Executing an Effect in the Flexi Pad Control Block

Executing an effect

To execute an effect recalled from the numeric keypad control block in the Flexi Pad control block, use the following procedure.

1 In the Flexi Pad control block, press the [EFF] button.

This assigns the Flexi Pad control block to effect operation, and the [REWIND] button and [RUN] button appear in the memory recall section.
The previously selected bank number and last recalled register number appear in the numeric display.

2 Press the following buttons to execute the effect.

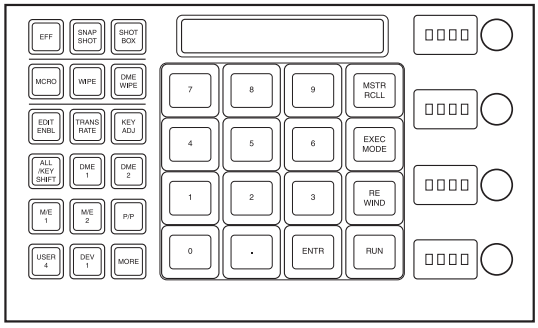
REWIND: Press this button to move to the first keyframe of the currently recalled effect.

RUN: Press this button to run the currently recalled effect.

Executing an Effect in the Multifunction Flexi Pad Control Block

1 In the Multifunction Flexi Pad control block, press the [EFF] button.

This changes the Multifunction Flexi Pad control block to effect operation, and the [REWIND] button and [RUN] button appear in the memory recall section. The previously selected bank number and last recalled register number appear in the numeric display.



2 Press the following buttons to execute the effect.

[REWIND] button: Press this button to move to the first keyframe of the currently recalled effect.
[RUN] button: Press this button to run the currently recalled effect.

Setting the execution mode
Press the [EXEC MODE] button to switch the memory recall section to the execution mode setting mode, and set the execution mode with the following buttons, then execute the effect.
[EFF LOOP] button: Execute the effect repeatedly.
[STOP NEXT] button: Execute the effect and stop at the next keyframe.
[NORM] button: Execute the effect from the first keyframe to the last keyframe.
[NORM/REV] button: Execute the effect as far as the first or last keyframe, then reverse direction.
[REV] button: Execute the effect from the last keyframe to the first keyframe.

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.

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

This assigns the numeric keypad control block to keyframe operations.

2 Press the region selection button corresponding to the region for which you want to save the register, turning it on *(see page 38)*.

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), and to search for an empty register in the 300 range, press [3], [0], [0], [.] (period).
The register number appears in the display. If the number is followed by a letter ‘e’ or ‘E,’ this indicates the following.
e: The selected register is empty for the regions selected in step **2**.
E: The selected register is empty for all selectable regions.

5 To add an attribute (effect dissolve) *(see page 30)*, press the [+/–/EFF DISS] button, turning it on.

6 Press the [ENTER] button.

This saves the current effect in the specified register, and turns off the [STORE] button. The [RCALL] button and [STORE STATS] button both light.

To undo the saving of an effect

Hold down the [STORE STATS] button and press the [UNDO] button.

Saving an effect with the Multifunction Flexi Pad control block

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

This assigns the memory recall section to effect operations.

2 Press the region selection button corresponding to the region for which you want to save the register, turning it on *(see page 38)*.

3 Press the [EDIT ENBL] button.

This assigns the memory recall section to effect editing operations.

4 Press the [STOR] button, turning it on.

5 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), and to search for an empty register in the 300 range, press [3], [0], [0], [.] (period).
The register number appears in the display. If the number is followed by a letter 'e' or 'E,' this indicates the following.
e: The selected register is empty for the regions selected in step **2**.
E: The selected register is empty for all selectable regions.

6 Press the [ENTR] button.

This saves the current effect in the specified register, and turns off the [EDIT ENBL] button.

Creating and Saving a Master Timeline

Creating and Saving a Master Timeline Using the Buttons in the Numeric Keypad Control Block

Creating and saving a master timeline

You can save region information (information on any regions, including the register numbers associated with the regions) referred to as a master timeline in a dedicated register. By recalling that register, you can manipulate the regions and registers together.

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

This assigns the numeric keypad control block to keyframe effect operations.

2 Recall the register number of the effect you want to save on the master timeline for each region *(see page 38)*.

3 Of the region selection buttons, press those buttons for the regions you want to save on the master timeline, turning them on.

4 Press the region selection button [MASTR], turning it on.

The display shows the number of the register last used for master timeline register operation.

5 Press the [STORE] button, turning it on.

6 With the numeric keypad buttons, enter the number of the register in which you want to save the master timeline.

To find an empty register, instead of entering a number, press the [.] (period) button.
The display shows the register number. If the number is followed by a letter "E," the register is empty.

7 Press the [ENTER] button.

The regions selected in step **3** and the register numbers recalled in those regions are saved in the master timeline register, and the [STORE] button goes off. At the same time, the [RCALL] button lights.

Notes

- It is not possible to undo a master timeline save.
- Saving the master timeline does not carry out a save of effects. Save the effects for each region first, then carry out the master timeline save.

Changing a master timeline

You can change information already saved in a master timeline.
As an example, to change the M/E-1 register from Effect 5 to Effect 10, use the following procedure.

Information in master timeline register 1 before change

Region	Register
M/E-1	Effect 5
P/P	Effect 5

⬇

Information in master timeline register 1 after change

Region	Register
M/E-1	Effect 10
P/P	Effect 5

1 Recall the master timeline register you want to change *(see page 38)*.

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 changing a master timeline, you can check which regions are saved in the register. With the [MASTR] button in the numeric keypad control block lit, hold down the [STORE] button. While it is held down, the buttons for the saved regions light. When the button is released, the state before it was held down is restored.

Creating and Saving a Master Timeline Using the Buttons in the Multifunction Flexi Pad Control Block

Creating and saving a master timeline

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

This assigns the memory recall section to keyframe effect operations.

2 Recall the register number of the effect you want to save on the master timeline for each region *(see page 38)*.

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 [MSTR], turning it on.

The display shows the number of the register last used for master timeline register operation.

5 Press the [EDIT ENBL] button.

This assigns the memory recall section to keyframe effect editing operations.

6 Press the [STOR] button, turning it on.

7 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.

8 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.

Notes

- It is not possible to undo a master timeline save.
- Saving the master timeline does not carry out a save of effects. Save the effects for each region first, then carry out the master timeline save.

Changing a master timeline

You can change information already saved in a master timeline.
As an example, to change the M/E-2 register from Effect 11 to Effect 15, use the following procedure.

1 Recall the master timeline register you want to change *(see page 38)*.

This simultaneously recalls M/E-2 register 11 and P/P register 11, and the [M/E-2] and [P/P] region selection buttons light.

2 Press the region selection button [MSTR], turning it off.

3 Turn on only the button for the region you want to change (here, [M/E-2]), and recall the desired register (here, Effect 15).

This recalls M/E-2 register 15, while on P/P register 11 remains selected.

4 Press the buttons for the regions you want to save on the master timeline (here, [M/E-2] and [P/P]), turning them on.

5 Press the region selection button [MSTR], turning it on.

The display shows the register number last used for master timeline operation.

6 Press the [EDIT ENBL] button.

This assigns the memory recall section to keyframe effect editing operations.

7 Press the [STOR] button, turning it on.

8 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 [ENTR] button.

This saves M/E-2 register 15 and P/P register 11 in master timeline register 1. At the same time, the [MSTR RCLL] button lights green.

Creating and Saving a Master Timeline With the Menu

You can save a master timeline using the Effect >Master Timeline >Store menu.

Recalling the Store menu

1 Do either of the following.

- In the menu control block, press the top menu selection button [EFF].
- In the numeric keypad control block, press the [EFF] button twice in rapid succession.

The Effect menu appears.

2 Press VF1 'Master Timeline' and HF1 'Store.'

The Master Timeline >Store menu appears.
The status area shows the master timeline register names, register lock status, register number for each region, and so on.

3 If required, press the following buttons in the status area to change the region display.

M/E, P/P: indicate assignment of M/E-1 ("M/E1"), M/E-2 ("M/E2"), M/E-3 ("M/E3"), M/E-4 ("M/E4"), and P/P ("P/P").
User: indicate assignment of User1 ("USR1"), User2 ("USR2"), User3 ("USR3"), User4 ("USR4"), User5 ("USR5"), User6 ("USR6"), User7 ("USR7"), and User8 ("USR8").
DME: indicate assignment of DME ch1 ("DME1"), ch2 ("DME2"), ch3 ("DME3"), ch4 ("DME4"), ch5 ("DME5"), ch6 ("DME6"), ch7 ("DME7"), and ch8 ("DME8").
DEV1-8: indicate assignment of Device1 ("DEV1"), Device2 ("DEV2"), Device3 ("DEV3"), Device4 ("DEV4"), Device5 ("DEV5"), Device6 ("DEV6"), Device7 ("DEV7"), and Device8 ("DEV8").
DEV9-12: indicate assignment of Device9 ("DEV9"), Device10 ("DEV10"), Device11 ("DEV11"), and Device12 ("DEV12").
Misc: indicate assignment of P-Bus ("PBUS"), GPI ("GPI"), and Macro ("MCRO").

Creating and saving a master timeline

To save a master timeline register with the menu, use the following procedure.

1 In the Store menu, using any of the following methods, select the register in which you want to save the master timeline.

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

Knob	Parameter	Adjustment	Setting values
1	Master Reg	Master timeline register number	1 to 99 a)

a) For P-Bus and Device1 to Device12, register numbers 1 to 250 can be set.

2 Press [Edit].

The Edit menu appears, and you can now save the master timeline in the specified register. In this menu again, you can turn the knob to select the master timeline register.
The status area shows the status of each region in this master timeline.

3 Using any of the following methods, select the region. Multiple selections are also possible.

- Press directly on the display in the status area.
- To cancel the selection, press once more to return to the normal display.
- To select all regions, press [ALL].
  To select all switcher-related regions (M/E, P/P, User), press [SWR ALL].

4 Press [Assign], turning it on.

- If the selected register is locked, a confirmation message appears asking whether or not to cancel the operation. Press [OK] to return to the previous menu display without carrying out the registration.
- If the operation is carried out, the region selected in step **3** is registered on the master timeline, and the parameters are now valid.

5 Turn the knob to select the number of the effect register.

Knob	Parameter	Adjustment	Setting values
3	Effect Reg	Effect register number	1 to 399

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

7 In the <Store> group, press [Store].

To return to the state before saving the master timeline content

In the <Store> group, press [Undo].

Register Operations in the Menus

Using the Effect menu, you can carry out the following effect register operations.
- Effect Attribute Settings *(page 62)*
- Effect Status Display *(page 62)*
- Effect Register Editing *(page 62)*

To display the Effect menu

Press the top menu selection button [EFF] in the menu control block.
The menus for editing registers are divided up by registers. Here the menu for registers 1 to 99 is described as an example, but you can carry out operations in the same way on registers 101 to 199, 201 to 299, and 301 to 399, using VF3 to VF5.
Also for registers for P-Bus and Device1 to Device12, carry out similar operations using VF6 'DEV/PBUS Effect 1-250.'

Effect Attribute Settings

Applying effect dissolve

To apply the "effect dissolve" attribute to a keyframe effect, use the following procedure.

1 In the Effect menu, press VF2 'Effect 1-99' and HF1 'Attribute.'

The Attribute menu appears.
The status area shows the region names, register numbers and status, and attribute settings.

2 Press the region display in the upper part of the list, and in the selection window select the region.
Selecting multiple regions is also possible.
To select all regions, press [ALL].

3 Press [OK].

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

4 Using any of the following methods, select the register.

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

Knob	Parameter	Adjustment	Setting values
1	Register	Register number	1 to 99
3	Num	Select number of registers	1 to 99

- To select all registers, press [ALL].

5 Press [Effect Dissolve], turning it on.

6 Turn the knob to set the duration.

Knob	Parameter	Adjustment	Setting values
4	Eff Diss Duration	Dissolve duration	1 to 999 (frames)

Setting the duration for a temporary attribute

To set the duration for a temporary attribute set in the numeric keypad control block, turn knob 5.

Knob	Parameter	Adjustment	Setting values
5	Temp Dur	Temporary attribute dissolve duration	0 to 999 (frames)

Effect Status Display

The Effect >Effect 1-99 menu displays the following information.
Region name: The selected region name appears in the upper part of the list.
Register number
Register name
Write-protected status: When the register is write-protected, a letter "L" appears.
Empty status: When the register is empty, a letter "E" appears.

Effect Register Editing

You can carry out the following editing on effect registers and master timeline registers.
- **Lock:** Write-protect the contents of the register.
- **Copy:** Copy the contents of one register to another register.
- **Merge:** Merge the data of two registers. It is not possible to merge master timeline registers.
- **Move:** Move the contents of one register to another register.
- **Swap:** Swap the contents of two registers.
- **Delete:** Delete the contents of a register.
- **Name:** Attach a name to a register.

Write-protecting the contents of the effect register

Notes

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

1 In the Effect menu, press VF2 ‘Effect 1-99’ and HF2 ‘Lock.’

The Lock menu appears.

2 Press the region display in the upper part of the list to display a selection window, then select the region in the selection window. Selecting multiple regions is also possible.
To select all regions, press [ALL].

3 Press [OK].

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

4 Using any of the following methods, select the register.

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

Knob	Parameter	Adjustment	Setting values
1	Register	Register number	1 to 99
3	Num	Select number of registers	1 to 99

- To select all registers, press [ALL].

5 Press [Lock], turning it on.

To unlock the register

Select the register you want to unlock, and press [Lock], turning it off.

Copying, moving, and swapping effect register data

This section describes the procedure for copying. You can move or swap registers using a similar procedure.

1 In the Effect menu, press VF2 ‘Effect 1-99’ and HF3 ‘Copy/Merge.’

- The Copy/Merge menu appears.
- The left side of the status area shows the register number of the copy source, and the right side shows the register number of the copy destination.

2 Press the region display in the upper part of the list to display a selection window, then select the region in the selection window. Selecting multiple regions is also possible.
To select all regions, press [ALL].

Operation between regions
Operation between regions is possible in the following cases.
- Two of the M/E-1, M/E-2, M/E-3, M/E-4, and P/P regions
- Two of the User1 to 8 regions of the same configuration
- Two of the DME ch1 to 8 (including Global) regions

3 Press [OK].

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

4 Using any of the following methods, select the desired registers.

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

Knob	Parameter	Adjustment	Setting values
1	From Reg	Copy source register number	1 to 99
2	To Reg	Copy destination register number	1 to 99
3	Num	Select number of registers	1 to 99

- To select all registers, press [ALL].

5 To copy without transferring the name, in the <Copy> group, press [W/o Name], turning it on.

6 In the <Copy> group, press [Copy].

This carries out the copy.
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

1 In the Effect menu, select VF2 ‘Effect 1-99’ and HF3 ‘Copy/Merge.’

- The Copy/Merge menu appears.
- The left side of the status area shows a list for the register coming afterward when merged. The right side shows a list for the register coming before when merged.

2 Press the region display in the upper part of the list, and in the selection window select the region. Selecting multiple regions is also possible.
To select all regions, press [ALL].

3 Press [OK].

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

4 Using any of the following methods, select the register.

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

Knob	Parameter	Adjustment	Setting values
1	From Reg	The register coming afterwards when merged	1 to 99
2	To Reg	The register coming before when merged	1 to 99

5 Press [Merge].

Deleting data from effect registers

1 In the Effect menu, press VF2 'Effect 1-99' and HF6 'Delete.'

The Delete menu appears.

2 Press the region display in the upper part of the list to display a selection window, then select the region in the selection window. Selecting multiple regions is also possible.
To select all regions, press [ALL].

3 Press [OK].

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

4 Using any of the following methods, select the desired registers.

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

Knob	Parameter	Adjustment	Setting values
1	Register	Register number	1 to 99
3	Num	Select number of registers	1 to 99

- To select all registers, press [ALL].

5 Press [Delete].

Attaching a name to an effect register

1 In the Effect menu, press VF2 'Effect 1-99' and HF7 'Rename.'

The Rename menu appears.

2 Press the region display in the upper part of the list to display a selection window, then select the region in the selection window. Selecting multiple regions is also possible.
To select all regions, press [ALL].

3 Press [OK].

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

4 Using any of the following methods, select the register you want to name.

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

Knob	Parameter	Adjustment	Setting values
1	Register	Register number	1 to 99

The selected register appears in reverse video.

5 Press [Rename].

A keyboard window appears.

6 Enter the name, of not more than eight characters, and press [Enter].

The set name is reflected in the status area.

Notes

The following names cannot be used.
CON, PRN, AUX, CLOCK$, NUL, COM0, COM1, COM2, COM3, COM4, COM5, COM6, COM7, COM8, COM9
LPT0, LPT1, LPT2, LPT3, LPT4, LPT5, LPT6, LPT7, LPT8, LPT9

Displaying a List of Effect Registers for Editing

You can display a list of effect registers including status information (whether data is present and so on), then carry out lock, copy, delete, and rename operations.

Displaying the list of effect registers with status information

Press the menu title button at the top left of the Effect menu.
The Effect >Status menu appears. The status area shows a list of effect registers (1 to 99).

Register name displays

For the same number, the register name for the M/E-1 region takes precedence.
If there is no data for the M/E-1 region, then the register name appears in the sequence M/E-2 >M/E-3 >M/E-4 >P/P >User1 to User8 >DME ch1 to DME ch8 >Device1 to Device12 >P-Bus >GPI >Macro.

Indication colors

Each register has a color-coded border, indicating its status.
Selected register: pale blue border
Register containing data: shown amber within the border. If, however, there are one or more locked regions, the display is in red.

Write-protecting the contents of the register (lock function)

(This applies to all regions.)
In the Effect >Status menu, use the following procedure.

1 Using any of the following methods, select the register you want to lock.

- Press directly on the corresponding register indication in the status area.
- Turn the knob.

Knob	Parameter	Adjustment	Setting values
1	Register	Register selection	1 to 99

2 Press [Lock].

The register is locked, and the background of the register indication appears in red.

To release the lock

Press [Lock] once more, turning the contents of the frame to amber.

Copying the contents of a register

(This applies to all regions.)
In the Effect >Status menu, use the following procedure.

1 Using any of the following methods, select the copy source register.

- Press directly on the corresponding register indication in the status area.
- Turn the knob.

Knob	Parameter	Adjustment	Setting values
1	Register	Register selection	1 to 99

2 In the <Copy> group, press [From __].

3 Select the copy destination register.

4 In the <Copy> group, press [To __].

Deleting the contents of a register

(This applies to all regions.)
In the Effect >Status menu, use the following procedure.

1 Using any of the following methods, select the register you want to delete.

- Press directly on the corresponding register indication in the status area.
- Turn the knob.

Knob	Parameter	Adjustment	Setting values
1	Register	Register selection	1 to 99

2 Press [Delete].

Renaming a register

(This applies to all regions.)
In the Effect >Status menu, use the following procedure.

1 Using any of the following methods, select the register you want to rename.

- Press directly on the corresponding register indication in the status area.
- Turn the knob.

Knob	Parameter	Adjustment	Setting values
1	Register	Register selection	1 to 99

2 Press [Rename].

A keyboard window appears.

3 Enter a name of up to eight characters, and press [Enter].

Chapter 14 Snapshots

Overview

The term “snapshot” refers to a function whereby the various settings required to apply a particular effect to an image are saved in memory as a set of data, for recall as required, to recover the original state.
Use the following to operate the snapshot.
- Numeric keypad block *(see page 68)*
- Flexi Pad control block *(see page 70)*
- Multifunction Flexi Pad control block *(see page 73)*
- Snapshot menu *(see page 76)*

Notes

If the M/E bank has the Inhibit setting *(see page 158)*, it is not possible to recall a snapshot on that M/E bank.

Snapshot Types

Snapshots are divided as follows.

Snapshots applying to a particular region (functional block of the switcher or DME)

The term “snapshot” alone usually refers to this type of snapshot. This only applies to regions assigned to region selection buttons in the numeric keypad control block and Multifunction Flexi Pad control block.

For details about a region, see “Regions” (page 28).

Master snapshot: This applies to the selected regions and the register numbers saved in the regions.
A master snapshot can be saved and recalled using the numeric keypad control block and the Multifunction Flexi Pad control block.

Snapshots applying only to particular functions

This type of snapshot includes the following.

Key snapshot: This includes the key on/off state and all key settings other than key priority for each keyer.

For details, see “Key Snapshots” in Chapter 4 (Volume 1).

Wipe snapshot: This includes the wipe settings of each of the M/E-1 to M/E-4 and PGM/PST banks.

For details, see “Wipe Snapshots” in Chapter 5 (Volume 1).

DME wipe snapshot: This includes the DME wipe settings of each of the M/E-1 to M/E-4 and PGM/PST banks.

The rest of this section describes the snapshots that apply to a particular region or regions.

Snapshot Attributes

An individual snapshot may also have attached special conditions relating to switcher or DME operation when the snapshot is recalled.
These conditions are called “attributes” of the snapshot, and can be added when the snapshot is saved or recalled.

Types of attribute

There are seven snapshot attributes, as follows.

Cross-point hold: When the snapshot is recalled, the cross-point button selection remains unchanged. This can be set independently for each bus.

Key disable: When the snapshot is recalled, the key settings remain unchanged. This can be set independently for each keyer. A Setup menu allows you to select whether or not the key on/off state should also remain unchanged.

For details of the setting operation, see “Setting the operation mode of the key bus [XPT HOLD] button” (page 213).

Effect dissolve: The transition from the state before the snapshot recall to the snapshot settings is carried out smoothly, by a dissolve. The dissolve duration can be set in the Snapshot menu.

Auto transition: An auto transition starts the instant the snapshot is recalled. The auto transition setting is valid only for M/E-1, M/E-2, M/E-3, M/E-4, and PGM/PST.

Notes

If both effect dissolve and auto transition are selected as attributes, the auto transition takes precedence.

GPI output: A GPI output is sent to the allocated GPI port the instant the snapshot is recalled.
The trigger type depends on the switcher GPI output settings made in the Setup menu.

For details, see "Interfacing With External Devices (Device Interface Menu)" (page 219).

Clip event: Recall a frame memory clip immediately after the snapshot is recalled.

Auto play: Play a frame memory clip immediately after the snapshot is recalled.

Table of available attributes

The attributes that can be used depend on the region, as follows.

Yes: Can be used No: Cannot be used

Attribute	Region		
	M/E-1, M/E-2, M/E-3, M/E-4, and PGM/PST	User 1 to User 8	DME ch 1 to DME ch 8
Cross-point hold	Yes	Yes	Yes
Key disable	Yes	No	No
Effect dissolve	Yes	Yes	Yes
Auto transition	Yes	No	No
GPI outputs	Yes	Yes	No
Clip event	No	Yes	No
Auto play	No	Yes	No

Attribute display

You can view the attributes of a snapshot in the Snapshot menu *(see page 76)*.

Temporary attributes

When recalling a snapshot, you can temporarily apply attributes distinct from the attributes set for each register. These are called "temporary attributes."
You can set temporary attributes when recalling a snapshot.

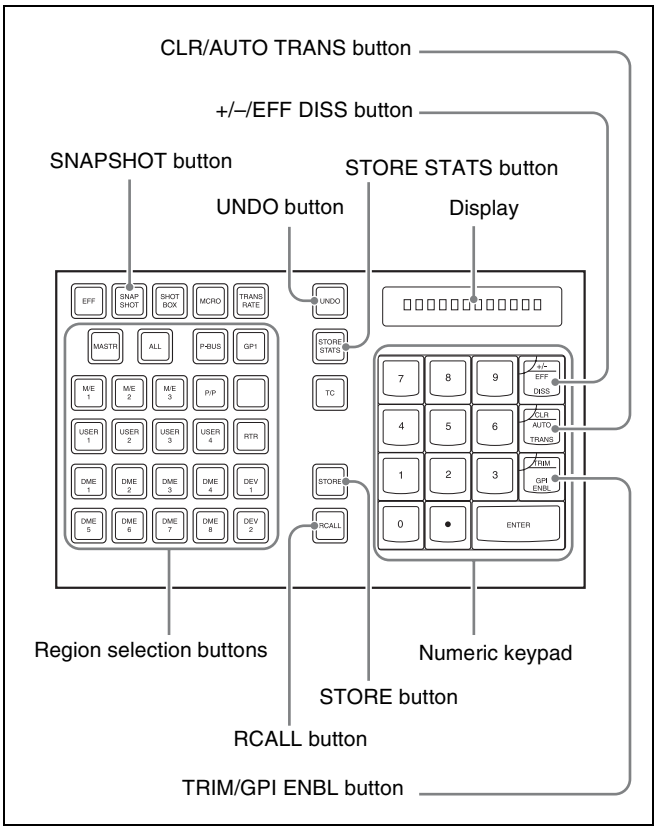
Bus override

If you recall a snapshot while holding down an A or B bus button, the selection of the signal on the A or B bus does not change when the snapshot is recalled. This function is called "bus override."
This function is effective when cross-point hold is off, and you want to temporarily maintain the cross-point setting. When cross-point hold is on, the above operation is not necessary.

Snapshot Operations From the Numeric Keypad Control Block

Saving and Recalling Snapshots

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



Numeric keypad control block

Saving a snapshot from the numeric keypad control block

1 Make the settings for the state you want to save as a snapshot.

2 In the numeric keypad control block, press the [SNAPSHOT] button, turning it on.

This allocates the numeric keypad control block to snapshot operations, and the [RCALL] button lights.

3 Press the region selection button corresponding to the region for which you want to save, turning it on. You can select more than one region.

[M/E 1], [M/E 2], [M/E 3], [M/E 4], [P/P]: These select the corresponding M/E-1, M/E-2, M/E-3, M/E-4, and PGM/PST regions.

Notes

To select M/E 4, it is necessary to assign M/E 4 to a button *(see page 162)*.

[USER 1] to [USER 8]: These select the User regions.
[DME 1] to [DME 8]: These select the DME channels.
[RTR]: This selects the Router region.
[ALL]: This selects all regions.

Notes

The regions that can be selected simultaneously are those assigned to the region selection buttons in the numeric keypad control block *(see page 162)*.

The first button pressed lights green as the reference region, and any subsequently pressed buttons light amber.
Pressing one of the amber-lit buttons, while holding down [SNAPSHOT], turns the button green to indicate its corresponding region as the new reference region.

For details of the precedence order for becoming the reference region, see "Reference region" (page 28).

The display shows the name of the reference region and the number of the register previously recalled for that region.

4 Press the [STORE] button, turning it on.

5 Enter the desired register number from the numeric keypad.

To find an empty register, instead of entering a number, press the [.] (period) button. To search for an empty register common to all currently selectable regions, press the period button again.

Notes

If you choose a register which already contains a snapshot, and save a snapshot, then the existing register contents are overwritten.
The register number appears in the display. If the number is followed by a letter 'e' or 'E,' this indicates the following.
e: The selected register is empty for the regions selected in step **3**.
E: The selected register is empty for all currently selectable regions.

6 To apply attributes *(see page 66)*, press the following buttons, turning them on.

Attribute to apply	Button
Effect dissolve	[+/–/EFF DISS] button
Auto transition	[CLR/AUTO TRANS] button
GPI output [a]	[TRIM/GPI ENBL] button

a) The GPI port that can be set is 1 (fixed).

Notes

In the numeric keypad control block, it is not possible to apply the cross-point hold.

For details, see "Applying snapshot attributes" (page 76).

7 Press the [ENTER] button.

This saves the snapshot, and the [STORE] button goes off. The [RCALL] and [STORE STATS] buttons light.

To cancel a snapshot save operation

Hold down the [STORE STATS] button and press the [UNDO] button.

Recalling a snapshot from the numeric keypad control block

1 In the numeric keypad control block, press the [SNAPSHOT] button, turning it on.

This allocates the numeric keypad control block to snapshot operations, and the [RCALL] button lights.

2 Press the region selection button corresponding to the region you want to recall, turning it on. Multiple selections are also possible.

[M/E 1], [M/E 2], [M/E 3], [M/E 4], [P/P]: These select the corresponding M/E-1, M/E-2, M/E-3, M/E-4, and PGM/PST regions.
[USER 1] to [USER 8]: These select the User regions.
[DME 1] to [DME 8]: These select the DME channels.
[ALL]: This selects all regions.
[RTR]: This selects the Router region.
[MASTR]: This selects a master snapshot.

Notes

The regions that can be selected simultaneously are those assigned to the region selection buttons in the numeric keypad control block *(see page 162)*.
It is not possible to select [MASTR] and other regions simultaneously. If selected simultaneously, the master snapshot takes precedence.

The first pressed button lights green as the reference region, and subsequently pressed buttons light amber. Pressing one of the amber-lit buttons, while holding down [SNAPSHOT], turns the button green to indicate its corresponding region as the new reference region.

For details of the precedence order for becoming the reference region, see "Reference region" (page 28).

The display shows the name of the reference region and the number of the register previously recalled for that region.

3 Enter the desired register number from the numeric keypad.

The entered register number appears in the display.

4 To apply temporary attributes *(see page 68)*, press the following buttons, turning them on.

Control block	Temporary attribute to apply	Button
Cross-point control block	A/B bus cross-point hold	[XPT HOLD] button in the background A/B bus
	Key cross-point hold	[XPT HOLD] button in the key bus [a]
	Key disable	[XPT HOLD] button in the key bus [b]
Numeric keypad control block	Effect dissolve	[+/–/EFF DISS] button
	Auto transition	[CLR/AUTO TRANS] button

a) When Xpt Hold mode is selected in setup.
b) When Key Disable mode is selected in setup.

For the setup setting, see "Setting the operation mode of the key bus [XPT HOLD] button" (page 213).

Notes

- The cross-point hold and key disable settings are maintained until you next press the [XPT HOLD] button.
- Applying temporary attributes does not affect the contents of the register.
- It is not possible to apply temporary attributes to a master snapshot.

5 Press the [ENTER] button.

This recalls the specified snapshot, and the reference region name and recalled register number appear in the display.
If you applied the effect dissolve or auto transition temporary attributes in step **4**, the corresponding buttons go off.

When a master snapshot is recalled, the region selection buttons light according to the saved region information.

To cancel a snapshot recall operation

To cancel the recall, press the [UNDO] button.

Notes

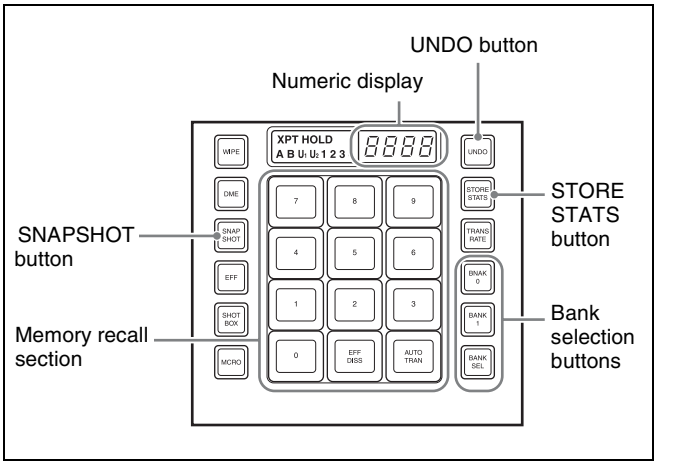
It is not possible to cancel recalling a master snapshot.

Creating and saving a master snapshot with the numeric keypad control block

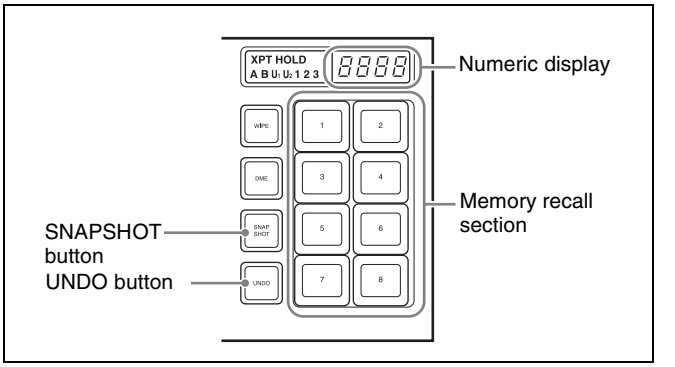
To create and save a master snapshot with the numeric keypad control block, refer to the operations in *"Creating and Saving a Master Timeline Using the Buttons in the Numeric Keypad Control Block" (page 58)*. Note, however, that in place of the [EFF] button in the numeric keypad control block, the [SNAPSHOT] button is used.

Snapshot Operations in the Flexi Pad Control Block

In the Flexi Pad control block (standard type or simple type) on each M/E bank and PGM/PST banks, you can only carry out operations on snapshots for that bank. It is therefore not necessary to select a region.



Flexi Pad control block (standard type)



Flexi Pad control block (simple type)

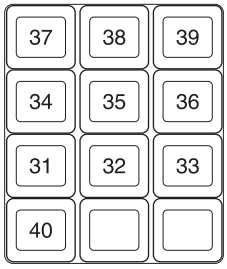
Banks and Registers

In a standard type Flexi Pad control block or Multifunction Flexi Pad control block, in order to handle the 99 registers, they are considered in groups. These groups are called "banks," and there are ten banks, numbered from 0 to 9. The correspondence between banks and registers is shown in the following table.

Bank number	Register numbers
Bank 0	1 to 10
Bank 1	11 to 20
Bank 2	21 to 30

Bank number	Register numbers
Bank 3	31 to 40
Bank 4	41 to 50
Bank 5	51 to 60
Bank 6	61 to 70
Bank 7	71 to 80
Bank 8	81 to 90
Bank 9	91 to 99

Example: When you select bank 3, the register numbers allocated to the memory recall section are as follows.



Operations with a simple type Flexi Pad control block

With a simple type Flexi Pad control block, the registers that can be handled are numbers 1 to 8. Bank operations are therefore not possible. It is also not possible to apply attributes, or to cancel a snapshot save or recall operation once carried out.
To use registers 9 to 99, or to cancel a snapshot save operation, use the numeric keypad control block.

Saving and Recalling Snapshots

Saving a snapshot in the Multifunction Flexi Pad control block

As an example, to save a snapshot on the M/E-1 bank, use the following procedure.

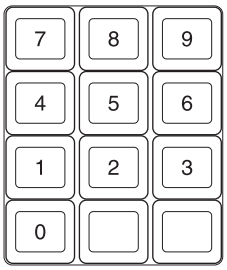
1 In the M/E-1 bank, make the settings for the state you want to save as a snapshot.

2 In the M/E-1 bank Flexi Pad control block, press the [SNAPSHOT] button.

This assigns the Flexi Pad control block to snapshot operations. The numeric display shows the last selected bank number and the register number last recalled on the bank.

3 Use any of the following methods to select the bank for saving the snapshot.
(On a simple type Flexi Pad control block, there are no banks, and this operation is not necessary.)

To select bank 0: Press the [BANK 0] button.
To select bank 1: Press the [BANK 1] button.
To select any bank from 0 to 9: Press the [BANK SEL] button, changing the memory recall section display as in the following figure; select a number from 0 to 9.



The selected bank number appears in the numeric display.
The buttons in the memory recall section change to show the names of the registers in the selected bank, together with the register status.
Using the Setup menu, it is possible to specify which to display, the register name or register number.
Lit orange: register containing a snapshot
Lit yellow: last recalled register
Not lit: register not containing anything

4 To apply an attribute *(see page 66)*, hold down the [SNAPSHOT] button, and in the memory recall section, press a button as follows, turning it on.

Attribute to apply	Button
Effect dissolve	[EFF DISS] button
Auto transition	[AUTO TRANS] button

Notes

In the Flexi Pad control block, it is not possible to apply the cross-point hold or GPI output attributes. In a simple type Flexi Pad control block, it is not possible to apply any attributes. To add these attributes, use a menu operation. *(See page 76.)*

5 Still holding down the [SNAPSHOT] button from step **4**, press the memory recall button corresponding to the register in which you want to save.

Recalling a snapshot in the Flexi Pad control block (standard type or simple type)

Notes

When an M/E bank is not assigned to any region selection button in the numeric keypad control block in a setup setting, it is not possible to recall a snapshot with the Flexi Pad control block of that M/E bank.

For details, see "Assigning a Region to the Region Selection Buttons in the Numeric Keypad Control Block or Multifunction Flexi Pad Control Block" (page 162).

As an example, to recall a snapshot on the M/E-1 bank, use the following procedure.

1 In the M/E-1 bank Flexi Pad control block, press the [SNAPSHOT] button.

This assigns the Flexi Pad control block to snapshot operations. The numeric display shows the last selected bank number and the register number last recalled on the bank.

2 Select the bank for recall.

*See step **3** (page 71) in "Saving a snapshot in the Multifunction Flexi Pad control block."*

3 To apply temporary attributes *(see page 66)*, press the following buttons, turning them on.

Control block	Temporary attribute to apply	Button
Cross-point control block	A/B bus cross-point hold	[XPT HOLD] button in the background A/B bus
	Key cross-point hold	[XPT HOLD] button in the key bus a)
	Key disable	[XPT HOLD] button in the key bus b)
Flexi Pad control block	Effect dissolve	[EFF DISS] button
	Auto transition	[AUTO TRANS] button

a) When Xpt Hold mode is selected in setup.
b) When Key Disable mode is selected in setup.

For details of the operation mode of the [XPT HOLD] button, see "Setting the operation mode of the key bus [XPT HOLD] button" (page 213).

Notes

- The cross-point hold and key disable settings are maintained until you next press the [XPT HOLD] button.
- Applying temporary attributes does not affect the contents of the register.

4 Press the button in the memory recall section which shows the desired register name.

The button you pressed lights yellow, and this recalls the snapshot.
The numeric display shows the selected register number after the bank number.

Deleting a snapshot in the Flexi Pad control block (standard type or simple type)

As an example, to delete a snapshot on the M/E-1 bank, use the following procedure.

1 In the M/E-1 bank Flexi Pad control block, press the [SNAPSHOT] button.

This assigns the Flexi Pad control block to snapshot operations. The numeric display shows the last selected bank number and the last recalled register number on the corresponding bank.

2 Select the bank for the register containing the snapshot you want to delete.

*See step **3** (page 71) in "Saving a snapshot in the Multifunction Flexi Pad control block."*

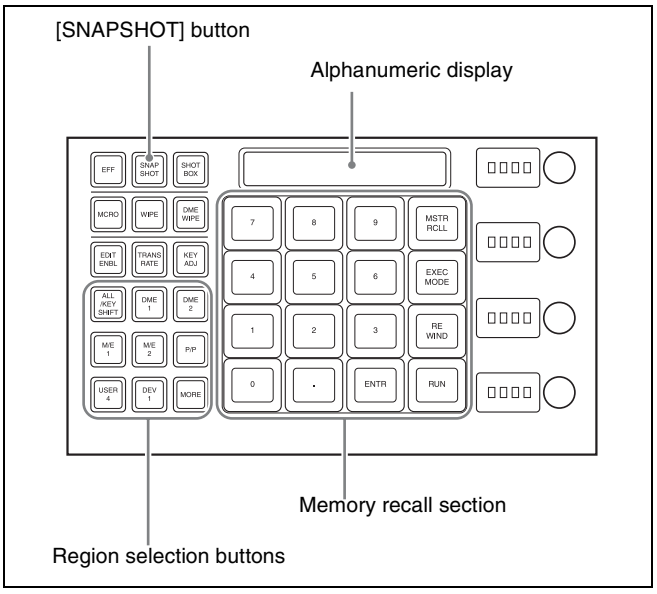
3 Hold down the [STORE STATS] button, then hold down the button in the memory recall section displaying the number of the corresponding register.

The button you pressed goes off, and this deletes the snapshot. The [STORE STATS] button lights amber.

Notes

On a simple type Flexi Pad control block, it is not possible to delete a snapshot.

Snapshot Operations in the Multifunction Flexi Pad Control Block



Carry out snapshot operations on the Multifunction Flexi Pad control block of the CCP-6224 or CCP-6324 Control Panel as follows.

Saving and Recalling Snapshots

Saving a snapshot in the Multifunction Flexi Pad control block

As an example, to save a snapshot on the M/E-1 bank, use the following procedure.

1 In the M/E-1 bank, make the settings for the state you want to save as a snapshot.

2 In the Multifunction Flexi Pad control block, press the [SNAPSHOT] button.

This assigns the Multifunction Flexi Pad control block to snapshot operations. The numeric display shows the last selected bank number and the register number last recalled on the bank.

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.

Notes

To select M/E 4, it is necessary to assign M/E 4 to a button.

For details of [M/E 4] button assignment, see "Assigning a Button for M/E-4 Selection in the Setup Menu"in Appendix (Volume 1).

[M/E 1], [M/E 2], [M/E 3], [M/E 4], [P/P]: These select the corresponding M/E-1, M/E-2, M/E-3, M/E-4, and PGM/PST regions.
[USER 1] to [USER 8]: These select the User regions.
[DME 1] to [DME 8]: These select the DME channels.
[RTR]: This selects the Router region.
[ALL]: This selects all regions.

Notes

The regions that can be selected simultaneously are those assigned to the region selection buttons in the memory recall section *(see page 162)*.

The first pressed button lights green as the reference region, and any subsequently pressed buttons light amber.
Pressing one of the amber-lit buttons, while holding down [SNAPSHOT], turns the button green to indicate its corresponding region as the new reference region.

For details of the precedence order for becoming the reference region, see "Reference region" (page 28).

The display shows the name of the reference region and the number of the register previously recalled for that region.

4 Press the [BANK SEL] button, and select the desired bank with the numeric keypad buttons in the memory recall section.

5 Hold down the [SNAPSHOT] button, and press the button in the memory recall section corresponding to the register in which you want to save.

Notes

If you press a button which is lit orange or yellow, this overwrites the contents of the corresponding register. The button you pressed lights yellow, and this completes saving. The [STORESTATS] button lights amber, and the numeric display shows the bank number followed by the number of the selected register.

To enter the number of the desired snapshot save destination register using the numeric keypad

After step **2** above, press the [10 KEY] button in the memory recall section. This switches the memory recall

section to the numeric keypad input mode, and after pressing the [STOR] button, lighting it yellow, you can enter the desired register number from the numeric keypad. The number you entered appears in the alphanumeric display.
To find an empty register, press the [.] button without entering a number, and the number of an empty register appears in the alphanumeric display.
Confirm the displayed number by pressing the [ENTR] button. This saves the data in the specified register.

To cancel a snapshot save operation

Hold down the [STORE STATS] button and press the [UNDO] button.
The light of [STORE STATS] button changes from amber to green.

Notes

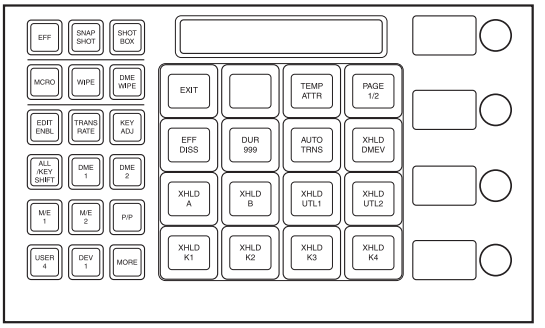
With a simple type Flexi Pad control block, it is not possible to cancel saving a snapshot.

Adding attributes in the Multifunction Flexi Pad control block

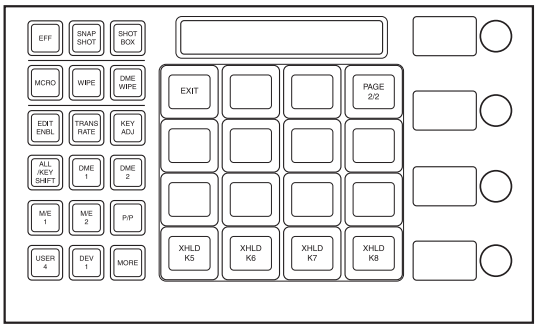
1 Press the [EDIT ENBL] button.

The button indications in the memory recall section change as shown in the following illustration.
To cancel adding attributes, press the [EDIT ENBL] button once more, or press the [EXIT] button.

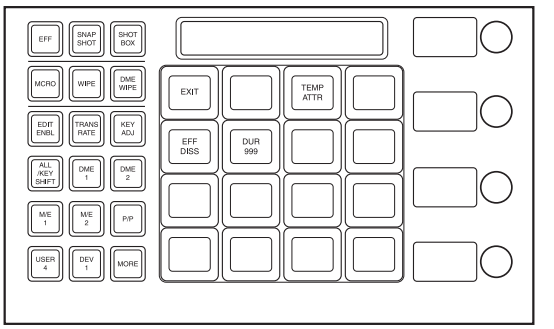
- When the reference region is M/E-x (x is a number) or P/P



- When the [PAGE 1/2] button is pressed to display the second page



- When the reference region is other than M/E-x or P/P, and effect dissolve settings are possible



2 Add attributes *(see page 66)* with the following buttons.

[TEMP ATTR] button: Set a temporary attribute. Set this to Off to add an attribute.
[EFF DISS] button: Add the effect dissolve attribute.
[DUR xxx] button: Set the effect dissolve duration. The current setting is shown by "xxx." When you press this button, the memory recall section switches to numeric keypad input mode, and you can enter the setting value.
[AUTO TRNS] button: Add the auto transition attribute.
[XHLD xxx] button: Add the bus cross-point hold attribute.
The affected bus is shown by "xxx."

Recalling a snapshot in the Multifunction Flexi Pad control block

As an example, to recall a snapshot on the M/E-1 bank, use the following procedure.

1 In the Multifunction bank Flexi Pad control block, press the [SNAPSHOT] button.

This assigns the Multifunction Flexi Pad control block to snapshot operations. The numeric display shows the last selected bank number and the register number last recalled on the bank.

2 Press the region selection button corresponding to the region you want to recall, turning it on. Multiple selections are also possible.

[M/E 1], [M/E 2], [M/E 3], [M/E 4], [P/P]: These select the corresponding M/E-1, M/E-2, M/E-3, M/E-4, and PGM/PST regions.
[USER 1] to [USER 8]: These select the User regions.
[DME 1] to [DME 8]: These select the DME channels.
[ALL]: This selects all regions.
[RTR]: This selects the Router region.
[MASTR]: This selects a master snapshot.

Notes

The regions that can be selected simultaneously are those assigned to the region selection buttons in the memory recall section.

For details, see "Assigning a Region to the Region Selection Buttons in the Numeric Keypad Control Block or Multifunction Flexi Pad Control Block" (page 162).

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 yellow. Pressing one of the amber-lit buttons, while holding down [SNAPSHOT], turns the button green to indicate its corresponding region as the new reference region.

For details of the precedence order for becoming the reference region, see "Reference region" (page 28).

The display shows the name of the reference region and the number of the register previously recalled for that region.

3 Select the bank for recall.

*See step **3** (page 73) in "Saving a snapshot in the Multifunction Flexi Pad control block."*

4 To add a temporary attribute *(see page 67)*, press the [EDIT ENBL] button to switch to editing mode, then press the [TEMP ATTR] button; you can now select the temporary attribute with the following buttons.

[EFF DISS] button: Effect dissolve.
[DUR xxx] button: Effect dissolve duration. The current setting is shown by "xxx."
[AUTO TRNS] button: Auto transition.
[XHLD xxx] button: Bus cross-point hold. The affected bus is shown by "xxx."

For details of the operation of mode of the [XPT HOLD] buttons, see "Selecting the Bank to Make the Settings" (page 211).

Notes

Adding a temporary attribute does not affect the attribute settings saved in registers.
To add a temporary attribute with the cross-point control block buttons, press the following buttons, turning them on.

Temporary attribute to be added	Button to press
A/B bus cross-point hold	[XPT HOLD] button in background A/B bus
Key cross-point hold	Key bus [XPT HOLD] button [a]
Key disable	Key bus [XPT HOLD] button [b]

a) When setup setting is Xpt Hold mode
b) When setup setting is Key Disable mode

Notes

This setting is maintained until the next time the [XPT HOLD] button is pressed.

5 Press the button in the memory recall section which shows the desired register name.

The button you pressed lights yellow, and this recalls the snapshot.
The numeric display shows the selected register number after the bank number.

To cancel a snapshot recall operation

Press the [UNDO] button.

To enter the number of the register to be recalled using the numeric keypad

After step **1** above, press the [10 KEY] button in the memory recall section. This switches the memory recall section to the numeric keypad input mode, and after pressing the [RCLL] button, lighting it yellow, you can enter the desired register number from the numeric keypad. Confirm the displayed number by pressing the [ENTR] button.

Deleting a snapshot in the Multifunction Flexi Pad control block

As an example, to delete a snapshot on the M/E-1 bank, use the following procedure.

1 In the Multifunction Flexi Pad control block, press the [SNAPSHOT] button, press region selection button to select [M/E1] only.

This assigns the Multifunction Flexi Pad control block to snapshot operations. The numeric display shows the last selected bank number and the last recalled register number on the corresponding bank.

2 Select the bank for the register containing the snapshot you want to delete.

*See step **3** (page 73) in "Saving a snapshot in the Multifunction Flexi Pad control block."*

3 Hold down the [DEL] button, then hold down the button in the memory recall section displaying the number of the corresponding register.

The button you pressed goes off, and this deletes the snapshot.

Snapshot Operations in the Menus

Operations in the Snapshot menu

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 page 79.)*

Operations in the Misc >Snapshot menu

For M/E and PGM/PST snapshots only, you can carry out saving, recalling, applying attributes, and so on using the same menu (see page 79).

Selecting a Region or Reference Region in a Menu

During snapshot operations, you can select a region in the menu. This is convenient for selecting some of the regions assigned to the numeric keypad control block or changing the reference region.

For details of the operations, see "Selecting by menus" (page 42).

Setting Snapshot Attributes

Applying snapshot attributes

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. To select all regions, press [ALL].

3 Press [OK].

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

4 Using any of the following methods, select the register.

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

Knob	Parameter	Adjustment	Setting values
1	Register	Register number	1 to 99
2	Num	Select number of registers	1 to 99

- To select all registers, press [ALL].

5 In the <Attribute> group, press the buttons for the attributes you want to apply, turning them on.

Carry out the following procedures for each of the attributes.

For details of attributes and available attributes, see "Snapshot Attributes" (page 66).

To apply the cross-point hold attributes

Notes

Applying the key disable attribute (so the key state is not reflected) to cross-point hold requires a setting in setup.

For details, see "Snapshot Attributes" (page 66).

1 Press [XPT Hold].

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

2 Using any of the following methods, select the register.

- Press directly on the list in the status area. To select one or more buses, press [Plural] and then select buses.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knobs.

Knob	Parameter	Adjustment	Setting values
2	Destination [a)]	Destination selection	1 to 128
3	Bus [b)]	Bus name selection	1 and upwards

a) Appears when the region is RTR.
b) Appears when the region is other than RTR.

- To select all registers, press [ALL].

3 When the region is set to RTR (Router) only, press [RTR Level].

A window appears for selecting the router level.

4 Press the level for which you want to set the cross-point hold, turning it on, and press [OK]. To select all levels, press [ALL].

5 Press [On].

This enables cross-point hold on the selected bus or buses.
To switch cross-point hold off, press [Off].

To apply the effect dissolve attribute

1 Press [Effect Dissolve], turning it on.

2 Turn the knob to set the effect dissolve duration.

Knob	Parameter	Adjustment	Setting values
3	Eff Diss Duration	Dissolve duration	0 to 999 (frames)

To set the duration for a dissolve set as a temporary attribute effect

To set the duration for a dissolve set as a temporary attribute effect in the numeric keypad or Flexi Pad control block, turn the knob.

Knob	Parameter	Adjustment	Setting values
5	Temp Dur	Temporary attribute dissolve duration	0 to 999 (frames)

To apply the auto transition attribute

Press [Auto Transition], turning it on.

To apply the GPI output attribute

1 Press [GPI Output], turning it on.

2 Turn the knob to set the port number.

Knob	Parameter	Adjustment	Setting values
4	GPI Out Port	GPI output port number	1 to 8

To apply the clip event attribute

Notes

The following operating procedure can be used only for the frame memory channels assigned to a user region.

For details of frame memory assignment, see "Setting User Regions" (page 201).

1 Press [Clip Event].

The Snapshot >Attribute >Clip Event menu appears.

2 In the <Frame Memory Select> group, press the desired button.

On the left of the status area, the name and content of the selected region (for example, USER1) are shown. On the right, the content of the clip of the current frame memory is shown.

3 Press [Clip Event], turning it on.

The clip event attribute is applied.

4 To select the clip of the current frame memory, press [Set].

5 To play the clip as soon as it is recalled, press [Auto Play], turning it on.

Snapshot Status Display

The Snapshot >Attribute menu displays the following information.

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

Register number

Register name

Write-protected status: When the register is write-protected, an “L” (for “lock”) appears.

Empty status: When the register is empty, an “E” (for “empty”) appears.

Attribute settings: The attributes set for a register are shown by the following character codes.

• When the cross-point hold is set

Displayed character codes	Attributes set
A, B	Cross-point hold is set for the A or B background bus.
1, 2, 3, 4, 5, 6, 7, 8	Cross-point hold is set for key bus 1, 2, 3, 4, 5, 6, 7 or 8.
U1, U2	Cross-point hold is set for the utility 1 or utility 2 bus.
D2	Cross-point hold is set for video bus selected for 2nd DME channel.
FvFkBvBk	Cross-point hold is set for all of the DME front video bus, DME front key bus, DME back video bus, and DME back key bus.
Aux	Cross-point hold is set for one of the AUX buses.
Fm1, Fm2	Cross-point hold is set for one of the frame memory 1 and 2 buses.
Ccr1, Ccr2	Cross-point hold is set for one of the CCR 1 and 2 buses.
RTR	Cross-point hold is set for the Router region.

• When an effect dissolve is set

Displayed character codes	Attributes set
Duration value	The effect dissolve attribute is set, with the displayed duration.

• When an auto transition is set

Displayed character codes	Attributes set
T	Auto transition is set.

• When a GPI output is set

Displayed character codes	Attributes set
Port number	GPI output is set for the port of the displayed number.

• When a clip event is set

Displayed character codes	Attributes set
On	Clip event is set.

Setting Key Snapshot Attributes

Applying key snapshot attributes

1 In the Snapshot menu, press VF5 ‘Key Snapshot’ and HF1 ‘Attribute.’

The Snapshot >Key Snapshot >Attribute menu appears.
The status area shows the region names, register numbers, and whether the registers are locked or not.

2 Press the region display in the upper part of the list to display a selection window, then select the region in the selection window. Selecting multiple regions is also possible.

3 Press [OK].

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

4 Using any of the following methods, select the register.

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

Knob	Parameter	Adjustment	Setting values
1	Register	Register number	1 to 4

5 In the <Recall Mode> group, select one of the following modes for save and recall operations.

XPT: Only the key material selection data is saved or recalled.
Modifier: Only the key modifier settings are saved or recalled.
Transition: Only the independent key transition settings are saved or recalled.

Creating and Saving a Master Snapshot

To save a master snapshot in the Snapshot menu, after recalling the Snapshot >Master Snapshot >Store menu, refer to the operations in *"Creating and Saving a Master Timeline With the Menu" (page 60).*

Recalling the Store menu

1 Do either of the following.

- In the menu control block, press the top menu selection button [SNAPSHOT].
- In the numeric keypad control block, press the [SNAPSHOT] button twice in rapid succession.

The Snapshot menu appears.

2 Press VF1 'Master Snapshot' and HF1 'Store.'

The Master Snapshot >Store menu appears.
The status area shows the master snapshot register names, register lock status, register number for each region, and so on.

3 If required, press the following buttons in the status area to change the region display.

M/E, P/P: indicate assignment of M/E-1 ("M/E1"), M/E-2 ("M/E2"), M/E-3 ("M/E3"), M/E-4 ("M/E4"), and P/P ("P/P").
User: User1 ("USR1") to User8 ("USR8")
DME: indicate assignment of DME ch1 ("DME1"), ch2 ("DME2"), ch3 ("DME3"), ch4 ("DME4"), ch5 ("DME5"), ch6 ("DME6"), ch7 ("DME7"), and ch8 ("DME8").
Misc: RTR ("Router")

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 62).

Displaying a List of Snapshot Registers for Editing

You can display a list of snapshot registers including status information (whether data is present and so on), then carry out lock, copy, delete, and rename operations.

Displaying the list of snapshot registers with status information

Press the menu title button at the top left of the Snapshot menu.
The Snapshot >Status menu appears. The status area shows a list of snapshot registers (1 to 99).

For details of lock, copy, delete, and rename operations, see "Displaying a List of Effect Registers for Editing" (page 65).

Register name displays

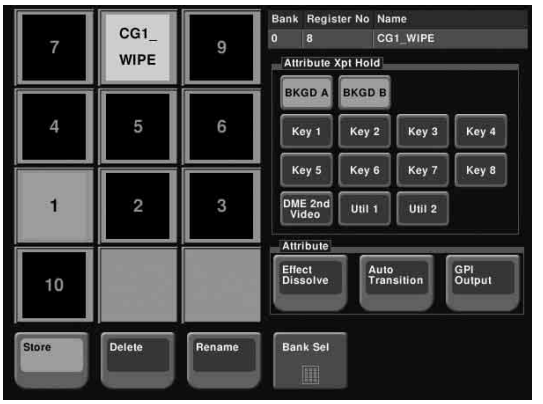
For the same number, the register name for the M/E-1 region takes precedence.
If there is no data for the M/E-1 region, then the register name appears in the sequence M/E-2 >P/P >User1 to User8 >DME ch1 to DME ch8 >RTR.

Operations in the Misc >Snapshot Menu

Recalling a snapshot

1 In the Misc menu, press [Snapshot].

The Snapshot menu appears.



2 As required, change the bank *(see page 80)*.

3 Press the button for the number or name you want to recall.

This recalls the snapshot, and the button you pressed lights green.

Saving a snapshot

1 Display the Misc >Snapshot menu.

2 Set the state you want to save as a snapshot.

3 Press [Store].

The button lights amber.

4 As required, change the bank *(see page 80)*.

5 Press the button for the number or name you want to save.

This saves the snapshot, and the button goes off.

Changing the bank

Change the combination shown on the memory recall buttons (the bank).

1 Press [Bank Sel].

2 Select the bank in the numeric keypad window.
For example, to show the numbers or names corresponding to registers 11 to 20, select "1" in the numeric keypad window.

Applying attributes

To apply an attribute to the snapshot represented by a lit-green memory recall button, use the following procedure.

1 To apply the cross-point hold attribute, in the <Attribute Xpt Hold> group select the appropriate bus.

Notes

A setting in the Setup menu determines whether key disable is applied to cross-point hold or not.

For details, see "Selecting the Bank to Make the Settings" (page 211).

2 Select the following attributes in the <Attribute> group as required.

Effect Dissolve: Apply effect dissolve.
Auto Transition: Apply auto transition.
GPI Output: Apply GPI output. When this is selected, select the GPI number with the knob.

Deleting a snapshot

1 In the Misc >Snapshot menu, press [Delete].

The button lights amber.

2 As required, change the bank.

3 Press the button for the number or name you want to delete.

This deletes the snapshot, and the button you pressed goes off.

Renaming a snapshot register

1 In the Misc >Snapshot menu, press [Rename].

The button lights amber.

2 As required, change the bank.

3 Press the button for the number you want to rename.

A keyboard window appears.

4 Enter the register name, and press [Enter].

The new name appears on the memory recall button.

Utility/Shotbox

Chapter 15

Utility Execution

The utility function refers to a function whereby you can assign an arbitrary action or a shortcut for frequently used menu to a particular button, then instantly recall the action or menu by pressing the button.
The functions you can assign include menu shortcuts, enabling/disabling functions (recalling utility commands), and recalling (shotbox registers or macro registers).
Carry out the button assignment in the Setup menu.

For details of the operation, see "Setting Button Assignments (Prefs/Utility Menu)" (page 180).

You can execute the utility functions from the following blocks.
- Utility/shotbox control block *(page 81)*
- Cross-point control block *(page 82)*
- User preference buttons in the menu control block *(page 81)*

For details of the settings for assigning functions to buttons, see "Setting Button Assignments (Prefs/Utility Menu)" (page 180).

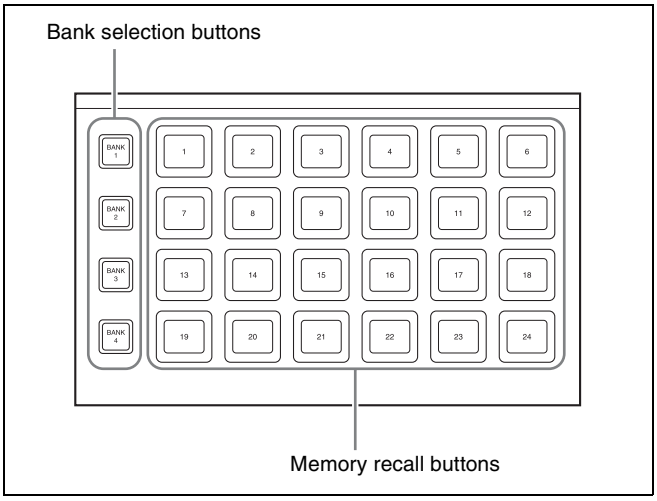
Executing a Utility With the User Preference Buttons (Menu Control Block)

In the setup menu, you can assign any 16 actions to the user preference buttons in the menu control block.

To execute an assigned action

Press the corresponding user preference button ([PREFS 1] to [PREFS 16]).
- In the case of a function on/off action, the button you pressed lights amber, and this enables the function. To disable the function, press the button once more.
- For other actions, the button you pressed momentarily lights amber, and then the function is executed.

Executing a Utility in the Utility/Shotbox Control Block



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

To execute an assigned action

When the action is to execute a shotbox register, follow the procedure in "Shotbox Execution in the Utility/Shotbox Control Block" (page 88).

1 Press one of the bank selection buttons [BANK1] to [BANK4] to select a bank.

- The bank selection button you pressed lights amber.
- For the selected bank, the memory recall buttons show the button numbers and corresponding button states. If a button has been given a name in the setup menu, this name appears.

Not lighted: buttons with nothing saved
Lit orange: buttons saving a utility command or menu shortcut

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.

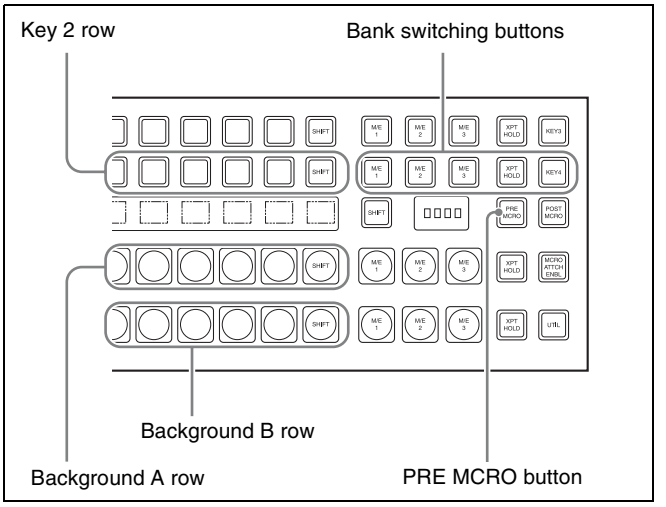
Executing Utilities With the Cross-Point Buttons in the Key 2 Row

You can use the key 2 row of each of the M/E-1 to M/E-4, and PGM/PST banks in the same way as the buttons in the utility/shotbox control block.

Notes

To use this function, it is first necessary to assign the utility/shotbox mode switching function to the control panel [PRE MCRO] button.

For details of the assignment operation, see "Assigning the Utility/Shotbox Mode Switching Function" (page 164).



Cross-point control block in the PGM/PST block

You can assign any action to the cross-point buttons *(see page 187)*.

To execute the assigned action

When the action is executing a shotbox register, follow the procedure "Executing a Shotbox Function With the Key 2 Row Cross-Point Buttons" (page 88).

1 Press the [PRE MCRO] button, turning it on.

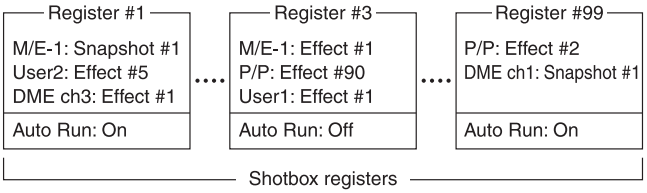
2 Press one of the bank switching buttons *(see previous figure)*, to select the bank.

These buttons correspond to banks 1 to 5 in sequence from the left.

3 Press the cross-point button to which the desired action is assigned.

Shotbox

The term “shotbox” refers to a function whereby for each specified region any snapshot or keyframe effect can be recalled simultaneously.
The simultaneous recall setting data such as region names, snapshot numbers and keyframe effect numbers are stored in “registers.” There are 99 registers for each control panel.



The previous figure shows schematically the settings in the 99 shotbox registers.
Each register may contain any combination of the regions to which the register applies, with the snapshots or effects to be recalled.
The Auto Run function is an attribute which can be set for each register. When this is set to On, an effect recalled by a shotbox operation is automatically run.

- When register 1 is executed, this recalls M/E-1 snapshot 1, User2 effect 5, and DME ch3 effect 1. For register 1, auto run is On, and therefore the User2 and DME ch3 effects are run as soon as they have been recalled.
- When register 3 is executed, M/E-1 effect 1, P/P effect 90, and User1 effect 1 are recalled. For register 3, auto run is off, and therefore to run the recalled effects, press the [RUN] button in the keyframe control block.

Shotbox Register Creation

You can create (save) shotbox registers in the following control blocks.

- Numeric keypad control block *(See “Numeric Keypad Control Block” in Chapter 2 (Volume 1).)*
- Menu control block *(See “Menu Control Block” in Chapter 2 (Volume 1).)*
- Multifunction Flexi Pad control block *(See “Multifunction Flexi Pad Control Block” in Chapter 2 (Volume 1).)*

Creating a Shotbox Register in the Numeric Keypad Control Block

When you create a shotbox register in the numeric keypad control block, you carry out separate operations in respect of the snapshot setting data and the effect setting data, and save in the register. The procedure described here makes the snapshot settings first, followed by the effect settings.

Creating a shotbox register

1 In the numeric keypad control block, press the [SNAPSHOT] button, turning it on.

This assigns the numeric keypad control block to snapshot operations.

2 Specify the register number of the snapshot you want to save in a shotbox register, and then recall it for each region.

For details of the procedure for recalling a register, see “Recalling a snapshot from the numeric keypad control block” (page 69).

3 Press the [SHOTBOX] button, turning it on.

This assigns the numeric keypad control block to shotbox operations.

4 Press the [STORE] button, turning it on.

The [SNAPSHOT] button lights green.
If not lighted, press the [SNAPSHOT] button to turn it on.

Notes

Only in [SHOTBOX] operation mode with the [STORE] button lit, the [SNAPSHOT] button or

[EFF] button lights green to indicate that a setting operation is in progress for the purpose of saving snapshot data or effect data in a shotbox register.

5 Press the region button for the snapshot you want to save, turning it on.

6 Enter the desired shotbox register number with the numeric keypad buttons.
To find an empty register, instead of entering a number, press the [.] (period) button.

The display shows the relevant register numbers. When a register number is postfixed with an "E," the register is empty.

7 Press [ENTER].

This saves the region you turned on in step **5**, and the register number you recalled for that region as a snapshot setting in a shotbox register, and the [STORE] button goes off. At the same time, the [RCALL] button lights.

8 In the numeric keypad control block, press the [EFF] button, turning it on.

9 Specify the register number of the keyframe effect you want to save in a shotbox register, and then recall it for each region.

For details of the procedure for recalling a register, see "Recalling a Register" (page 38).

10 Referring to steps **3** to **5**, carry out the setting operation for effect register saving. In step **4**, however, press the [EFF] button, lighting it green.

11 Enter the shotbox register number specified in step **6** using the numeric keypad buttons.

12 Press the [ENTER] button.

This saves the effect setting in a shotbox register, and the [STORE] button goes off. At the same time, the [RCALL] button lights.

To change the contents of a shotbox register

After recalling the shotbox register you want to change, referring to the previous item "*Creating a shotbox register,"* change the contents of the shotbox register, and save.

To check the region saved in a shotbox register

During operations to change the contents of a shotbox register, to check which region is saved in the register, use the following procedure.

1 With the [SHOTBOX] button lit, press the [STORE] button, turning it on.

2 Press the required button, as follows, turning it on.

To check the snapshot region: [SNAPSHOT] button
To check the effect region: [EFF] button

3 Hold down the [STORE] button.

While this button is held down, the button for the saved region lights.
Releasing the button returns you to the state before holding down the [STORE] button.

Notes

While the [STORE] button is lit, the mode selection buttons ([TRANS RATE] button and so on) in the numeric keypad control block do not operate. To change the mode, press the [RCALL] button or [SHOTBOX] button so that the [STORE] button goes off.

Creating a Shotbox Register in the Multifunction Flexi Pad Control Block

1 In the Multifunction Flexi Pad control block, press the [SNAPSHOT] button, turning it on.

This changes the Multifunction Flexi Pad control block to snapshot operation mode.

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 snapshot, see "Recalling a snapshot in the Multifunction Flexi Pad control block" (page 74).

3 Press the [SHOTBOX] button, turning it on.

This changes the Multifunction Flexi Pad control block to shotbox operations.

4 Press the [EDIT ENBL] button.

This changes the Multifunction Flexi Pad control block to shotbox editing mode.

5 Press the [STOR] button, turning it on.

The [SNAPSHOT] button lights green.
If not lighted, press the [SNAPSHOT] button to turn it on.

Notes

In shotbox editing mode, when you press the [STOR] button, the [SNAPSHOT] button or [EFF] button lights, to indicate that snapshot data will be saved in the shotbox register, or that effect data will be saved.

6 Specify the region for the snapshot to be saved, with the region selection buttons.

7 Enter the number of the shotbox register where you want to save with the memory recall section numeric keypad buttons.
To select an empty register, press the [.] button without entering a number.

The number of the selected register appears in the alphanumeric display. An "E" after the number indicates an empty register.

8 Press [ENTR].

This saves the region you turned on in step **6**, 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.

9 Press the [EFF] button, turning it on.

10 Specify the register numbers to recall the keyframe effects for each region that you want to save in the shotbox register.

For the procedure for recalling keyframe effects, see "Recalling a register from the Multifunction Flexi Pad control block" (page 40).

11 Referring to steps **3** to **6**, carry out the procedure to save the recalled keyframe effect data.

In step **5**, however, press the [EFF] button instead of [SNAPSHOT] button, lighting it on.

12 Enter the shotbox register number specified in step **7** using the numeric keypad buttons in the memory recall section.

13 Press the [ENTR] button.

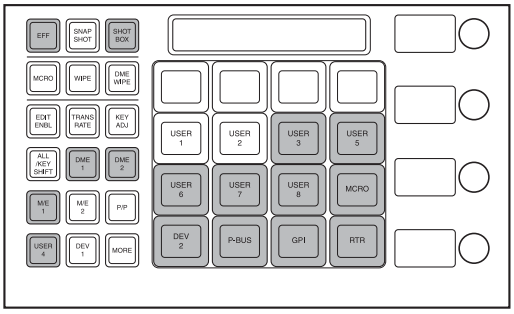
This saves the snapshot data, followed by the keyframe effect data, in the specified shotbox register, and the [STOR] button goes off and then the [RCLL] button lights up.

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 in the Multifunction Flexi Pad control block,"* change the contents of the shotbox register, and save.

To check the region saved in a shotbox register

When changing the contents or so for a shotbox register, to check the region saved in the register press and hold the following buttons.
To check the snapshot region: [SNAPSHOT] button
To check the keyframe effect region: [EFF] button
The memory recall section buttons change as shown in the following illustration, and the region for the saved data lights.



To recall an assigned effect and simultaneously execute it

Press the [AUTO RUN] button, lighting it green, then save the region data in the register.

Creating a Shotbox Register Using the Menus

Accessing the Shotbox menu

Carry out creation and editing of shotbox registers in the Shotbox menu.
To access the Shotbox menu, use either of the following methods.

- In the menu control block, press the top menu selection button [SHOTBOX].
- In the numeric keypad control block, press the [SHOTBOX] button twice in rapid succession.

Creating a shotbox register

1 In the Shotbox menu, press VF1 'Register' and HF1 'Store/Recall.'

The Store/Recall menu appears.
In the status area, the settings for each register appear as follows.

Region settings: Appear as "Sxxx" when a snapshot is allocated, and as "Exxx" when an effect is allocated. (xxx is the register number.) The register name also appears. If nothing is allocated, nothing appears in the display.

Register lock setting: When the register is write-protected, an "L" (for "lock") appears.

Empty status: When the register is empty, an "E" (for "empty") appears.
Auto run setting: When this is enabled, so that an effect is executed simultaneously with recall, "AR" appears.
Shotbox register name: This shows the shotbox register name.

2 If necessary, switch the region display by pressing one of the following buttons in the status area.

M/E, P/P: Shows the allocations for M/E-1 ("M/E1"), M/E-2 ("M/E2"),
M/E-3 ("M/E3"), M/E-4 ("M/E4"), and P/P ("P/P").
User: Shows the allocations for User1 ("USR1") to User8 ("USR8").
DME: Shows the allocations for DME ch1 ("DME1"), ch2 ("DME2"),
ch3 ("DME3"), ch4 ("DME4"), ch5 ("DME5"), ch6 ("DME6"),
ch7 ("DME7"), and ch8 ("DME8").
DEV1-8: Shows the allocations for Device1 ("DEV1") to Device8 ("DEV8").
DEV9-12: Shows the allocations for Device9 ("DEV9") to Device12 ("DEV12").
Misc: Shows the allocations for P-Bus ("PBUS"), GPI ("GPI"), Router ("RTR"), and Macro ("MCRO").

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

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

Knob	Parameter	Adjustment	Setting values
1	Shotbox Reg	Shotbox register number	1 to 99

4 Press [Edit].

The Edit menu appears, and it is now possible to make the settings for the specified register.
You can also use knob 1 to select the register in this menu.
In the status area, the shotbox register status for each region appears.

5 Using any of the following methods, select the desired region. You may select more than one region.

- Press directly on the region display in the status area, turning it to reverse video.
- Press [ALL] to select all regions.
- To select all switcher-related regions (M/E, P/P, User), press [SWR ALL].
- To cancel a selection, press once more to return to the normal display.

6 In the <Assign> group, select the snapshot or effect to be allocated to the region.

Snapshot: Allocate a snapshot register.
Effect: Allocate a keyframe effect.
- If the selected register is locked, a confirmation message appears asking whether or not to cancel the operation. Press [OK] to return to the previous menu display without carrying out the registration.
- If the operation is carried out, the region selected in step **5** is registered on the master timeline, and the parameters are now valid.

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

When a snapshot is selected

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

When an effect is selected

Knob	Parameter	Adjustment	Setting values
3	Effect	Keyframe effect number	1 to 99 a)

a) For the DME region, you can also set register numbers 101 to 199, 201 to 299, and 301 to 399.
For P-Bus and Device1 to Device12, you can also set register numbers 1 to 250.

8 To run the allocated effect as soon as it is recalled, press [Auto Run], turning it on.

9 Repeat steps **5** to **8** as required.

10 In the <Store> group, press [Store] to save the setting.

To return to the state before saving the setting
In the <Store> group, press [Undo].

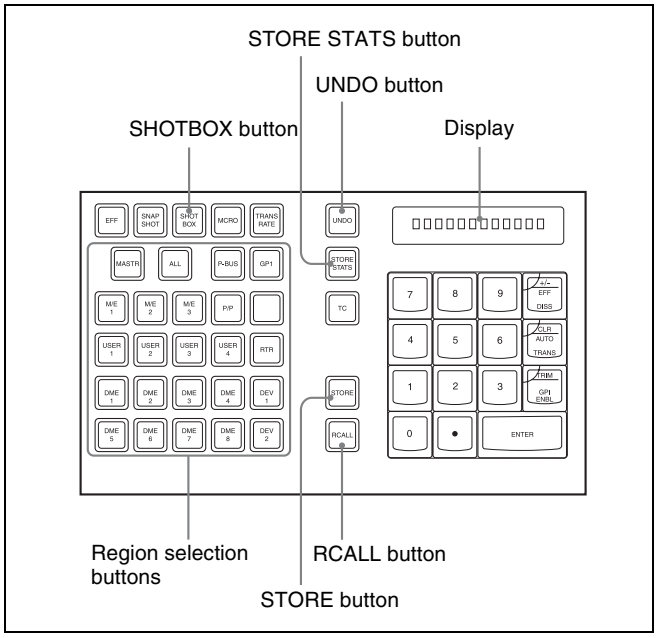
To execute the settings to check them
Press [Recall] to execute the shotbox.

Shotbox Execution

You can recall (and run) shotbox registers from the following control blocks.
This section describes the various methods of operation.

- Numeric keypad control block *(see page 87)*
- Flexi Pad control block *(see page 87)*
- Multifunction Flexi Pad control block *(see page 87)*
- Cross-point control block *(see page 88)*
- Utility/shotbox control block *(see page 88)*

Shotbox Execution From the Numeric Keypad Control Block



Numeric keypad control block

1 In the numeric keypad control block, press the [SHOTBOX] button, turning it on.

- This allocates the numeric keypad control block to shotbox operations.
- The [RCALL] button lights amber.
- The display shows the last recalled register number.

2 With the numeric keypad buttons, enter the desired register number.

- The display now shows the entered register number.
- If the specified register is empty, an “E” automatically appears after the register number.

3 Press the [ENTER] button.

- This runs the specified shotbox register.
- The number of the recalled register appears in the display.
- The region selection buttons corresponding to the regions for which the effect is set light.
- If auto run is set for the specified shotbox register, on recall the effect is immediately executed.
- If you recall an empty register, then shotbox execution has no effect.

When auto run is not set for the recalled register
Simply recalling the register does not run the effect. To do this, in the keyframe control block, press the [RUN] button.

Shotbox Execution in the Multifunction Flexi Pad Control Block or the Flexi Pad Control Block

Notes

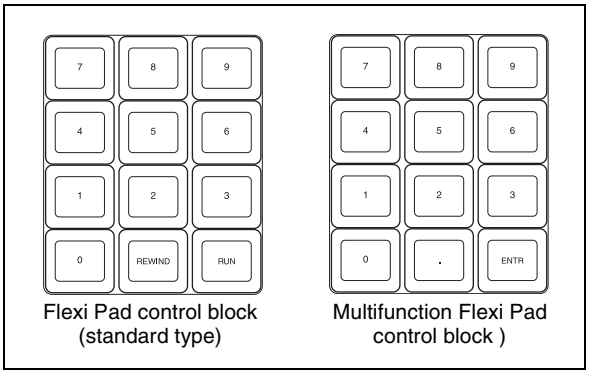
In the simple type of Flexi Pad control block, shotbox operations are not possible. You can carry out shotbox operations with a standard type or multifunction type Flexi Pad control block.

1 In the Flexi Pad control block, press the [SHOTBOX] button, lighting the [SHOTBOX] button amber.

- This allocates the Flexi Pad control block to shotbox operations.
- The previously selected bank number and the last recalled register number appear in the numeric display.

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

- To select a register in bank 0, press the [BANK 0] button.
- To select a register in bank 1, press the [BANK 1] button.
- Press the [BANK SEL] button, and when the memory recall section display changes as follows, press the button from 0 to 9 corresponding to the bank you want to select.



Flexi Pad control block (standard type)

Multifunction Flexi Pad control block)

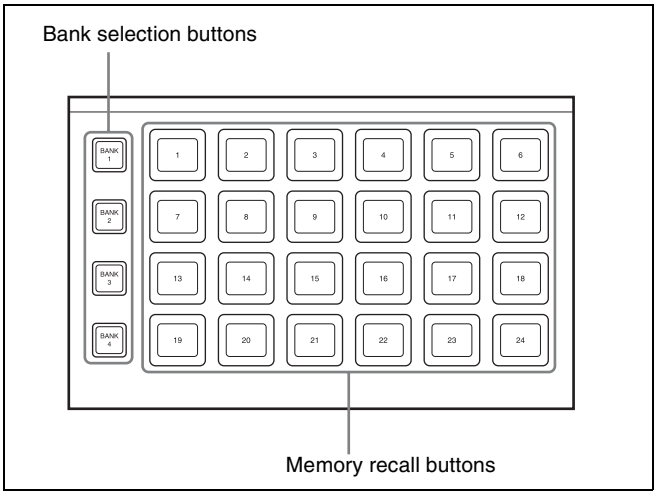
- The numeric display shows the selected bank number.
- The buttons in the memory recall section show the names and states of the registers corresponding to the selected bank.
  - **Off:** register in which nothing is saved
  - **Lit orange:** register holding shotbox settings
  - **Lit yellow:** last executed register

3 Press the button in the memory recall section corresponding to the register you want to run.

- The selected shotbox register is executed.
- The pressed button lights yellow.
- The numeric display shows the bank number followed by the selected register number.
- 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.

Shotbox Execution in the Utility/ Shotbox Control Block



Utility/shotbox control block

In the utility/shotbox control block, as the default setting the memory recall buttons have registers 1 to 96 allocated to banks 1 to 4.

Bank	Register allocation to memory recall buttons
1	1 to 24
2	25 to 48
3	49 to 72
4	73 to 96

1 Press one of the bank selection buttons [BANK1] to [BANK4] to select the bank.

- The pressed bank selection button lights amber.
- The memory recall buttons show the names and states of the registers corresponding to the selected bank.
  - **Off:** register in which nothing is saved
  - **Lit orange:** register holding shotbox settings
  - **Lit yellow:** last recalled register

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.

Executing a Shotbox Function With the Key 2 Row Cross-Point Buttons

You can use the key 2 row of each of the M/E-1 to M/E-4, and PGM/PST banks in the same way as the buttons in the utility/shotbox control block.

Notes

To use this function, it is first necessary to assign the utility shotbox mode switching function to the control panel [PRE MCRO] button.

For details of the assignment operation, see "Assigning the Utility/Shotbox Mode Switching Function" (page 164).

You can assign any shotbox register to the cross-point buttons.

For details of the assignment operation, see "Assigning a Function to the Key 2 Row Cross-Point Buttons" (page 187).

1 Press the [PRE MCRO] button, turning it on.

2 Press one of the bank switching buttons *(see the figure on page 82)*, to select the bank.

3 Press the cross-point button to which the desired shotbox is assigned.

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 62)*.

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

Macros

Chapter 16

Macros

Overview

The term “macro” refers to the function whereby a sequence of signal selections and other operations on the control panel is saved as data in memory, so that it can be recalled as required to automatically execute the same sequence of operations.
To record menu operations in memory, use a menu macro *(see page 115)*.

Macro registers

The area of memory that holds a macro is termed a “macro register.” For each control panel there are 250 macro registers, numbered 1 to 250.

Events

The individual control panel operations constituting a macro are termed “events.” One macro can contain a maximum of 99 events.
The following table shows the operations for each control block of the control panel that can be saved as events in a macro.

Control block	Event
Auxiliary bus control block	Cross-point selection
	Cross-point selection in router control mode
Cross-point control block (including when the AUX panel-less function is set)	• Cross-point selection • Recalling a function assigned to a key 2 row button
Transition control block (standard type)	• Auto transition and cut for the transition execution section • Auto transition and key on/off for the independent key transition execution section [a)] • Next transition setting • Transition type selection • Pattern limit on/off • Key snapshot recall • VTR/disk recorder/Extended VTR / frame memory clips playback [b)] • VTR/disk recorder/Extended VTR / frame memory clips stop [b)] • VTR/disk recorder/Extended VTR / frame memory clips cue-up [b)]
Transition control block (simple type)	• Transition execution section take • Transition type selection • Pattern limit on/off
Transition control block (compact type)	• Transition execution section auto transition and cut • Independent key transition execution section auto transition [a)] • Next transition setting • Transition type selection • Pattern limit on/off • VTR/disk recorder/Extended VTR / frame memory clips playback [b)] • VTR/disk recorder/Extended VTR / frame memory clips stop [b)] • VTR/disk recorder/Extended VTR / frame memory clips cue-up [b)]
Independent key transition control block (simple type)	• Independent key transition execution section take and key on/off [a)] • Key snapshot recall • Selection of independent key transition type
Flexi Pad control block (standard type)	Recalling the following data • Snapshots • Wipe snapshots • DME wipe snapshots

Control block	Event
Flexi Pad control block (simple type)	Recalling the following data • Snapshots • Wipe snapshots • DME wipe snapshots
Flexi Pad control block (multifunction type)	• Effect • Snapshots • Shotbox • Wipe snapshots • DME wipe snapshots • Key snapshots Following operations • Effect rewind • Effect execution • Effect fast forward • Selection of effect execution direction • Independent key transition execution section auto transition and cut [a)] • Pattern limit on/off
Numeric keypad control block	Recalling the following data • Effects • Snapshots • Shotbox • Master snapshots • Master timeline
Keyframe control block	• Effect rewind • Effect execution • Effect fast forward • Selection of effect execution direction
Device control block (trackball) (joystick) (search dial) [c)]	• VTR/disk recorder/Extended VTR/ frame memory clips start point setting • VTR/disk recorder/Extended VTR/ frame memory clips playback • VTR/disk recorder/Extended VTR/ frame memory clips stop • VTR/disk recorder/Extended VTR/ frame memory clips cue-up • VTR/disk recorder/Extended VTR/ frame memory clips fast forward • VTR/disk recorder/Extended VTR/ frame memory clips rewind • VTR/disk recorder record • Frame memory clip loop setting
Downstream key control block	• Independent key transition execution section auto transition and cut [a)] • Key snapshot recall
Fade to black control block	Execution of fade to black transition
Menu control block	• Disk recorder/Extended VTR file recalling • Recalling the functions assigned to [PREFS 1] to [PREFS 16] buttons • Execution of a menu macro • Recalling frame memory clips
Utility/Shotbox control block	Recalling the functions assigned to memory recall buttons

a) In the case of an event that inserts or deletes a key, the key state at the time of event registration (inserted or not inserted) is also saved in the macro. When the macro is executed, the event is only replayed if the key state matches the saved state. (Example: For a macro with an event that deletes a key, when the macro is executed, if the key is inserted it is deleted, but otherwise nothing occurs as concerns keying.)

b) Function valid only when [PLAY], [STOP], and [CUEUP] have been set in the Setup menu.

c) When using the device control block (search dial), this operates as a reference module. When not used, this operates on the module selected in the Panel >Config menu.
For details of reference module selection, see "Overall Control Panel Settings (Config Menu)" (page 158).

Macro Creation and Editing

You can create or edit a macro by recalling a macro register.
To create a new macro, recall an empty macro register, and create the desired sequence of events (by executing the sequence of operations on the control panel that you want to save as events in the macro).
To add an event to an existing macro, recall the register holding the macro, and create the event you want to add.

Notes

While editing a macro, it is not possible to execute another macro.

Creating a macro

To include all information associated with an operation when registering a macro event

When registering an auto transition operation as an event, you can register the auto transition event to include the transition rate and background A/B bus selection status.
When registering an effect execution, rewind, or fast forward as an event, you can also save the region to which this applies.
To use this capability, assign the following functions to user preference buttons in the menu control block or buttons in the utility/shotbox control block *(see page 180)*, and turn the relevant button on before you start an event to register.

Macro AT with Rate (Macro Auto Trans Event with/ without Rate): When registering an auto transition macro event in one of the M/E banks or the PGM/PST bank, include the transition rate.

Macro AT with A/B Bus (Macro Auto Trans Event with/without A/B Bus): When registering an auto transition macro event in the transition control block, include the background A/B bus cross-point.

Macro TL with Region (Macro Timeline with Region): When registering an effect execution, rewind, or fast

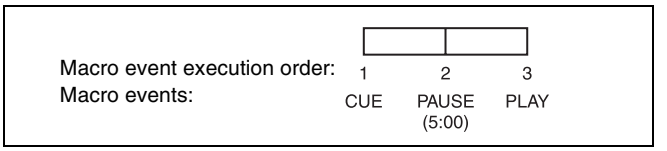
forward as a macro event, save the affected region together in the macro.

Events requiring adjustment when creating a macro

The following events require time for execution to complete, and therefore when executed within a macro sequence, a pause event must be inserted to adjust the timing.

- Rewinding effects involving external device control
- VTR/disk recorder/Extended VTR cue-up

For example, create a macro to cue up a VTR and then play back as follows.



Auto insert mode on/off setting

You can switch on or off the mode (auto insert mode) in which at the same time that a control panel operation is carried out, the event is automatically saved in a macro.

Editing a macro

You can carry out the following macro editing operations.

Event insertion

Insert the control panel operation as an event in a macro.

Event modification

Modify any event. You can modify all events within a macro, or events within a specified range in a single operation.

Event deletion

Delete any one event. You can delete all events within a macro, or events within a specified range in a single operation. You can then paste the deleted event using the paste function.

Event copy

Copy any one event. You can copy all events within a macro, or events within a specified range in a single operation.

Event paste

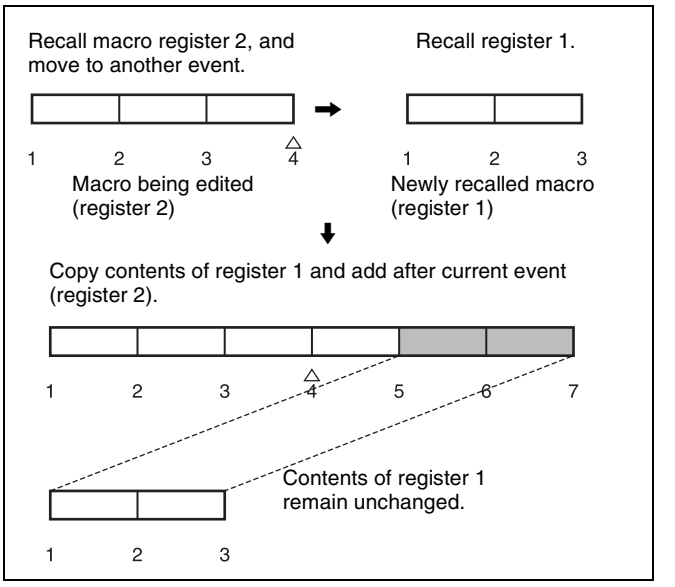
Paste a copied or deleted event at a desired position within a macro.

Undoing an editing operation

You can undo the last event insertion, modification, deletion, or paste operation.

Macro merging

During macro editing, you can recall and copy another register to merge it with the macro being edited.
For example, while editing macro register 2 you can recall and copy register 1 to merge it as shown in the following figure.



Macro Execution

To execute a macro, recall the register in which the macro is held. Simultaneous with the register recall, all events stored in the macro are played back (executed) in sequence without pause.

Pausing and restarting macro execution

It is also possible to execute a macro in the following ways.

Pause event

To adjust the execution timing of a particular event (to delay the start of execution of the event by a particular time interval), you can store a special event which pauses macro execution. This event is called a “pause event.” When you store a pause event, you can set the interval for which the macro is paused (the pause length) to any value in the range 1 to 999 frames. When the set time has elapsed, the macro is automatically executed.

Pause zero event

By including a pause event with the time set to zero, you can make macro execution pause at the pause event.

Step execution (requires a Setup menu setting)

By selecting step execution mode in the Setup menu, you can make macro execution pause every time an event is executed.

Take operation

When a paused macro is restarted, this is referred to as a “Take” operation.

Macro take operation using a GPI input

You can carry out a macro take operation using a GPI input on the control panel and DCU.

For GPI input settings, see "Making Control Panel GPI Input Settings" (page 188) and "Making DCU GPI Input Settings" (page 230).

Macro Operations in the Numeric Keypad Control Block and the Keyframe Control Block

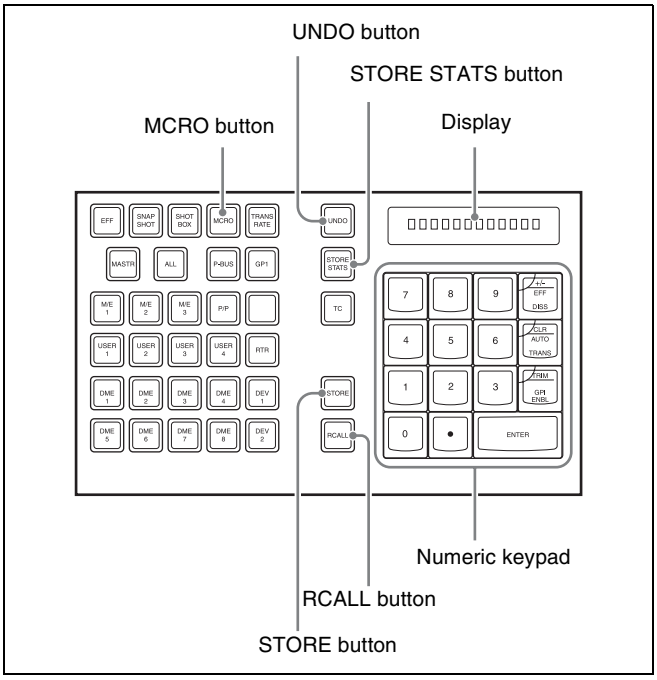
This section describes macro operations carried out in the numeric keypad control block and the keyframe control block.

Notes

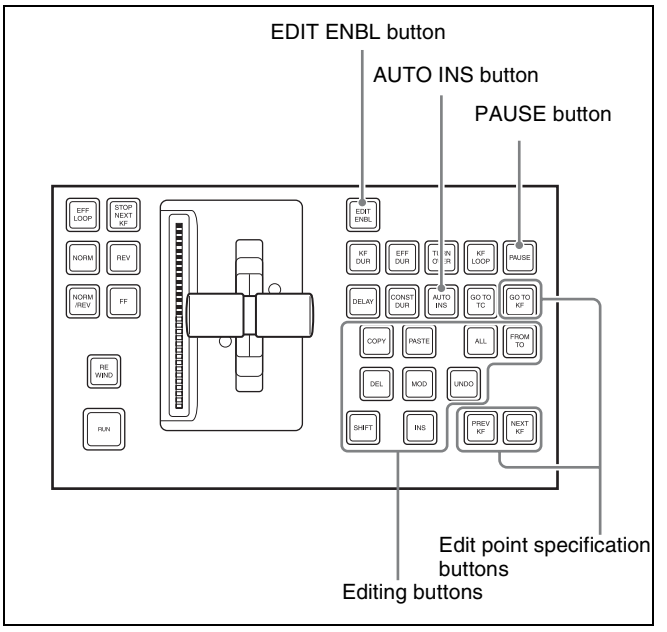
For a macro take operation *(see "Macro Execution" (page 92)),* the numeric keypad control block and keyframe control block are not used. Use the [Take] button in the Flexi Pad control block or the Multifunction Flexi Pad control block.

For an overview of macros, see "Macros" (page 90).

For macro operations in the numeric keypad control block, use the following buttons. *(See the following figure.)*



For macro operations in the keyframe control block, use the following buttons. *(See the following figure.)*



Recalling a Macro Register and Executing a Macro

To carry out a macro operation, recall a macro register. Recalling an empty register allows you to carry out macro editing operations. Recalling a register holding a macro executes the macro immediately.
To recall a macro register, use the following procedure.

1 In the numeric keypad control block, press the [MCRO] button, turning it on.

This assigns the numeric keypad control block to macro operations, and the [RCALL] button lights.

2 Enter the number of the register (1 to 250) to be recalled with the numeric keypad buttons.
To search for an empty register, instead of entering a number, press the [.] (period) button.

The display shows the corresponding register number. A letter "E" after the number indicates that the corresponding register is empty.

3 Press the [ENTER] button.

When you recall an empty register

This assigns the numeric keypad control block and keyframe control block to macro editing.

For details of macro editing, see "Creating and Editing a Macro" (see below).

When you recall a register holding a macro

This immediately executes the macro. While the macro is executed, the [RCALL] button flashes.

Notes

- It is not possible to execute more than one macro at a time.
- If the same register is recalled again during macro execution or when the macro is paused, the following operation depends on a setting in setup.
  For details of the settings, see "Setting the Macro Execution Mode" (page 196).
- Individual events stored in a macro are executed according to the settings in setup. If you change the settings in setup, a saved macro may not have the expected effect.
- During macro execution, if you switch the control panel to macro editing mode, the macro being executed stops.
- During macro editing it is not possible to execute a macro.
- While executing a macro with the Flexi Pad control block, or with a button with a macro attachment set, if you recall another macro with the numeric keypad control block, the following operation depends on a setting in setup.
  For details of the settings, see "Setting the Macro Execution Mode" (page 196).

Creating and Editing a Macro

Use the numeric keypad control block and keyframe control block to create and edit a macro.
After carrying out creation and editing, be sure to carry out a save operation *(see page 97)*, using the numeric keypad control block.

Switching auto insert mode on or off for macro creation/editing

In the auto insert mode, when creating or editing a macro, an operation carried out on the control panel is automatically registered as an event.
When this mode is off, it is necessary to press the [INS] button in the keyframe control block for each operation to register the event.
To switch auto insert mode on or off, press the [AUTO INS] button in the keyframe control block.

Notes

When you start macro editing using the numeric keypad control block with the macro execution mode set to "Normal" *(page 196)*, the auto insert mode is automatically on. When "Step" is selected as the macro execution mode, the auto insert mode is automatically off.

Creating a new macro

1 Recall an empty register (1 to 250) *(see page 94)*.

This assigns the numeric keypad control block and keyframe control block to macro editing, and the [MCRO] button in the numeric keypad control block and the [EDIT ENBL] button in the keyframe control block light red. The [STORE] button in the numeric keypad control block flashes red.

2 If required, press the [AUTO INS] button in the keyframe control block to toggle the auto insert mode on or off.

3 Create the events (carry out the control panel operations to be registered as events in the macro).

You can include pause events *(see page 97)*.

For details of events that can be registered, see "Events" (page 90).

- When auto insert mode *(see page 94)* is on, execution of a control panel operation automatically registers an event in the macro.
- When auto insert mode is off, proceed to step **4**.

Notes

- During macro editing, if you press any of the mode selection buttons in the numeric keypad control block other than the [MCRO] button ([TRANSRATE] button, and so on), the executed operation is also registered as an event. In this case, the [MCRO] button stays lit red.
- Even during macro editing, you can carry out keyframe operations using the fader lever in the keyframe control block and the following buttons: [EFF LOOP], [STOP NEXT KF], [NORM], [REV], [NORM / REV], [FF], [REWIND], [RUN]
- During macro editing, if you press a button for which a macro attachment is set, the outcome is as described in the next item.

4 When auto insert mode is off, press the [INS] button in the keyframe control block to register the event.

5 Repeat steps **2** and **3** to register the required events in the macro.

This registers the events in the macro, in the order the operations were carried out on the control panel.

6 Press the [STORE] button.

Macro editing finishes, and the [MCRO] button and [STORE] button in the numeric keypad control block light amber. The keyframe control block returns to the state before starting macro editing.

Notes

While carrying out macro editing in the numeric keypad control block and keyframe control block, no macro operation other than macro recalling is possible in the Flexi Pad control block.

Merging a macro for which a macro attachment is set

While creating/editing a macro, if you press a button for which a macro attachment is set, the macro in the register assigned to the button is recalled, and the following occurs.

- When auto insert mode is on, it is merged with the macro being edited. However, the macro assigned to the button is not executed.
- When auto insert mode is off, it is copied to the paste buffer. Pressing the [PASTE] button in the keyframe control block merges it with the macro being edited.

Specifying an edit point

To specify an edit point with the numeric keypad control block and keyframe control block, use the following procedure.

1 Recall the register of the macro (1 to 250) you want to edit *(see page 94)*.

2 In the numeric keypad control block, hold down the [MCRO] button, and press the [STORE] button.

This assigns the numeric keypad control block and keyframe control block to macro editing, and the [MCRO] button in the numeric keypad control block and the [EDIT ENBL] button in the keyframe control block light red. The [STORE] button in the numeric keypad control block flashes red.

3 Using any of the following methods, specify the edit point.

- To move the edit point to the event immediately following the current macro event, press the [NEXT KF] button in the keyframe control block.
- To move the edit point to the event immediately preceding the current macro event, press the [PREV KF] button in the keyframe control block.
- To move to an edit point by specifying an event number (the number showing the position of the event in the macro execution sequence), press the [GO TO KF] button in the keyframe control block, then in the numeric keypad control block, enter the target number and confirm with the [ENTER] button.

Inserting an event

1 Specify the edit point. *(See page 95.)*

2 If required, press the [AUTO INS] button in the keyframe control block to toggle the auto insert mode on or off.

3 Create the event.

- When auto insert mode *(see page 94)* is on, the event is automatically added to the macro.
- When auto insert mode is off, proceed to step **4**.

4 When auto insert mode is off, press the [INS] button in the keyframe control block.

5 Repeat steps **2** and **3** to insert the required events in the macro.

Modifying a single event

1 Specify the edit point. *(See page 95.)*

2 If the [AUTO INS] button is lit, press it to turn off the insert mode.

3 Create the event.

4 Press the [MOD] button in the keyframe control block.

Modifying a particular range of events

1 Carry out steps **1** to **3** of the procedure in *"Modifying a single event" (the previous item).*

2 Press the [FROM TO] button in the keyframe control block, turning it on.

The numeric display in the numeric keypad control block shows the current event number and the indication "TO."

3 To set the start of the range to other than the current event number, press the [CLR/AUTO TRANS] button in the numeric keypad control block, then enter the desired event number with the numeric keypad and press the [ENTER] button. (This operation is not required when using the current event number.)

4 Enter the event number for the end of the range and press the [ENTER] button.

5 Press the [MOD] button in the keyframe control block.

Modifying all events at the same time

1 Carry out steps **1** to **3** of the procedure in *"Modifying a single event" (page 96).*

2 Press the [ALL] button in the keyframe control block, turning it on.

3 Press the [MOD] button.

Deleting an event

1 Specify the edit point. *(See page 95.)*

2 To delete multiple events simultaneously, carry out either of the following operations. (This operation is not required to delete the event at the edit point only.)

- To specify a range to be deleted, press the [FROM TO] button in the keyframe control block, then enter the event numbers from the numeric keypad control block.
- To delete all events within this macro, press the [ALL] button, turning it on.

3 Press the [DEL] button.

Moving events

1 Specify the edit point for the start of the range to be moved. *(See page 95.)*

2 To move multiple events simultaneously, press the [FROM TO] button in the keyframe control block, then specify the range in the numeric keypad control block.

3 Press the [DEL] button.

This temporarily deletes the specified events from the macro, and copies them to the paste buffer.

4 Move to the edit point which is the destination within the macro to which you want to move the events.

5 To paste the contents of the paste buffer after the edit point, press the [PASTE] button in the keyframe control block.
To paste before the edit point, hold down the [SHIFT] button in the keyframe control block and press the [PASTE] button.

This pastes the events from the paste buffer.

Copying events

1 Specify the edit point for the start of the range to be copied.

2 To copy multiple events simultaneously, press the [FROM TO] button or [ALL] button in the keyframe

control block, then specify the range in the numeric keypad control block.

3 Press the [COPY] button.

This copies the specified events into the paste buffer.

4 Move to the edit point which is the destination within the macro to which you want to copy the events.

5 To paste the contents of the paste buffer after the edit point, press the [PASTE] button in the keyframe control block.
To paste before the edit point, hold down the [SHIFT] button in the keyframe control block and press the [PASTE] button.

This copies the events from the paste buffer.

Inserting a pause event

1 Press the [PAUSE] button in the keyframe control block, lighting it green.

The indication "PAUSE" appears in the numeric keypad control block display.

2 If required, press the [AUTO INS] button in the keyframe control block to toggle the auto insert mode on or off.

3 Enter the pause duration with the numeric keypad control block (0 or 1 to 999 (frames)).

4 Press the [ENTER] button.

- If auto insert mode is on, this sets the pause duration, and inserts the pause event.
- When auto insert mode is off, continue to step **5**.

5 When auto insert mode is off, press the [INS] button in the keyframe control block to insert the pause event.

Merging macro register data

1 Specify the edit point. *(See page 95.)*

2 Press the [RCALL] button in the numeric keypad control block, lighting it amber.

3 Enter the number of the macro register you want to copy using the numeric keypad buttons.

The display shows the register number.

4 Press the [ENTER] button.

The [RCALL] button goes off, and the specified register data is copied to the paste buffer.
- When auto insert mode is on, the data from the specified register is included after the edit point.
- When auto insert mode is off, continue to step **5**.

5 When auto insert mode is off, to include after the edit point, press the [PASTE] button in the keyframe control block.
To include before the edit point, hold down the [SHIFT] button in the keyframe control block, and press the [PASTE] button.

In place of steps **2** to **4**, you can specify the register with the Flexi Pad control block.

For details, see "Recalling a Macro Register and Executing a Macro" (page 99).

The same effect is obtained if you use a button which has a macro attachment set. In this case, the data from the assigned macro register is copied into the paste buffer.

Undoing a macro editing operation with the numeric keypad control block

Immediately after inserting, modifying, deleting, or pasting an event, you can undo the operation by pressing the [UNDO] button in the numeric keypad control block.

Saving a Macro

Use the following procedure to save the register after creating or editing/modifying a macro.

1 In the numeric keypad control block, press the [MCRO] button, turning it on.

This assigns the numeric keypad control block to macro operations.

2 Press the [STORE] button, turning it on.

3 Enter the number of the register (1 to 250) in which you want to save the macro with the numeric keypad buttons.

To search for an empty register, instead of entering a number, press the [.] (period) button.
The display shows the corresponding register number. A letter "E" after the number indicates that the corresponding register is empty.

4 Press the [ENTER] button.

This saves the macro data in the specified register, and the [STORE] button goes off.

The [RCALL] and [STORE STATS] buttons light.

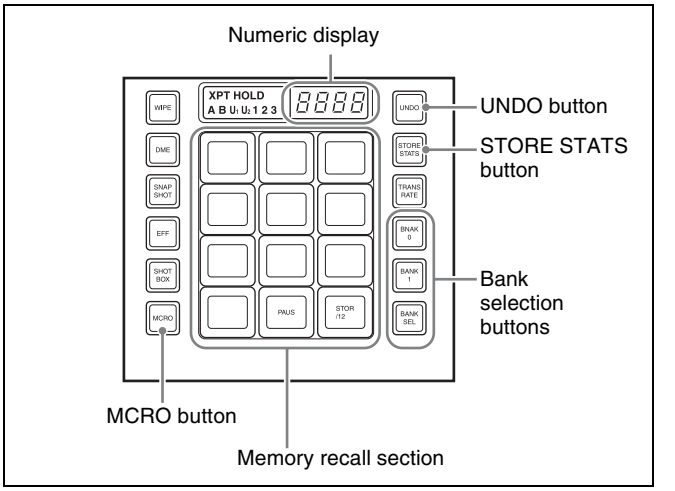
To cancel the saving of a macro

To cancel the saving of a macro immediately after performing it, hold down the [STORE STATS] button and press the [UNDO] button.

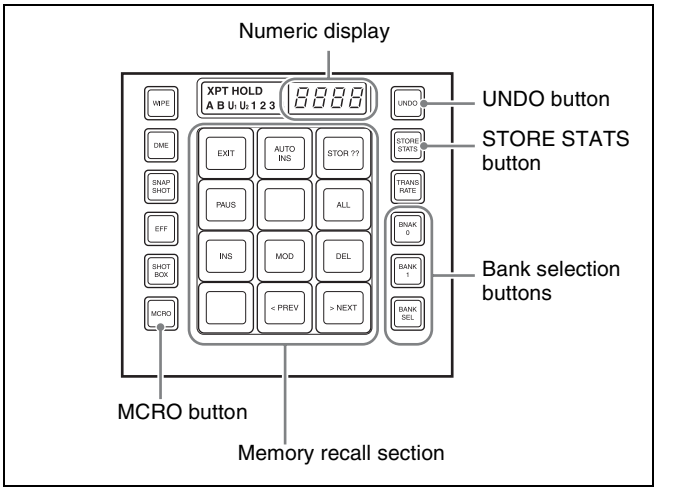
Macro Operations in the Standard Type Flexi Pad Control Block

This section describes how to carry out macro operations in a standard type Flexi Pad control block.
Using the <Flexi Pad Edit Mode> group buttons in the Engineering Setup >Panel >Operation >Macro menu, you can set the macro execution mode to “Pause Only” or “Full Editing” *(see page 196)*.
The display of the standard type Flexi Pad control block changes as follows, depending on the selected mode of macro execution.

When entering macro editing mode with “Pause Only” selected



When entering macro editing mode with “Full Editing” selected



About operations in Full Editing mode, see “Setting the Macro Execution Mode” (page 196).

Banks and registers

To allow operations on the 99 registers, the standard type Flexi Pad control block treats the registers in groups. These groups are called banks, and there are 10 banks, numbered from 0 to 9.

For details of the correspondence between banks and registers, see "Banks and Registers" (page 70).

Recalling a Macro Register and Executing a Macro

Carrying out a macro operation in the normal mode

Use the following procedure to recall a macro register.

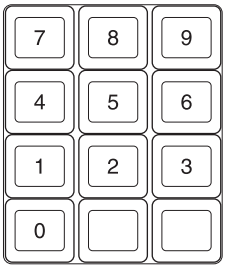
1 In the Flexi Pad control block, press the [MCRO] button, turning it on.

This assigns the Flexi Pad control block to macro operations.
The numeric display shows the previously selected bank number and the last recalled register number.

2 Use any of the following operations to select the bank for recall.

To select bank 0: Press the [BANK0] button.
To select bank 1: Press the [BANK1] button.
To select any of banks 0 to 9: Press the [BANK SEL] button, changing the memory recall section display as in the following figure; select a number from 0 to 9.

Example:



The selected bank number appears in the numeric display.
Each button in the memory recall section shows the corresponding register name and register status for the selected bank.
Note that in the Setup menu, you can select whether to display register names or register numbers.
- **Lit orange:** Register holding macro data
- **Lit yellow:** Last recalled register
- **Off:** Empty register

3 Press the button in the memory recall section showing the name of the register to be recalled.

The button you pressed lights yellow, the macro register is recalled, and the macro is executed.
During macro execution, the button you pressed remains yellow, but flashes. When macro execution completes, it returns to permanently on.
The numeric display shows the bank name followed by the selected register number.

Notes

- It is not possible to execute more than one macro at a time.
- If the same register is recalled again during macro execution or when the macro is paused, the following operation depends on a setting in setup. *For details of the settings, see "Setting the Macro Execution Mode" (page 196).*
- Individual events stored in a macro are executed according to the settings in setup. If you change the settings in setup, a saved macro may not have the expected effect.
- During macro execution, if you switch the control panel to macro editing mode, the macro being executed stops.
- During macro editing it is not possible to execute a macro.
- While executing a macro with the numeric keypad control block, Multifunction Flexi Pad control block, Flexi Pad control block for another switcher bank, or with a button with a macro attachment set, if you recall another macro with the Flexi Pad control block, the following operation depends on a setting in setup *(see page 196)*.

Executing a macro in normal execution mode (with pause events set)

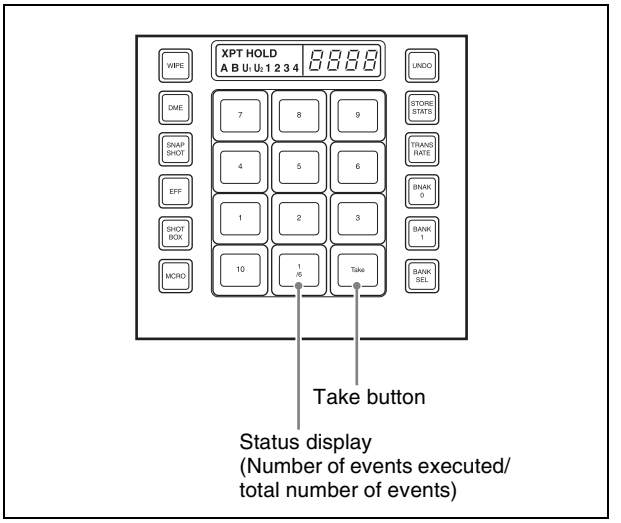
When execution of a macro is paused, the [Take] button is assigned to the memory recall section.
To restart the macro execution, press the [Take] button.
You can switch the normal execution mode and step execution mode in the Setup menu *(see page 196)*.

Executing a macro in step execution mode

To recall a macro register and execute the macro in step execution mode, use the following procedure.

1 In the Flexi Pad control block, recall the macro register *(see page 99)*.

The Flexi Pad control block memory recall section is assigned to the display of the [Take] button and macro execution status, as in the following figure.



2 Press the [Take] button.

This executes one event within the macro, then stops. The number of events executed, as shown in the memory recall section status display, is incremented by one.

3 Repeat step **2**, executing the macro event by event.

When all events in the macro have been executed, the [Take] button goes off.

Creating and Saving a Macro

1 In the Flexi Pad control block, press the [MCRO] button, turning it on.

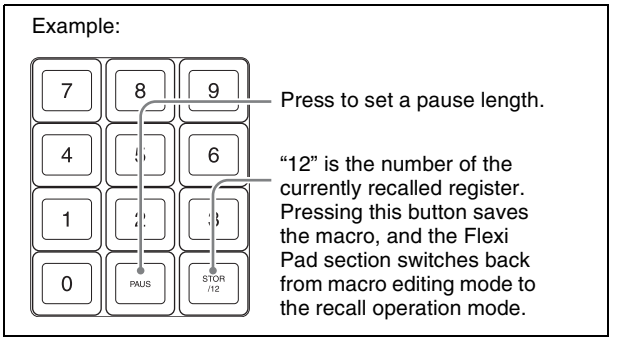
This assigns the Flexi Pad control block to macro operations.

2 Select the bank of the register in which you want to save the macro.

*For details of the method of operation, see step **2** in the previous item "Recalling a Macro Register and Executing a Macro" (page 99).*

3 Hold down the [MCRO] button in the Flexi Pad control block, and press the button in the memory recall section showing the desired register name.

This assigns the Flexi Pad control block to macro editing, and the auto insert function is enabled. The [MCRO] button lights red.
As an example, when register 12 is specified, the buttons in the memory recall section appear as in the following figure.

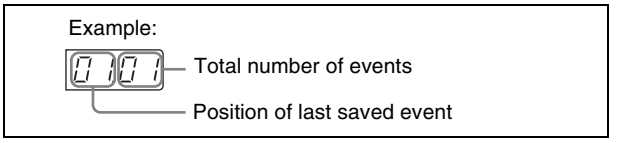


4 In the same way as in the numeric keypad control block, create the events you want to save in the macro.

*For details, see step **2** (page 94) of "Creating a new macro."*

5 Repeat step **4** to save the desired events in the macro.

The operations you carry out on the control panel are saved as a sequence of events in the macro.
The numeric display appears as follows.



6 Press the [STORE XX] button in the memory recall section (where XX is the register number).

The [STORE STATS] button lights amber.
This saves the created macro in the register, and macro editing ends.
The Flexi Pad control block returns to the state before macro editing began.
The [MCRO] button lights amber.

Notes

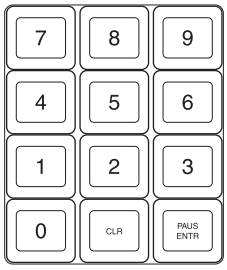
- During macro editing, you can press a mode selection button in the Flexi Pad control block other than the [MCRO] button (for example, the [WIPE] button or [DME] button) to record the executed operation as an event. In this case, the [MCRO] button remains lit red.
- During macro editing, if you press a button for which a macro attachment is set, the macro within the register assigned to the button is merged into the macro being edited. However, the macro assigned to the button is not executed.
- While carrying out macro editing in the Flexi Pad control block, absolutely no macro operations are possible in the Flexi Pad control blocks for other M/E and PGM/PST banks. Macro operations from the numeric keypad control block or Multifunction Flexi Pad control block are also not possible.

To cancel the saving of a macro
To cancel the saving of a macro immediately after performing it, hold down the [STORE STATS] button and press the [UNDO] button.

Inserting a pause event

1 Press the [PAUS] button in the memory recall section.

The buttons in the memory recall section change as follows.



2 Enter the length of pause you want to set (0 to 999 frames).

3 Press the [PAUS ENTR] button.

This sets the pause length, and inserts the pause event. The memory recall section display returns to its former state.

Deleting a macro

1 In the Flexi Pad control block, press the [MCRO] button.

This assigns the Flexi Pad control block to macro operations.
The numeric display shows the previously selected bank number and the number of the last recalled register.

2 Select the bank of the register holding the macro you want to delete.

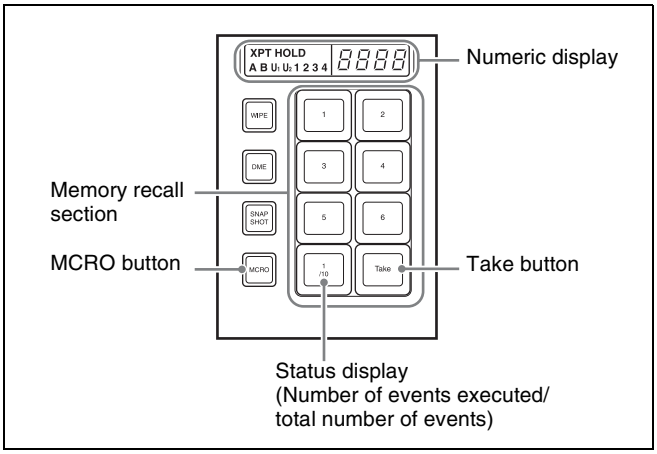
*For details of the method of operation, see step **2** (page 99) of "Recalling a Macro Register and Executing a Macro."*

3 Hold down the [STORE STATS] button, and then press the button in the memory recall section showing the corresponding register number.

The button you pressed in the memory recall section goes off, and this deletes the macro. The [STORE STATS] button lights amber.

Macro Operations in the Simple Type Flexi Pad Control Block

This section describes the macro operations carried out in the simple type Flexi Pad control block.
Use the following buttons.



To use the MCRO button
To enable the [MCRO] button for use as in the above figure, it is necessary in the Setup menu to switch the [UNDO] button to the [MCRO] button *(see page 164)*.

Notes

In a simple type Flexi Pad control block, only registers 1 to 6 can be used for operations. There are no "bank" operations.
For registers 7 to 250, use the numeric keypad control block.

Recalling a Macro Register and Executing a Macro

Executing a macro in normal execution mode

1 In the simple type Flexi Pad control block, press the [MCRO] button, turning it on.

This assigns the Flexi Pad control block to macro operation.
The numeric display shows the number of the last recalled register.
The buttons of the memory recall section show the selected register status.
Lit orange: register holding macro data

Lit yellow: last recalled register
Off: empty register

2 Press the button in the memory recall section showing the register to be recalled.

The button you pressed lights yellow, the macro register is recalled, and the macro is executed. During the macro execution, the button pressed remains yellow, but flashes, and when the macro execution completes it changes to permanently lit. The numeric display shows the selected register number.

Notes

- Only one macro can be executed at a time.
- If the same register is recalled again during macro execution or when the macro is paused, the following operation depends on a setting in setup. *For details of the settings, see "Setting the Macro Execution Mode" (page 196)*
- Individual events registered in a macro are executed according to the setup settings. If you change the setup settings, the content of the macro may not be played back.
- During macro execution, if you switch the control panel to macro editing mode, the macro currently being executed stops.
- It is not possible to execute a macro during macro editing.

Executing a macro in normal execution mode (with pause events set)

When the macro execution is paused, the [Take] button is assigned to the simple type Flexi Pad memory recall section.
Press the button to restart macro execution.

Executing a macro in step execution mode

After recalling the macro register, to execute a macro in step execution mode *(see page 164)*, use the following procedure.

1 In the simple type Flexi Pad control block, press the [MCRO] button, turning it on.

This assigns the Flexi Pad control block to macro operation.

2 Press the button in the memory recall section showing the register to be recalled.

3 Press the [Take] button.

This executes one event within the macro, then stops.

The number of events executed, as shown in the memory recall section status display, is incremented by one.

4 Repeat step **3**, executing the macro event by event.

When all events in the macro have been executed, the [Take] button goes off.

Creating and Editing a Macro

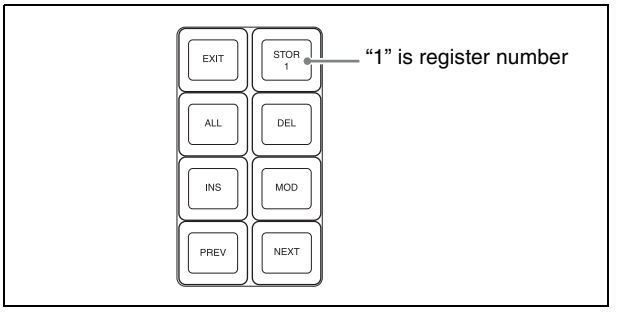
Creating a macro

1 In the simple type Flexi Pad control block, press the [MCRO] button, turning it on.

This assigns the Flexi Pad control block to macro operation.

2 While holding down the [MCRO] button in the Flexi Pad control block, press the button in the memory recall section showing the desired register name.

This assigns the Flexi Pad control block to macro editing.
As an example, when register 1 is specified, the memory recall section buttons appear as in the following figure.



3 Carry out the control panel operation to be registered as an event in the macro.

For details of the events that can be registered, see "Events" (page 90).

Notes

In the Flexi Pad control block, it is not possible to set a pause event. To set a pause event, use the numeric keypad control block.

4 Press the [INS] button.

This registers the operation carried out in step **3** as an event within the macro.

5 Repeat steps **3** and **4** to register the required events in the macro.

The numeric display shows the last registered event position, and the total number of events.

6 Press the [STOR 1] button in the memory recall section.

This saves the created macro in the register and ends the macro editing mode; the [MCRO] button lights amber.

Notes

- During macro editing, if you press any of the mode selection buttons in the Flexi Pad control block other than [MCRO] button (the [WIPE] button, [DME] button, and so on), the executed operation is also registered as an event. In this case, the [MCRO] button stays lit red.
- While carrying out macro editing in the Flexi Pad control block, pressing a button to which a macro attachment is set does not execute the macro.
- In the simple type Flexi Pad control block, it is not possible to undo a macro save.

Specifying an edit point

1 In the Flexi Pad control block, press the [MCRO] button, turning it on.

This assigns the Flexi Pad control block to macro operation.

2 While holding down the [MCRO] button in the Flexi Pad control block, press the button in the memory recall section showing the desired register name.

3 Specify the edit point by the following operation.

- To move the edit point to the event immediately following the current macro event (the macro event specified as the current edit point), press the [NEXT] button.
- To move the edit point to the event immediately preceding the current macro event, press the [PREV] button.

Inserting an event

To add an event to an already created macro, use the following procedure.

1 Specify the edit point. *(See page 103.)*

2 Carry out the event to be added on the control panel.

For details of events that can be registered, see "Events" (page 90).

3 In the memory recall section, press the [INS] button.

This adds the new event after the event specified in step **1**.

Modifying an event

1 Specify the edit point. *(See page 103.)*

2 Carry out the event you want to modify on the control panel.

3 Press the [MOD] button.

This modifies the event at the specified edit point as carried out in step **2**.

Deleting an event

1 Specify the edit point. *(See page 103.)*

2 Press the [DEL] button.

This deletes the event specified in step **1**.

Deleting all events within a macro register

1 Specify the edit point. *(See page 103.)*

2 Press the [ALL] button, lighting it green.

3 Press the [DEL] button.

Saving a Macro

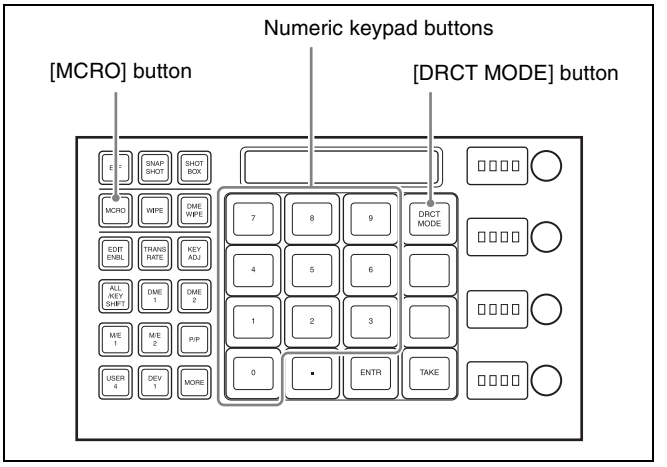
In the memory recall section, press the [STOR X] (X=register number) button to save the edited macro in a register.

To return to the state before editing, without saving the macro editing results

Press the [EXIT] button to recall the same register again. This returns to the state before editing, without saving the macro editing results.

Macro Operations in the Multifunction Flexi Pad Control Block

This section describes macro operations carried out in the Multifunction Flexi Pad control block.
Use the following buttons.



Recalling a Macro Register and Executing a Macro

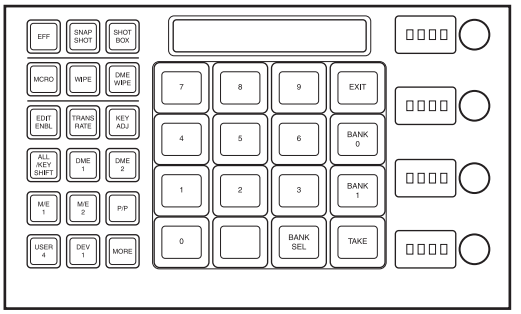
1 Press the [MCRO] mode selection button, turning it on.

This switches the Multifunction Flexi Pad control block to macro operation mode.

2 Enter the register number with the numeric keypad buttons, and press the [ENTR] button to recall the register.

3 Press the [DRCT MODE] button, to switch to the direct recall mode in which a macro can be recalled with the buttons in the memory recall section.

The button indications in the memory recall section change as shown in the following illustration.



4 Use one of the following operations to select the bank.

To select bank 0: Press the [BANK0] button.
To select bank 1: Press the [BANK1] button.
To select any of banks 0 to 9: Press the [BANK SEL] button, then press the desired bank button (any of [0] to [9]).

This selects the bank, and the buttons in the memory recall section show the macro register state as follows.
Lit yellow: Last recalled register
Lit orange: Register holding macro data
Off: Empty register

5 Press the button for the number of the register to be recalled.

The button you pressed lights yellow, and the macro held in the corresponding register is recalled and executed.
The button you pressed flashes yellow as the macro execution starts, and returns to constantly lit yellow when the execution ends.
The alphanumeric display shows the numbers of the selected bank and register.

Notes

- You can only execute one macro at a time.
- If the same register is recalled again during macro execution or when the macro is paused, the following operation depends on a setting in setup.
  For details of the settings, see "Setting the Macro Execution Mode" (page 196).
- The individual events registered in the macro are executed according to the setup settings. If you change the settings in setup, the registered content may not be reproduced.
- During macro execution, if you switch the control panel to macro editing mode, this stops the executing macro.
- It is not possible to execute a macro during macro editing.
- While executing a macro with the Flexi Pad control block, or with a button with a macro attachment set if you recall another macro with the Multifunction Flexi Pad control block, the following operation depends on a setting in setup *(see page 196)*.

Macro execution modes

You can execute a macro in normal execution mode or step execution mode.

Normal execution mode: In this mode the macro events are automatically executed in sequence. However, if there is a pause event set at some point, execution pauses at that point. Then pressing the [TAKE] button in the memory recall section resumes execution.

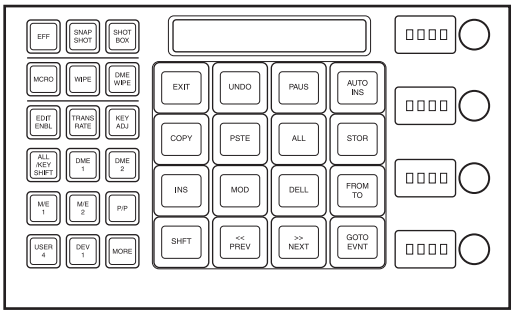
Step execution mode: The macro events are executed one at a time with pauses in between. Execute the events in sequence by repeatedly pressing the [TAKE] button.

You can select normal execution mode or step execution mode by a selection in the Setup menus *(see page 196)*.

Creating and Editing a Macro

To create or edit a macro, first recall the register in which the created macro will be saved, or the register holding the macro to be edited, then press the [EDIT ENBL] button. The [MCRO] button and [EDIT ENBL] button light red, and the memory recall section switches to the macro editing mode as shown in the following illustration.

For the method of recalling an empty register, see "Recalling a Macro Register and Executing a Macro" (page 99).



In this mode, you can use the following buttons for macro creation, editing, saving, and deletion.

[EXIT] button: Forcibly exit editing mode.

[UNDO] button: Undo the last macro event insertion, modification, deletion, paste, or other operation.

[PAUS] button: Insert a pause event *(see page 97)*.

[AUTO INS] button: Toggle auto insert mode on or off *(see page 94)*.

[COPY] button: Copy a macro event *(see page 96)*.

[PSTE] button: Paste a macro event *(see page 97)*.

[ALL] button: Select all macro events *(see page 96)*.

[STOR] button: Save the macro *(see page 97)*.

[INS] button: Insert a macro event *(see page 95)*.

[MOD] button: Modify a macro event *(see page 96)*.

[DEL] button: Delete a macro event *(see page 96)*.

[FROM TO] button: Switch to the mode for entering a value range with the numeric keypad *(see page 96)*.

[SHFT] button: Move a macro event *(see page 96)*.

[<< PREV] button: Move the edit point to the previous event *(see page 103)*.

[>> NEXT] button: Move the edit point to the next event *(see page 103)*.

[GOTO EVNT] button: Switch to the mode for specifying an event to move to with the numeric keypad *(see page 95)*.

Macro Editing Using Menus

Using any of the menus in the following table, you can edit macro registers and macro events.

Menu	Function	Operations
Register menu (macro register editing)	Carry out macro register editing.	• Locking a register • Copying a register • Deleting a register • Naming a register
On Line Edit menu (online editing of macro events)	Edit events in a macro register, using the control panel and menus.	• Inserting an event • Deleting an event • Modifying an event
Off Line Edit menu (offline editing of macro events)	Edit events in a macro register, on the hard disk, or on a memory card, using the menus.	• Inserting an event • Adding an event • Deleting an event • Creating a new macro

Macro Register Editing

You can display the current state of a macro register using the Macro >Register menu.

The items displayed are the same as under *"Effect Status Display" (page 62)*, with the exception that the region name is not displayed and that the total number of macro events saved in the register is displayed.

In the Macro >Register menu, you can do the following editing operations on macro registers.

- **Lock:** Write-protect the contents of the register.
- **Copy:** Copy the contents of one register to another register.
- **Delete:** Delete the contents of a register.
- **Name:** Attach a name to a register.

The operations for macro register editing are the same as those for effect register editing *(see page 62)* except the region selection operation, which is not necessary for macro register editing.

Online Editing of Macro Events

Using the On Line Edit menu, you carry out online editing of macro events.

In the On Line Edit menu, you can check the control panel operating sequence in the menu. You can also carry out editing using the control panel and menu.

To display the On Line Edit menu

1 Recall the macro register (1 to 250) you want to edit with the control panel, and select the macro editing mode [1].

1) With the numeric keypad control block, keyframe control block, Flexi Pad control block, or Multifunction Flexi Pad control block assigned to macro editing *(see step **2** in "Specifying an edit point" (page 95), step **3** in "Creating and Saving a Macro" (page 100), step **2** in "Creating a macro" (page 102)*, and step **1** in *"Recalling a Macro Register and Executing a Macro" (page 101)).*

2 In any of the following menus, select the same register as the register recalled in step **1**, and press [On Line Edit] in the button area.

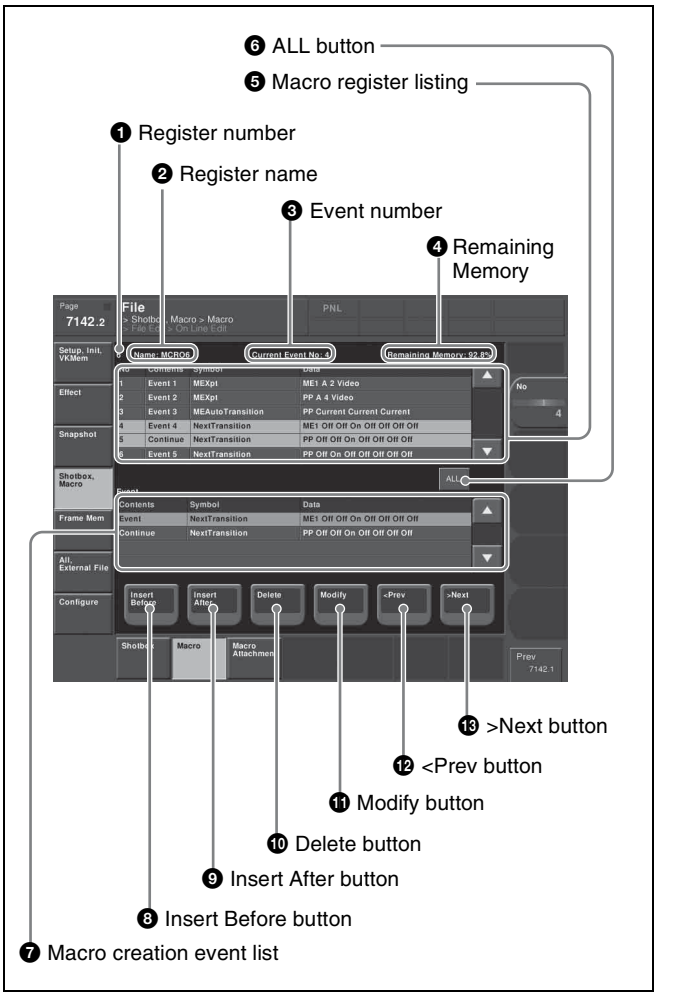
- Macro >Register >Lock menu
- Macro >Register >Delete menu
- Macro >Register >Rename menu
- File >Shotbox, Macro >Macro >File Edit menu

The On Line Edit menu appears, and you can now carry out online editing of the events held in the recalled register. Meanwhile, the control block of the control panel operated in step **1** is assigned to control editing operations.

Notes

In the following cases, [On Line Edit] is disabled, and it is not possible to display the On Line Edit menu.
- When the recalled register and the register selected in the menu are different.
- When a device other than [Register] is selected ([HDD] or [Memory Card]) in the File >Shotbox, Macro >Macro >File Edit menu.
- If the recalled register is locked.

On Line Edit menu



❶ Register number
Shows the number of the register (1 to 250) being edited.

❷ Register name
Shows the name of the register being edited.

❸ Event number
Shows the current event number. When the [FROM TO] button in the keyframe control block is pressed to select a range of events, this appears as a range, "From X To Y." The event number reflects the position of the cursor in the macro register listing.

❹ Remaining Memory
Shows the percentage of memory still available for recording events.

❺ Macro register listing
When a macro is stored in the register, this shows a list of the macro events. Each macro event consists of the following components, which you can check in the list.
- **Contents:** Identifies this as an Event statement, Continue statement, or event number
- **Symbol:** Type of event (ASCII character string)

• **Data:** Event details in the form of parameters and data

For details of the event components, see "Macro File Editing Rules" (page 253).

The cursor shows the current event in the list, in reverse video. You can turn knob 1 to scroll the list, but this does not change the cursor position. Depending on the switcher status, the cursor color changes as follows.
• **Yellow:** in macro editing mode
• **Gray:** when the editing mode is exited by a control panel operation
• **Blue:** during macro execution

❻ ALL button
Selects all events in the macro register listing.

❼ Macro creation event list
Shows the event being created or executed in the control panel.

❽ Insert Before button
Inserts a created event immediately before the selected event in the macro register listing.

❾ Insert After button
Inserts a created event immediately after the selected event in the macro register listing.

❿ Delete button
Deletes the selected event in the macro register listing.

⓫ Modify button
Replaces the selected event in the macro register listing with a created event.

⓬ <Prev button
Moves the cursor to the event immediately before the selected event in the macro register listing.

⓭ >Next button
Moves the cursor to the event immediately after the selected event in the macro register listing.

Carrying out online editing of macro events

In the On Line Edit menu, you can carry out the following editing operations on the events in the macro register.
• **Insert:** Insert a macro event.
• **Delete:** Delete a macro event.
• **Modify:** Modify a macro event.

Notes

It is not possible to save editing results using this menu alone. Carry out the necessary control panel operations to save the edited register.

To insert an event

1 On the control panel, if auto insert mode is on, switch it off.

2 On the control panel, create a macro event.

The created event appears in the macro creation event list.

For more details of the display, see "Macro File Editing Rules" (page 253).

3 In the macro register listing, press [<Prev] or [>Next] to select the position where you want to insert the created event.

4 Carry out either of the following.

To insert before the event selected in the list: Press [Insert Before].
To insert after the event selected in the list: Press [Insert After].
This inserts the created event either before or after the specified event.

Notes

In the following cases, [Insert Before] and [Insert After] are disabled, and it is not possible to insert the event.
• If the memory or register is full.
• The size of the created macro event is larger than the memory or register space available.
• When multiple events are selected.
• When the number of events has reached 99.
• When not in macro editing mode. [1)]

1) While a macro is being executed on the control panel, when macro saving has been executed, or when the [EXIT] button in the Flexi Pad control block or Multifunction Flexi Pad control block has been pressed

5 Operate the control panel to save the editing result.

To delete an event

1 In the macro register listing, press [<Prev] or [>Next] to select the event you want to delete.
To select all events in the register, press [All].

2 Press [Delete].

Notes

If not in macro editing mode [1)], [Delete] is disabled, and it is not possible to delete the selected event.

1) While a macro is being executed on the control panel, when macro saving has been executed, or when the [EXIT] button in the Flexi Pad control block or Multifunction Flexi Pad control block has been pressed

3 Operate the control panel to save the editing result.

To modify an event

1 On the control panel, if auto insert mode is on, switch it off.

2 In the macro register listing, press [<Prev] or [>Next] to select the event you want to modify.

3 On the control panel, modify the macro event.

The modified event appears in the macro creation event list.

For more details of the display, see "Macro File Editing Rules" (page 253).

4 Press [Modify].

This modifies the event selected in the list.

Notes

If not in macro editing mode [1], [Modify] is disabled, and it is not possible to modify the event.

1) While a macro is being executed on the control panel, when macro saving has been executed, or when the [EXIT] button in the Flexi Pad control block or Multifunction Flexi Pad control block has been pressed

5 Operate the control panel to save the editing result.

Offline Editing of Macro Events

Using the Off Line Edit menu, you carry out offline editing of macro events.
In the Off Line Edit menu, you can carry out editing in the menu only, unrelated to operation of the control panel.

To display the Off Line Edit menu

In any of the following menus, select the register or device holding the macro you want to edit, and press [Off Line Edit] in the button area.

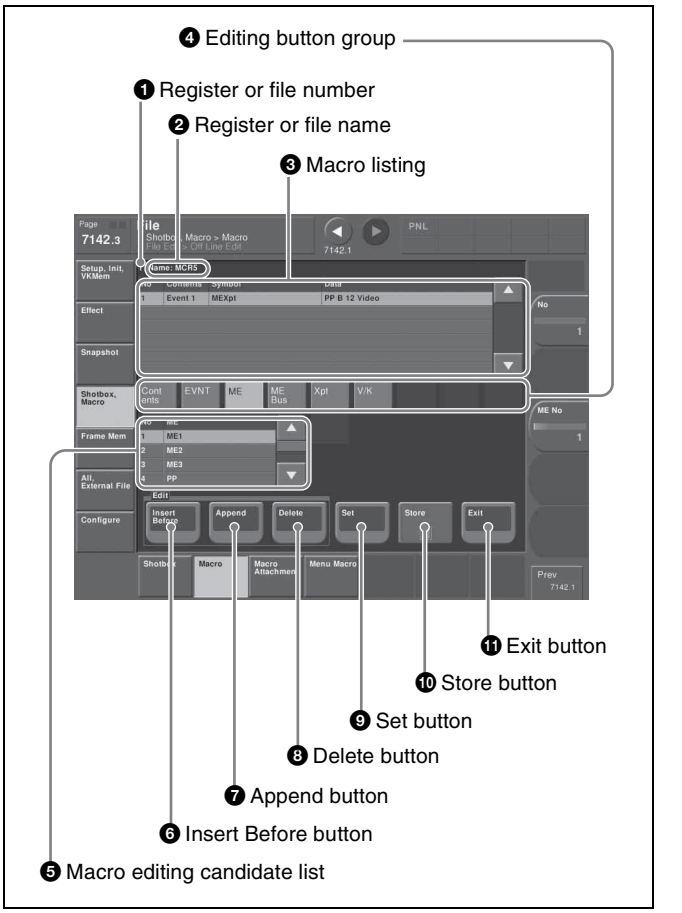
- Macro >Register >Lock menu
- Macro >Register >Delete menu
- Macro >Register >Rename menu
- File >Shotbox, Macro >Macro >File Edit menu

This recalls the selected macro register or macro file, and offline editing is now possible.

Notes

If the selected register is locked, [Off Line Edit] is disabled, and it is not possible to display the Off Line Edit menu.

Off Line Edit menu



❶ Register or file number
Shows the number of the register or file being edited.

❷ Register or file name
Shows the name of the register or file being edited.

❸ Macro listing
Lists the macro events that are saved in the register or file. The cursor moves to the selected event. Each macro event consists of the following components, which you can check in the list.

- **Contents:** Event statement, Continue statement, comment (#), or event number, as selected in the editing button group [Contents]
- **Symbol:** Event type (ASCII character string), as selected in the editing button group [EVNT]
- **Data:** Parameters and data as set in the editing button group

For more details of the event components, see "Macro File Editing Rules" (page 253).

❹ Editing button group
This row of buttons shows the components of an event. To carry out event editing: (1) press an editing button, then (2) select an item from the list of macro editing candidates, and repeat this process as required.

❺ Macro editing candidate list
Shows the list of editing candidates for the selection from the editing button group.

❻ Insert Before button
Inserts immediately before the event selected in the macro listing.

❼ Append button
Adds an empty row at the end of the macro listing.

❽ Delete button
Deletes the event selected in the macro listing.

❾ Set button
Reflects the item selected in the macro editing candidate list, in the macro listing and editing buttons.

❿ Store button
Saves the results of the macro register or macro file editing.

⓫ Exit button
Closes the Off Line Edit menu without saving the results of the macro register or macro file editing, and returns to the File Edit menu.

Carrying out offline editing of macro events

In the Off Line Edit menu, you can carry out the following editing operations on the events in the macro register or macro file.
- **Insert:** Insert a macro event.
- **Add:** Add a macro event.
- **Delete:** Delete a macro event.

You can also create a new macro.

To insert an event

1 In the macro listing, select the event immediately after the position where you want to insert an event.

2 Press [Insert Before].

This inserts a blank row before the event selected in step **1**.

3 Press [Contents] in the editing button group.

The following event types appear in the macro editing candidate list.
- **Event:** Event
- **Continue:** Event continuation
- **#:** Comment

For details of the items, see "Macro File Editing Rules" (page 253).

4 Select the desired item from the macro editing candidate list, and press [Set].

The selected item appears at the event insertion position in the macro listing, as an event component. Additionally, in the leftmost blank position of the editing button group (to the right of [Contents]), a button appears, corresponding to the item in the macro editing candidate list. For example, if "Event" is selected, an [EVNT] button appears.

5 In the editing button group, press the button that has just appeared.

The item corresponding to the button appears in the macro editing candidate list.
If you press the [EVNT] button, the symbol indicating the event contents appears *(see page 255)*.

6 Select the desired item from the macro editing candidate list, and press [Set].

At the event insertion position of the macro listing, the selected item is added as an event component. Additionally, in the next blank position of the editing button group, a button appears, corresponding to the item in the macro editing candidate list. For example, if "MEAutoTransition" is selected, a button for the parameters and data for the MEAutoTransition appears.

Notes

If you select an item from the macro editing candidate list, be sure to press [Set]. If [Set] is not pressed, the selection is not confirmed.

7 Repeat steps **5** and **6**, to edit the event components.

At the event insertion position of the macro listing, the confirmed item is added as an event component.
To further add an event, repeat steps **1** to **7**.

To close the Off Line Edit menu without saving the editing results
Press [Exit] to return to the menu that was on the screen immediately before the offline editing.

8 Press [Store].

The numeric keypad window appears.

9 Enter the register number as required, and press [Enter].

The current macro is stored in the register.

The menu screen switches to the menu that was on the screen immediately before the offline editing.

To append an event

This adds an event at the end of the macro.

1 Press [Append].

A blank row is added at the end of the macro listing.

2 Carry out steps **3** to **8** of the previous item, "To insert an event," to edit an event.

To delete an event

1 In the macro listing, select the event you want to delete.

2 Press [Delete].

This deletes the selected event.
If a deleted Event statement is followed by a Continue statement, the Continue statement is converted to an Event statement.

To close the Off Line Edit menu without saving the editing results
Press [Exit] to return to the File Edit menu.

3 Press [Store].

This saves the results of the macro register or macro file editing, and returns to the File Edit menu.

To create a new macro

1 From the list in any of the following menus, select an empty register or file, and press [Off Line Edit] in the button area.

- Macro >Register >Lock menu
- Macro >Register >Delete menu
- Macro >Register >Rename menu
- File >Shotbox, Macro >Macro >File Edit menu

The Off Line Edit menu appears.

2 Carry out steps **3** to **8** of the procedure "To insert an event" *(page 109)*, to create an the event.

Macro Attachment Assigning

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

Setting a macro attachment to a button

Select one of the following three linking modes to make the macro attachment.

Pre-macro: Mode in which the button function is executed after macro execution has completed

Post-macro: Mode in which the macro is executed after carrying out the button function

Macro only: Mode in which the button function is not executed, and the macro only is executed

The selection of pre- or post-macro mode is carried out in the cross-point control block of the PGM/PST bank or the M/E banks. For the macro-only mode, assign the selection function to a utility/shotbox control block button or user preference button, and make the selection by pressing the button. Alternatively, without pressing the button, you can make the selection simply, by simultaneously pressing the pre-macro and post-macro selection buttons in the cross-point control block.

You can assign any one of the 250 macro registers to a button.

For a button whose function is switched by delegation, you can make a separate macro attachment for each function.

For each control panel, you can make up to 1000 macro attachment settings.

The macro attachment setting is possible for the following bus buttons.

Block	Button
Cross-point control block	• Background A row cross-point buttons • Background B row cross-point buttons • Key 1 bus cross-point buttons • Key 2 bus cross-point buttons • Key 3 bus cross-point buttons • Key 4 bus cross-point buttons • Key 5 bus cross-point buttons a) • Key 6 bus cross-point buttons a) • Key 7 bus cross-point buttons a) • Key 8 bus cross-point buttons a) • Utility 1 bus cross-point buttons • Utility 2 bus cross-point buttons • DME external video bus cross-point buttons • DME utility 1 bus cross-point buttons • DME utility 2 bus cross-point buttons • Memory recall buttons b) • Buttons set to “Inhibit” • Auxiliary bus cross-point row c)
Auxiliary bus control block	• Cross-point button1st row d) • Cross-point button 2nd row d)
Keyframe control block	• [RUN], [REWIND] and [FF] buttons • [NORM], [REV], and [NORM/REV] buttons
Device control block (trackball, joystick)	The buttons to which the same functions as those of VTR/disk recorder/Extended VTR/frame memory clips play, cue, stop, and start tc buttons
Device control block (search dial)	[PLAY], [CUE], [STOP] and [START TC] buttons
Downstream key control block	• [DSK1 ON] to [DSK8 ON] buttons e) g) • [KEY1 ON] to [KEY8 ON] buttons a) c) • [TAKE] button e) • [MIX], [WIPE], [DME], and [CUT] buttons
Transition control block	All buttons except [PRIOR SET], [TRANS PVW], [SHIFT], [ADD], [KF], [MAIN], [SUB], [LIMIT SET], [K-SS], [K-SS STORE], and key snapshot setting buttons
Fade to black control block	[FTB] button
Downstream key/fade to black control block	• [DSK1 ON] and [DSK2 ON] buttons c) • [DSK3 ON] to [DSK8 ON] buttons a) c) • [KEY1 ON] to [KEY8 ON] buttons a) c) • [AUTO TRANS] button c) • [FTB] button
Utility/shotbox control block	Memory recall buttons
Menu control block	[PREFS 1] to [PREFS 16] buttons
Independent key transition control block (simple type) f)	• [KEY1 ON] to [KEY8 ON] buttons e) g) • [DSK1 ON] to [DSK8 ON] buttons e) g) • [TAKE] button e) • [MIX], [WIPE], [DME], and [CUT] buttons
Multifunction Flexi Pad control block	[AUTO TRANS] e), [KEY ON] e), [RUN], [REWIND], [NORM], [REV] and [NORM/REV] buttons

a) Assignment is required
b) Only when key row is operated in the utility/shotbox mode
c) When the auxiliary control mode or Key/AUX delegation mode is on.
d) Cross-point buttons of the bus assigned by AUX delegation setting.
e) In the case of an event that inserts or deletes a key by an independent key transition, the key state at the time of event registration (inserted or not inserted) is also saved in the macro. When the macro is executed, the event is only replayed if the key state matches the saved state. (Example: For a macro with an event that deletes a key, when the macro is executed, if the key is inserted it is deleted, but otherwise nothing occurs as concerns keying.)
f) When there are a number of control blocks on the control panel, and the keys assigned to them in setup are the same, then the macro attachment settings for the above buttons are the same.
The keys being the same includes cases such as “Key1,2” assigned to PGM/PST being the same as “DSK1,2”, “Key1,2” assigned to M/E-1 being the same as “M/E-1 Key1,2”, and so on.
g) KEY5 to KEY8 and DSK5 to DSK8 require an assignment.

Notes

- After setting a macro attachment to a cross-point button in the auxiliary bus control block, if in the Setup menu you change the assignment of buses to the AUX delegation buttons, the macro attachment setting disappears.
- After setting a macro attachment to a button for which you can perform function replacement or function assignment, if you change the function assignment to the button, the macro attachment setting disappears.
- After setting a macro attachment to a cross-point button in the cross-point control block, if you change the function assignment to the button, the macro attachment setting disappears.

Enabling and disabling macro attachment

You can temporarily disable the macro attachment settings. When a macro attachment is disabled, pressing the button does not cause execution of the assigned macro. You can enable and disable macro attachments for the PGM/PST bank and M/E banks individually.

Setting a macro attachment to a fader lever

You can set a macro attachment to any particular position of a fader lever in the transition control block.

Notes

- In macro-only mode it is not possible to set a macro attachment.
- It is not possible to set a macro attachment to a fader lever in the keyframe control block or downstream key control block.
- For a split fader, you can set a macro attachment to the main split fader.

Clearing the macro attachments

You can clear all of the macro attachments in a single operation.

Displaying the macro attachment list

You can display the macro attachment settings in the form of a list in the menu display to check them.

Setting and Canceling a Macro Attachment

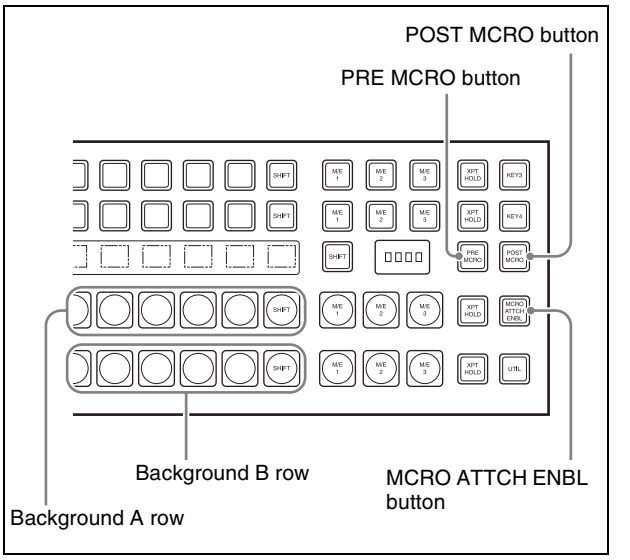
Setting a macro attachment to a button

This section describes the example of setting a macro attachment for the background A row cross-points.

For details, see "Setting a macro attachment to a button" (page 110) for the buttons for which a macro attachment can be set.

1 Recall the macro register (1 to 250) that you want to assign to the button *(see page 94)*.

2 To set in pre macro mode, hold down the [PRE MCRO] button in the cross-point control block, and to set in post macro mode, hold down the [POST MCRO] button, and then press the desired button in the background A row.



The cross-point button you pressed flashes amber, and the register you recalled in step **1** is assigned to the button.

If you make both pre macro and post macro settings for the same button

The later setting is valid.

To set a macro attachment without changing cross-points

When you set a macro attachment to a cross-point button, you can make the setting without changing the bus cross-points. Carry out this selection in the Engineering Setup >Panel >Operation menu *(see page 196)*.

To make a macro attachment setting in macro only mode

Notes

To carry out this operation, it is first necessary to assign the "Macro Only Set" function to the user preference buttons in the menu control block or the utility/shotbox control operation. Carry out this assignment in the Eng Setup >Panel >Prefs/Utility menu *(see page 180)*.

To make a macro attachment in macro only mode, use the following procedure.

1 Recall the macro register (1 to 250) that you want to assign to the button *(see page 94)*.

2 Press the button to which [MCRO ONLY SET] is assigned, turning it on.

3 Hold down the cross-point control block [PRE MCRO] button or [POST MCRO] button, and press the desired button in the background A row.

The cross-point button you pressed flashes green, and the register you recalled in step **1** is assigned to the button. The [MCRO ONLY SET] button goes off. Without switching to macro only mode in step **2**, if you hold down the [PRE MCRO] and [POST MCRO] buttons together and press the desired button, it is possible to set a macro attachment in macro only mode for that button.

To check macro attachment settings

Hold down the [PRE MCRO] button or [POST MCRO] button. While it is held down, buttons for which macro attachments are set flash as follows.

While the [PRE MCRO] button is held down:

- Buttons set in pre macro mode: flash amber
- Buttons set in macro only mode: flash green

While the [POST MCRO] button is held down:

- Buttons set in post macro mode: flash amber
- Buttons set in macro only mode: flash green

Setting a macro attachment to a fader lever

You can set a macro attachment to any particular position of a fader lever in the transition control block.

Notes

- In macro only mode it is not possible to set a macro attachment.
- It is not possible to set a macro attachment to a fader lever in the keyframe control block or downstream key control block.
- For a split fader, you can set a macro attachment to the main split fader.

1 Recall the macro register (1 to 250) that you want to assign to the fader lever *(see page 94)*.

2 Move the fader lever to the position where you want to set the macro attachment.

3 Hold down the [PRE MCRO] or [POST MCRO] button [1] in the cross-point control block, and press the [LIMIT SET] or [PRIOR SET] button in the control block containing the fader lever operated in step **2**.

1) Only when setting a macro attachment to the start point or end point of fader lever operation, use [PRE MCRO] and [POST MCRO] in distinction, as follows.
To set the operation start point (0%): hold down [PRE MCRO] for the operation.
To set the operation end point (100%): hold down [POST MCRO] for the operation.

This assigns the register recalled in step **1** to the fader lever position selected in step **2**.

To check a macro attachment setting

Hold down the [PRE MCRO] or [POST MCRO] button in the cross-point control block. While it is held down, the fader lever position where the macro attachment is set appears in the following places.

- **Transition indicator in the transition execution section:** The indicator lights at the position where the macro attachment is set.
- **Transition rate indication in the transition execution section:** This shows the fader lever position where the macro attachment is set, as a percentage value. (Fader lever start position as 0%, end position 100%)

Removing macro attachment settings

To cancel a macro attachment to a button

Hold down the [PRE MCRO] button or [POST MCRO] button, and press a button that is flashing in the background A row. The button for which the macro attachment is set stops flashing and goes off, and this removes the setting.

To cancel a macro attachment to a fader lever

Hold down the [PRE MCRO] or [POST MCRO] button in the cross-point control block, and press the [LIMIT SET] or [PRIOR SET] button in the control block containing the fader lever having the macro attachment set.

To remove all macro attachment settings in a single operation

1 In the Macro menu, select VF2 ‘Attachment.’

2 Press [All Clear].

A confirmation message appears.

3 Select [Yes].

Displaying the Macro Attachment List

In the Macro >Attachment menu, you can display the macro attachment list to check the macro attachment settings.

The macro attachment list includes the following columns.

- **Block:** Shows the names of control panel blocks.
- **Button:** Shows the names of macro attachment assigned buttons (of up to 30 characters).
- **Reg:** Shows the names of assigned registers.
- **Name:** Shows the names of macro registers.
- **Mode:** Shows the names of macro modes (Pre/Post/Only/--- [1]).

Above the list is shown the names of the block and macro attachment assigned button currently selected in the list.

1) When no macro mode is set

For details of the macro modes, see “Setting a macro attachment to a button” (page 110).

For details of the macro attachment list display, see "About the Macro Attachment List Display" (page 261) in the Appendix.

Moving quickly within the macro attachment list from one block to another

When you are viewing the macro attachment settings for a block in the macro attachment list, you can move quickly from the current block to another block to check the settings for that block by pressing the following buttons in the <Block Select> group.

- **P/P**: Move to a block in the PGM/PST bank.
- **M/E-1:** Move to a block in the M/E-1 bank.
- **M/E-2:** Move to a block in the M/E-2 bank.
- **M/E-3:** Move to a block in the M/E-3 bank.
- **M/E-4:** Move to a block in the M/E-4 bank.
- **Aux:** Move to a section in the auxiliary bus control block.
- **Others:** Move to a block/section in a location other than the PGM/PST bank, M/E-1 to M/E-4 banks, and the auxiliary bus control block.

Scrolling the list

To scroll the macro attachment list, do one of the following.

- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

Knob	Parameter	Adjustment	Setting values
1	No	Macro attachment settings scrolling	1 and upwards

Executing a Macro by Macro Attachment

Notes

For execution on any of the M/E and PGM/PST banks, use the [MCRO ATTCH ENBL] button in the cross-point control block. To execute a macro according to a macro attachment set elsewhere, assign "MCRO ATTCH ENBL" to a utility/shotbox control block or user preference button, then use that button.

Executing a macro assigned to a button

1 Depending on the location of the button you want to use, press the [MCRO ATTCH ENBL] button, turning it on.

2 Press the desired button for which a macro attachment has been set.

This recalls the macro register assigned to the button, and the macro is executed as follows, according to the operation mode.

Pre macro mode: The macro is executed first, and then the button function is executed.

Post macro mode: The button function is executed first, and then the macro is executed.

Macro only mode: The button function is not executed, and the macro only is executed.

During macro execution, the button you pressed flashes.

Notes

- It is not possible to execute more than one macro at a time. Therefore, even if you simultaneously press multiple buttons for which macro attachments are set, only one macro is executed.
- If a button is pressed twice during macro execution or when the macro is stopped, or if another macro is recalled, the following operation (stop or continue) depends on a setting in setup.
  For details of the settings, see "Setting the Macro Execution Mode" (page 196).
- Individual events stored in a macro are executed according to the settings in setup. If you change the settings in setup, a saved macro may not have the expected effect.
- During macro execution, if you switch the control panel to macro editing mode, the macro being executed stops.
- During macro editing, pressing a button for which a macro attachment is set does not execute the macro.

To disable macro attachment settings

Depending on the location of the button you want to disable, press the [MCRO ATTCH ENBL] button, turning it off.

In this state, pressing a button for which a macro attachment is set does not execute the macro.

Executing a macro assigned to a fader lever

1 In the cross-point control block for the fader lever on which you want to execute the macro, press the [MCRO ATTCH ENBL] button, turning it on.

2 Move the fader lever from the start position to the end position.

When the fader lever passes the position at which the macro attachment is set, the macro register is recalled, and the macro is executed.

Notes

- Unless you move the fader lever to the end position (completing the travel), it is not possible to execute the macro again.
- When the preset color mix stroke mode is Normal, the first lever operation executes the macro, but the second lever operation does not.
  For details, see "Setting a preset color mix" (page 212).
- If a button is pressed twice during macro execution or when the macro is stopped, or if another macro is recalled, the following operation (stop or continue) depends on a setting in setup *(see page 196)*.
- Individual events stored in a macro are executed according to the settings in setup. If you change the settings in setup, a saved macro may not have the expected effect.
- During macro execution, if you switch the control panel to macro editing mode, the macro being executed stops.
- During macro editing, even if you operate a fader lever with a macro attachment set, the macro is not executed.

To disable a macro attachment setting

In the cross-point control block for the fader lever on which you want to disable the macro, press the [MCRO ATTCH ENBL] button, turning it off.
In this state, operating a fader lever with a macro attachment set does not execute the macro.

Menu Macros

The term "menu macro" refers to the function whereby a sequence of menu operations is saved as data in memory, so that it can be recalled as required to automatically execute the same sequence of operations.
Using any of the menus in the following table, you can edit menu macro registers and menu macro events.

Menu	Function	Operations
Menu Macro Register menu (menu macro register editing)	• Carry out menu macro register editing. • Recall a menu macro register and execute a menu macro.	• Recalling a register and executing a menu macro • Locking a register • Copying a register • Deleting a register • Naming a register
Menu Macro Edit menu (editing of menu macro events)	Edit events in a menu macro register.	• Inserting an event • Deleting an event • Modifying an event

Menu macro registers

The area of memory that holds a menu macro is termed a "menu macro register." For each control panel there are 99 menu macro registers, numbered 1 to 99. You can manipulate these in the menu macro register menu.

Menu macro events

The events that can be recorded in a menu macro are operations carried out in a menu.

For menu operations which are not recorded in menu macros, see "Menu Operations Not Recorded in a Menu Macro" (page 264).

Menu macro creation and editing

Carry out menu macro creation and editing in the menu.

Executing menu macros

You execute a menu macro after recalling a menu macro register.
You can recall and execute simultaneously. You can also recall and execute a menu macro from a macro recalled on the control panel.

Recalling a Menu Macro Register and Executing a Menu Macro

Menu macro operation is carried out by recalling a menu macro register.

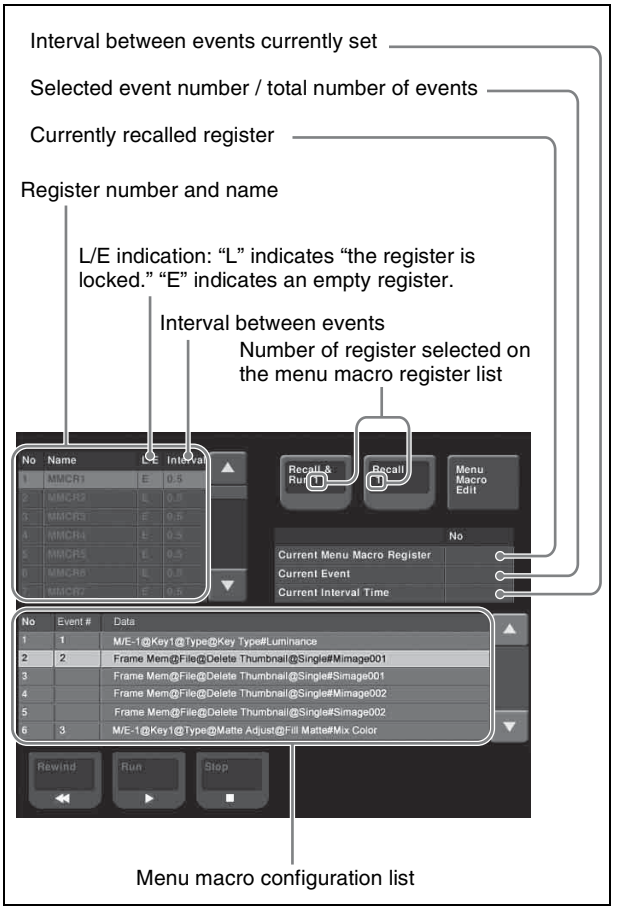
Notes

- Menu macros and macros recalled with a control panel button operate independently. Therefore, to synchronize these, adjustment of the execution timing is required.
- Events saved in a menu macro are executed according to the settings in setup, and therefore if you change the setup settings, it may not be possible to replay an event.
- When two menu macros are recalled successively, the later coming macro is ignored as far as the first macro is being executed.

Recalling a Menu Macro Register

1 In the Macro menu, select VF3 'Menu Macro Register' and HF1 'Recall & Run.'

The Recall & Run menu appears.



2 Using any of the following methods, select the register to be recalled.

- Press directly on the menu macro register list.
- Press the arrow keys on the right list to scroll the reverse video cursor.
- Turn the knob.

Knob	Parameter	Adjustment	Setting values
1	Menu Macro Register	Register selection	1 to 99

3 Press [Recall & Run x] or [Recall x] (x is the number of the register selected in the menu macro register list).

- To execute the menu macro at the same time as recalling the register, press [Recall & Run x].
- To recall the register only, press [Recall x].

Executing a menu macro

In the Macro >Menu Macro Register >Recall & Run menu, check that you are not in macro editing mode, then use the following procedure.

1 Using any of the following methods, specify the event from which you want to execute.

- Press directly on the menu macro register configuration list.
- Press the arrow keys on the right list to scroll the reverse video cursor.
- Turn the knob.

Knob	Parameter	Adjustment	Setting values
3	No	Select start event	1 and upwards

2 Press [Run].

To stop execution of a macro

Press [Stop].

To move to the start of a menu macro event

Press [Rewind].

Recalling a menu macro register from a macro register

Menu macro recall and execution operations can be saved as events in a control panel macro, and then recalled.
If with the control panel in macro editing mode you execute a menu macro, then this operation is recorded as an event.

For details of recalling operations, use the following references, depending on the control panel or menu used.

- Using the numeric keypad control block and the keyframe control block: *page 94*
- Using the standard type Flexi Pad control block: *page 99*
- Using the simple type Flexi Pad control block: *page 101*

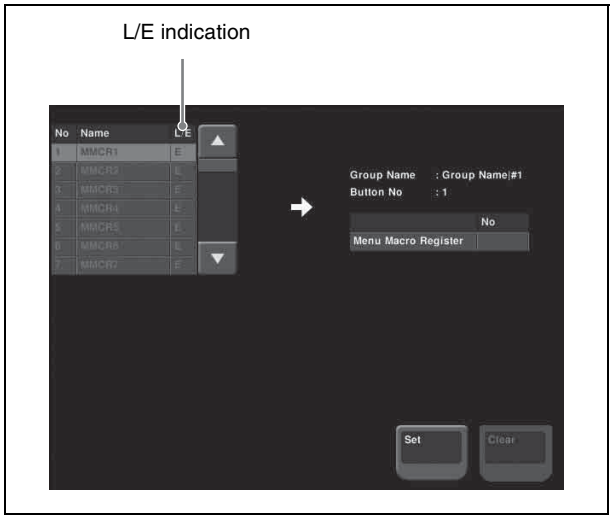
- Using the Multifunction Flexi Pad control block: *page 104*
- Using menus: *page 108*

Executing by assigning a menu macro register to a button in the menu

1 In the Home >Favorites >Button Edit menu, select a button to register.

2 Press [Menu Macro Set].

The Menu Macro Set menu appears.
The "L/E" indications have the following meanings.
L: The register is locked.
E: The register is empty.



3 In the list on the left, select the button number to be assigned.

4 Press [Set].

Executing a menu macro with a menu button

1 Select the Home >Favorites >Shortcut menu.

The following screen appears.

2 Press the group name button.

3 Press the button to which the menu macro is assigned.

To stop a menu macro during execution
Press [MenuMacro Stop].

Menu Macro Creation and Editing

Create or edit menu macro registers.

Notes

It is not possible to execute a menu macro during editing. To run the macro, first press the [Store] button to end editing.

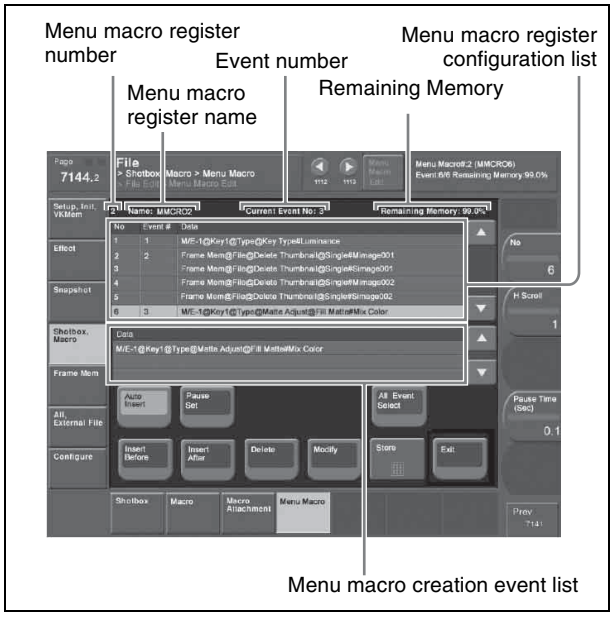
Creating a new menu macro

1 In the Macro >Menu Macro Register >Recall & Run menu, select an empty register in the menu macro register list.

For details of the method of operation, see "Recalling a Menu Macro Register" (page 116).

2 Press [Menu Macro Edit].

The menu macro register is recalled, and the system is now in menu macro editing mode.
The Menu Macro Edit menu appears.



3 If required, press [Auto Insert] to switch the auto insert mode on or off.

In the auto insert mode, when you carry out a menu operation, this is automatically recorded as an event in the menu macro.

4 Create an event (carry out the menu operation you want to record as an event in the menu macro).

For details of menus that can be recorded, see page 115.

- When auto insert mode *(see page 94)* is on, carrying out a menu operation automatically saves the event in a menu macro.
- When auto insert mode is off, skip to step **5**.

5 When auto insert mode is off, press [Insert Before] or [Insert After] to save the event.

6 Repeat steps **4** and **5**, to record the required events in the menu macro.

7 Turn the knob to input the event execution interval.

Knob	Parameter	Adjustment	Setting values
5	Interval Time	Event interval	0.0 to 0.5 (sec)

This value can be set for each menu macro register.

8 Press the [Store] button.

The numeric keypad window appears.

9 Enter the menu macro register number as required, and press [Enter].

The menu macro is saved with the specified number. The menu returns to the state in step **1**.

To set a pause duration

During menu macro editing, use the following procedure.

1 Enter the pause duration by turning the knob.

Knob	Parameter	Adjustment	Setting values
4	Pause Time (Sec)	Pause duration	0.1 to 99.9 (sec)

2 Press [Pause Set].

- When auto insert mode *(see page 94)* is on, this sets the pause duration, and inserts the pause event.
- When auto insert mode is off, use the same operations as in step **5** of *"Creating a new menu macro" (page 117)* to save the event.

Editing a menu macro

To edit the content of a menu macro, use the following procedure.

1 In the Macro >Menu Macro Register >Recall & Run menu, select the desired register on the menu macro register list *(see page 116)*.

2 Press [Menu Macro Edit].

The Menu Macro Edit menu *(see previous figure)* appears. The menu macro register is recalled, and the system is now in menu macro editing mode.

3 Select the event you want to edit.

- Press directly on the menu macro register configuration list.
- Press the arrow keys on the right list to scroll the reverse video cursor.
- Turn the knob.

Knob	Parameter	Adjustment	Setting values
1	No	Event number	1 and upwards

- To select all events, press [All Event Select].

4 If required, press [Auto Insert] to switch the auto insert mode on or off.

- When auto insert mode *(see page 94)* is on, a new menu is automatically inserted after the event selected in step **3**.
- When auto insert mode is off, skip to step **5**.

5 Carry out the editing, using any of the following methods.

- To delete the selected event, press the [Delete] button.
- To overwrite the selected event, carry out the new menu operation, then press the [Modify] button.
- To insert an event before the selected event, carry out the new menu operation, then press the [Insert Before].
- To insert an event after the selected event, carry out the new menu operation, then press the [Insert After].

6 With the same operation as step 7 of *"Creating a new menu macro" (page 117)*, change the event execution interval.

7 With the same operation as steps **8** and **9** of *"Creating a new menu macro" (page 117)* save the register.

Exiting the Menu Macro Edit menu without saving the results of editing

In the Menu Macro Edit menu, press [Exit].

Scrolling event display using the menu macro listing

1 Move the cursor to the event you want to display.

2 Turn the knob.

Knob	Parameter	Adjustment	Setting values
2	H Scroll	Scroll the characters in the “Data” field.	1 and upwards

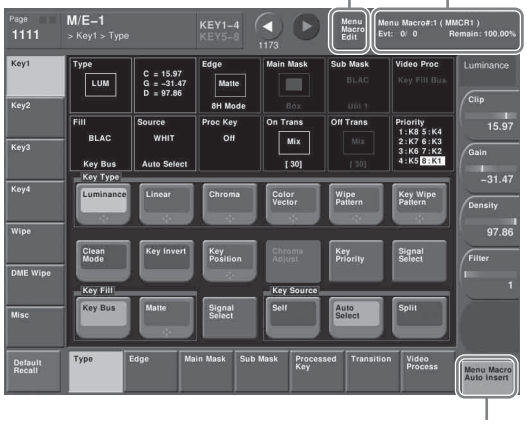
About the menu macro editing mode display

If while in menu macro editing mode you switch to another menu, the display is as shown in the following figure.

Screen when the keyframe status is displayed

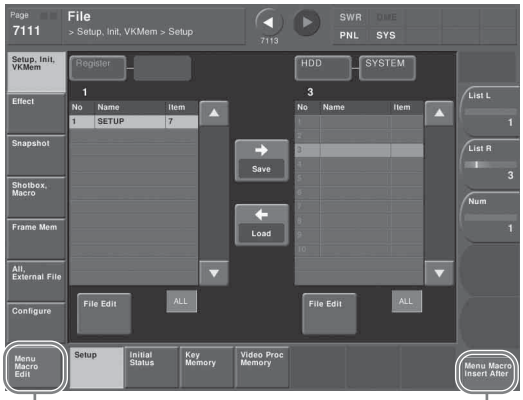
The keyframe status section appears as follows.
- Menu macro register number
- Menu macro register name
- Current event number / total number of events
- Remaining memory

Menu shortcut button to Menu Macro Edit menu



The Previous page button shows one of the following:
- When [Auto Insert] is on, “Menu Macro Auto Insert” appears.
- When [Auto Insert] is off, “Menu Macro Insert After” appears, but operates as [Insert After].

Screen when the keyframe status is not displayed



The Default Recall button shows the following.
Menu shortcut button to Menu Macro Edit menu

The Previous page button shows one of the following:
- When [Auto Insert] is on, “Menu Macro Auto Insert” appears.
- When [Auto Insert] is off, “Menu Macro Insert After” appears, but operates as [Insert After].

Menu Macro Register Editing

You can display the current state of a menu macro register using the Menu Macro menu.

The items displayed are the same as under “Effect Status Display” (page 62), with the exception that the region name is not displayed.

In the Menu Macro menu, you can do the following editing operations on menu macro registers.
- **Lock:** Write-protect the contents of the menu macro register.
- **Copy:** Copy the contents of one menu macro register to another menu macro register.
- **Delete:** Delete the contents of a menu macro register.
- **Name:** Attach a name to a menu macro register.

The operations for menu macro register editing are the same as those for effect register editing *(see page 62)* except the region selection operation, which is not necessary for menu macro register editing.

Macro Timeline

By recording macro recall and execute action on a timeline, in the same way as for key frames in an effect, you can automatically execute them in a sequence. This timeline is called a "macro timeline," and one macro timeline can have up to 99 macros being executed simultaneously in parallel.
There are 99 registers in the Macro region that can be recorded on the macro timeline, numbered 1 to 99. These registers are distinct from the registers where individual macros are stored.

Notes

If you use a macro timeline to superimpose more than one macro, the macros may not be executed according to the timing information registered in the timeline.

Available key frame functions

The following lists the key frame functions that can be used on the macro timeline.

- RECALL(1 to 99), STORE(1 to 99), RECALL UNDO, STORE UNDO, search for empty register, AUTO SAVE, RECALL MODE (RECALL, RECALL & REWIND)
- EDIT ENABLE, EDIT UNDO
- CONST DUR, EFF DUR, KF DUR, DELAY, PAUSE, INSERT BEFORE, INSERT AFTER, MODIFY, DELETE, COPY, PASTE BEFORE, PASTE AFTER, FROM TO, ALL
- PREV KF, NEXT KF, GOTO TC, GOTO KF, RUN, REWIND, FF, STOP NEXT KF, NORMAL, JOG, KF FADER

The following key frame functions cannot be used

- KF LOOP, EFFECT LOOP, REVERSE, NORMAL/ REVERSE
- PATH

Saving to a register

Set the recall and execute actions for the macros to be registered in the timeline, using the Macro Timeline menu *(see page 116)*. The setting data can be saved in a register as key frame data. You can manipulate this data by recalling the register in which it is saved, and using the key frame control block.

Notes

An action set for a key frame is only executed when the key frame effect is executed in the forward direction. It is important to remember that the action is not executed in the reverse direction when executing simultaneously with switcher and DME key frame effects.

Forcibly ending a macro timeline

- If the timeline has completed but a macro is still executing, press the [REWIND] or [RUN] button in the key frame control block to forcibly end the macro timeline.
- In a macro timeline, since a take operation is not possible, if a macro included in the timeline has a pause event with a pause time of zero, the remainder of the timeline after the pause is ignored, and the macro timeline ends at that point.

Register editing functions

You can use the following editing functions on a register in which a macro timeline is stored.

- Copy
- Move
- Swap
- Merge
- Lock
- Name
- Delete

File-related functions

You can save and recall a created macro timeline as effect data, in the File menu.
Timeline operations are carried out on a macro timeline in the same way as for normal effects.

For details of timeline operations, see "Keyframe Effects" (page 28).

Notes

When using a macro timeline, note the following.

- To use a macro timeline, the Macro region must be assigned to a region selection button in the numeric keypad control block.
  For details of region assignment operations, see "Assigning a Region to the Region Selection Buttons in the Numeric Keypad Control Block or Multifunction Flexi Pad Control Block" (page 162).
- On a macro timeline, only macro recall and execution actions are stored. The data for a macro to be recalled on the macro timeline is not held on the timeline. It is necessary to create the macro data first.
- A macro timeline can be saved and recalled on the master timeline or a shotbox register, but cannot be saved as a snapshot.

Creating and Editing a Macro Timeline

This section describes how to set actions, and add keyframe points. Note that path settings are not needed on the macro timeline.

For details of keyframe operations, see "Creating and Editing Keyframes" (page 44).

Saving a keyframe

For the operations, use the Macro Timeline menu and the [INS] button in the keyframe control block.

1 Press the [EDIT ENBL] button, turning it on.

This enables timeline editing in the keyframe control block.

2 In the Macro menu, select VF4 'Timeline' and HF1 'Timeline.'

The Macro Timeline menu appears.

3 Select one of the actions (Recall, Take, Take All, No Action) that appear on the right.

When you have selected Recall or Take, turn the knob to select the number of the macro register.

Knob	Parameter	Adjustment	Setting values
3	Reg No	Selection of macro register	1 to 250

4 Press the [Set] button.

The selected action appears in the Action column on the left.

5 Press the [INS] button in the keyframe control block.

This creates the keyframe 1 on the macro timeline.

To set the action for a rewind operation

On the macro timeline, when the [REWIND] button in the keyframe control block is pressed the action set for the first keyframe is not executed; when the [RUN] button is pressed, then the first keyframe action is executed.
To execute an action when the [REWIND] button is pressed, it is necessary to set this action (Rewind Action). To carry out this setting, in the Macro >Timeline >Timeline menu, press [Rewind Action] to recall the Rewind Action menu. In this setting screen, use the same setting method as in the screen for setting an action on the macro timeline.
Alternatively, you can select the reverse arrangement, whereby when the
[REWIND] button is pressed, this executes the action set for the first keyframe, and when the [RUN] button is pressed the first keyframe action is not executed. In this case, the Rewind Action setting is still valid.

For details of the setting, see "Setting the First Keyframe When a Rewind is Executed" (page 194).

Chapter 17 Files

Overview of File Operations

You can save register data, including setup information and snapshot information, as a file on a hard disk or memory card, and recall it as required.
You can operate on individual files or registers, or together in a batch.
Regarding frame memory, it is possible to capture image data stored in an external device into frame memory. You can also convert the format of image data in frame memory into a different format and save it in an external device.

Files that can be manipulated

The following files can be saved and recalled.

- Operation mode setup data for system as a whole and individual devices
- Device status data for system startup
- Key memory setting data
- Video process memory setting data
- Keyframe effect setting data
- Snapshot setting data
- Wipe snapshot setting data
- DME wipe snapshot setting data
- Key snapshot setting data
- Shotbox setting data
- Macro setting data
- Macro attachment data
- Menu macro setting data
- Frame memory image data
- List of files automatically created in a frame memory file backup to DDR/VTR (single data set)
- User setup setting data
- User source name setting data

File operations

You can carry out the following file operations.

When operating on individual files or registers

Save: Save the data in a register to the hard disk or memory card.
Load: Load a file from the hard disk or memory card.
Copy: Copy a file within a directory or from one directory to another. When a remote panel is used, this function applies to it, too.
Rename: Rename a file on the hard disk or memory card.
Delete: Delete a file from the hard disk or memory card.

When operating on files or registers in a batch

The Save, Load, Copy and Delete operations are performable.

Notes on transferring multiple frame memory files together to a memory card

- Transferring all of the files within frame memory together fails if the capacity of the memory card is too small to hold all of the images. In this case, replace with a larger capacity memory card, or delete files until saving is possible.
  The following table roughly shows the relation between memory card capacity and number of files that can be saved.

Memory card capacity	Number of files that can be saved	
	SD system	HD system (except 720P)
256 MB	214	46

  Note that when transferring to the hard disk, there is ample capacity, so that problems such as this do not occur.
- If you cancel the operation during a data transfer between frame memory and hard disk or memory card, then an image which was not completely transferred will not be reproducible. Avoid canceling such operations.
- When loading a file from hard disk or memory card, if [Freeze Enable] in the Freeze menu is on, the loaded file may sometimes be overwritten by the frame memory input image.
  To avoid this when loading a file, ensure that [Freeze Enable] is turned off.

Importing or exporting files to or from frame memory

Import: Import a file in a different format from hard disk or memory card into frame memory after changing its format.

Export: Export a file in a register to hard disk or memory card after changing its format.

You can import TIFF, BMP, and TARGA files as follows into frame memory.

File type	Format	File name	Notes
TIFF file	RGB uncompressed format	Maximum eight characters, plus extension .tif required	• Layers cannot be used. • If an alpha channel is present, two files are created as a pair.
BMP file	Windows [a] 24-bit format	Maximum eight characters, plus extension .bmp required	–
TARGA file	RGB uncompressed/ compressed format	Maximum eight characters, plus extension .tga required	• Layers cannot be used. • If an alpha channel is present, two files are created as a pair.
PNG file	RGB compressed format	Maximum eight characters, plus extension .png required	• Layers cannot be used. • If an alpha channel is present, two files are created as a pair.

a) Windows is a registered trademark or trademark of Microsoft Corporation in the United States and/or other countries.

Notes

This functionality has been tested and confirmed to work with TIFF files created by Photoshop, but it may not be possible to use TIFF files created with some other software. (Photoshop is a trademark of Adobe Systems Incorporated.)

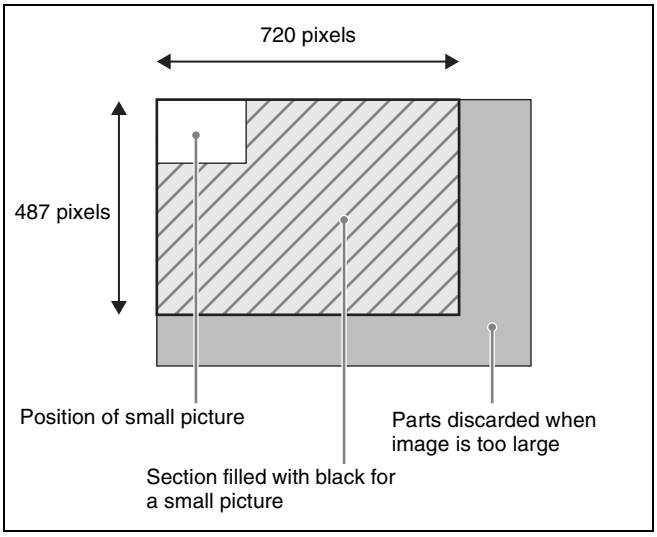
About import image size

Pay attention to the following, depending on the signal format which you use.

SDTV (480i)

Images 720 × 487 pixels in size are exactly the size which fills the full screen.

The following figure shows how an import image is processed when the 480i/59.94 format is used.
Images are placed with the upper left of the screen as the origin.
When an image is smaller than the screen, the remainder of the screen is filled with black. When it is larger, parts which extend beyond the screen are discarded.



No pixel ratio conversion is performed when images are imported for the SDTV format.
When the signal format is 480i/59.94, if you create an image with a size of 720 × 540 on a computer and then import it just as it is, the image will be too tall. To maintain the shape of the image, first create it as a 720 × 540 image and then use computer software tools to compress the vertical dimension to 487 pixels before importing it.

HDTV (1080i)

Images of 1920 × 1080 pixels in size are exactly the size which fills the full screen.
Like SDTV, images are placed with the upper left of the screen as the origin.
When an image is smaller or larger than the screen, processing is the same as for SDTV.
Since the pixel ratio of the HDTV format is 1:1, files created on computers are imported in their original shapes.
The following table shows the image sizes which exactly fill the full screen for the various signal formats.

Signal format	Image size (H × V)
480i/59.94	720 × 487
576i/50	720 × 576
1080i/50	1920 × 1080
1080i/59.94	
1080PsF/23.976	
1080PsF/24	
1080PsF/25	
1080PsF/29.97	
1080P/50, 1080P/59.94	

Signal format	Image size (H × V)
720P/50	1280 × 720
720P/59.94	

Importing 720P and 1080P movie material

- To import movie material in 720P or 1080P format, it is necessary to treat each frame as a separate image file.
- For 1080P format, the individual files must have numbers which start from an even number. (E.g.: consecutive numbers from 0000)

Directory operations

You can create a new directory within a hard disk or memory card, and carry out other operations, such as renaming and deleting *(see page 135)*.

File copying between different unit IDs

Switcher and DME files within the hard disk or memory card are managed by unit ID.
To copy files between different unit IDs, use the Unit ID Copy menu *(see page 136)*.

Saving data recalled by autoload

At power on, you can automatically recall data previously stored on the hard disk. (Autoload function)
The following data can be loaded by the autoload function.

- Keyframe effect setting data
- Snapshot setting data
- Wipe snapshot setting data
- DME wipe snapshot setting data
- Key snapshot setting data
- Shotbox setting data
- Macro setting data
- Macro attachment data
- Frame memory image data

To use the autoload function, the data required must first be saved *(see page 145)*.

For details of saving operations, see "Setting Automatic Loading of Register Data at Power On (Autoload Function)" (page 146).

Locking file recall operations

For each of the following categories, in setup you can apply a lock on recalling files *(see page 155)*.
Setup, Initial Status, Key Memory, Video Proc Memory, Effect, Snapshot, Wipe Snapshot, DME Snapshot, Key Snapshot, Shotbox, Macro, Macro Attachment, Menu Macro, User Setup

A locked file cannot be downloaded from the File menu.

Operations on Individual Files

You can save or load the contents of an individual file or register. Carry out these operations in the File menu.

Displaying the Individual File Operation Menus

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

2 Depending on the type of file to be manipulated, select the following 'VF' and 'HF' combination.

Button	HF1	HF2	HF3	HF4	HF5	HF6	HF7
VF1	Setup	Initial Status	Key Memory	Video Proc Memory	User Setup	Export User Source Name	Import User Source Name
VF2	Effect 1-99	User DME Wipe Effect 101-199	User DME Wipe Effect 201-299	User DME Wipe Effect 301-399	DEV/PBUS Effect 1-250	–	–
VF3	Snapshot	Wipe Snapshot	DME Snapshot	Key Snapshot	Menu Macro	–	–
VF4	Shotbox	Macro	Macro Attachment	–	–	–	–
VF5	Frame Memory	Frame Memory Folder	File Name Data	–	–	–	–
VF6	All	Import/Export	–	–	–	–	–
VF7	Directory	Unit ID Copy	Group ID Copy	–	–	–	–

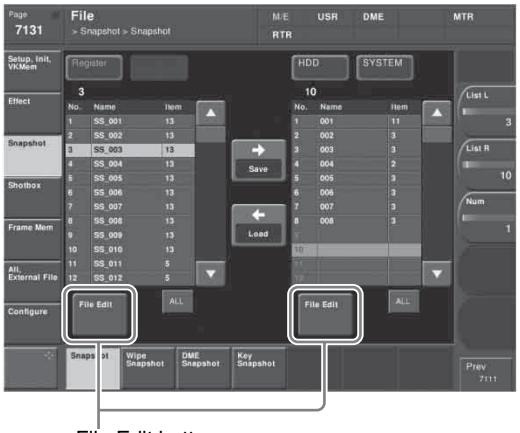
The following description refers to the example of carrying out operations on snapshot files, but the procedure is similar in the other menus.

Viewing Detailed File Information

As an example, to view detailed snapshot file information, carry out the following procedure.

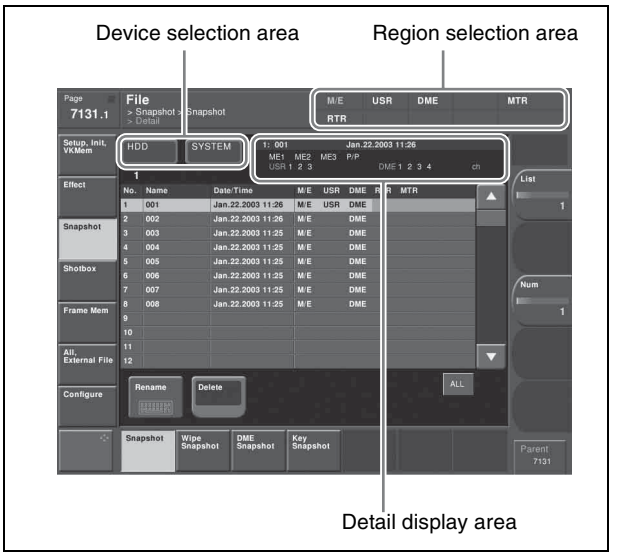
1 In the File menu, select VF3 'Snapshot' and HF1 'Snapshot.'

The Snapshot menu appears.
The status area shows the device status, and a list of files present on the device.



2 Press [File Edit].

The file details appear (reference region file name, creation date, regions including data) in table form.



Selecting a particular file displays more detailed information about that file in the detail display area at the top right of the file list.
In the Frame Memory menu, the following items are also shown.
Pair: In the case of a pair file, “P” is shown.
Ext: In the case of an extended clip file, “Ext” is shown.

Selecting Regions

You can carry out a file operation on a number of regions simultaneously. However, a region selection is not required for the following files.
- Key memory
- Video process memory
- Shotbox
- Macro
- Macro attachment
- Frame memory
- Setup
- Initial status
- User Setup
- User source name

In the above list, for setup and initial status, you can similarly separate the files to be operated on by device in a way similar to the region selection.

To make a region selection

1 Press the region selection area at the top right of the screen *(see page 126)*.

The region selection window appears.

2 Press the region names you do not want to select, turning them off.

3 Press [OK].

Selecting a Device for Operations

To carry out file operations, you need to specify the device holding the data (or file), as one of the following: register, hard disk, memory card, and so on. You can then further select a directory.
If you have enabled NFS (Network File System) in setup, you can add “Network” to the device for operations.
If you specify “Network,” you can access System Manager through the network for file saving and loading.

For details of the NFS settings, see “Making the Network Settings” (page 139).

Notes

- Files saved on the hard disk may be lost if the hard disk fails. Always keep separate backup copies of important files on a memory card.
- Format a memory card before using it for the first time *(see page 154)*.

As an example, to select a memory card, use the following procedure.

1 In the File menu, press the device selection indication above the file list (default is [HDD] (hard disk)).
(If [Memory Card] appears, then since the memory card is already selected, steps **1** and **2** are not necessary.)

A pull-down menu appears.

2 Press [Memory Card].

A list of directories on the memory card appears. (Maximum 40 per page)
The maximum number of directories is 120 on a memory card and NFS, or 200 on an internal hard disk.

3 As required, press the ◄ or ► button, to switch directory pages.

4 Press the name of the directory you want to use.

This selects the specified directory on the memory card to be manipulated.

Saving Files

As an example, to save snapshot register data to hard disk or memory card, use the following procedure.

Notes

For key snapshots, snapshots, and effects, you cannot perform the following operation when [Src Patch Link] is lit on the menu screen *(see page 250)*.

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 126).

4 Using either of the following methods, select the data to be saved, and the file in which to save it.

- To select all files within the list, press [ALL] below the list.
- To select multiple files, turn the knobs to select in the following ranges.

Knob	Parameter	Adjustment	Setting values
1	List L	Select the first register whose data is to be saved	1 to 99
2	List R	Select the first file to which data is to be saved	1 to 99
3	Num	Number of registers to be selected	1 to 99

- To select a single file, press the arrow keys to scroll the reverse video cursor, or press directly on the list in the status area.

5 Press [→ Save].

This saves the selected register data in the specified location.
If there is already data in the specified location, a confirmation message appears.
- Select "Yes" to overwrite the data.
- Select "No" to cancel saving all of the data.

Saving frame memory files

Notes

When the signal format is 1080P, saving a still image file creates two still image files for each frame. An 'A' is automatically appended to the first file name, and a 'B' is appended to the second file name. If either of these files is missing, it is not possible to recreate the image, and therefore for correct operation the two files must always be handled together.

Between steps **3** and **4** of the procedure above, "Saving Files," do as follows.

1 To select the frame memory folder, press [Default] in the device selection in the list on the left.

A pull-down menu appears.

2 Press the required folder name.

3 Carry out the same operations as in steps **1** and **2** on the list on the right.

4 Select the type of data to be displayed.

- To display still image files, press [Still].
- To display clip files, press [Clip].
- To display extended clip files, press [Ext Clip].
- To display all types of file, press [All].

Loading Files

As an example, to load a snapshot file from hard disk or memory card to a register, use the following procedure.

1 In the File menu, select VF3 'Snapshot' and HF1 'Snapshot.'

2 In the device selection area on the left, select [Register].

3 In the device selection area on the right, select where the file is held ([HDD] or [Memory Card]), and then specify a directory.

See "Selecting a Device for Operations" (page 126).

4 Using any of the following methods, select the register to which you want to load, and the file to be loaded.

- To select all files within the list, press [ALL] below the list.
- To select multiple files, turn the knobs to select in the following ranges.

Knob	Parameter	Adjustment	Setting values
1	List L	Select the first register into which the data is to be loaded	1 to 99
2	List R	Select the first file in which data is held	1 to 99
3	Num	Number to be selected	1 to 99

- To select a single file, press the arrow keys to scroll the reverse video cursor, or press directly on the list in the status area.

5 Press [← Load].

This loads the contents of the selected file from the specified location. (Setup data is first loaded.)

Loading frame memory files

Between steps **3** and **4** of the procedure above, "Loading Files," do as follows.

Notes

- When the signal format is 1080P, extended clip files cannot be recalled.
- In a still image file saved in the 1080P signal format, there are two still image files for each frame. If either of these two files is missing, it is not possible to recreate the image, and therefore for correct operation the two files must always be recalled together.

1 To select the frame memory folder, press [Default] in the device selection in the list on the left.

A pull-down menu appears.

2 Press the required folder name.

3 Carry out the same operations as in steps **1** and **2** on the list on the right.

4 Select the type of data to be displayed.

- To display still image files, press [Still].
- To display clip files, press [Clip].
- To display extended clip files, press [Ext Clip].
- To display all types of file, press [All].

Copying Files

You can copy files either within a directory or between directories, on the hard disk, or memory card.
As an example, to copy a snapshot file from memory card to hard disk, use the following procedure.

1 In the File menu, select VF3 'Snapshot' and HF1 'Snapshot.'

2 In the device selection area on the left, specify the location of the file to be copied (in this case [Memory Card] and a directory). *(See page 126.)*

3 In the device selection area on the right, select the destination of the copied file (in this case [HDD] and a directory).

4 Using any of the following methods, select the source and destination files.

- To select all files within the list, press [ALL] below the list.
- To select multiple files, turn the knobs to select in the following ranges.

Knob	Parameter	Adjustment	Setting values
1	List L	Select the first copy source file	1 to 99
2	List R	Select the first destination file	1 to 99
3	Num	Number to be selected	1 to 99

- To select a single file, press the arrow keys to scroll the reverse video cursor, or press directly on the list in the status area.

5 Press [→ Copy].

This copies the selected file or files to the specified destination.
If there is already data in the specified location, a confirmation message appears.
- Select "Yes" to overwrite the data.
- Select "No" to cancel copying all of the files.

Copying frame memory files

Between steps **3** and **4** of the procedure above, "Copying Files," do as follows.

Notes

In a still image file saved in the 1080P signal format, there are two still image files for each frame. If either of these two files is missing, it is not possible to recreate the image, and therefore for correct operation the two files must always be copied together.

1 To select the frame memory folder, press [Default] in the device selection in the list on the left.

A pull-down menu appears.

2 Press the required folder name.

3 Carry out the same operations as in steps **1** and **2** on the list on the right.

4 Select the type of data to be displayed.

- To display still image files, press [Still].
- To display clip files, press [Clip].
- To display extended clip files, press [Ext Clip].
- To display all types of file, press [All].

Renaming Files

You can rename a file on the hard disk or memory card and a register. As an example, to rename a snapshot file, use the following procedure.

1 In the File menu, select VF3 ‘Snapshot’ and HF1 ‘Snapshot.’

The Snapshot menu appears. The status area shows the device status, and a list of files present on the device.

2 Press [File Edit].

A detailed list appears. Here too, you can select a device or specify a directory. *(See page 126.)*

3 Using any of the following methods, select the file you want to rename.

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

Knob	Parameter	Adjustment	Setting values
1	List	File selection	1 to 99

4 Press [Rename].

The keyboard window appears.

5 Enter a name of not more than eight characters, and press [Enter].

The name you have entered is reflected in the status area.

Notes

- Within the switcher, the names for Initial Status and Setup data are fixed.
  You can change the file names on the hard disk or memory card, but the next time they are reloaded they will revert to the default names.
- The following names cannot be used.
  CON, PRN, AUX, CLOCK$, NUL, COM0, COM1, COM2, COM3, COM4, COM5, COM6, COM7, COM8, COM9, LPT0, LPT1, LPT2, LPT3, LPT4, LPT5, LPT6, LPT7, LPT8, LPT9

Renaming frame memory files

Notes

- In a still image file saved in the 1080P signal format, there are two still image files for each frame. When a register is selected for the operation, if you change one of the file names, the other file name of the pair also changes automatically.
- When a device other than a register is selected for the operation, if you change one file name, the other file name of the pair does not automatically change. Except for the final ‘A’ or ‘B’ in the file name, you must manually keep the names matching.
  E.g.: img111A and img111B (file names must have the underscored parts the same)

1 In the File menu, select VF5 ‘Frame Mem’ and HF1 ‘Frame Memory.’

The Frame Memory menu appears. The status area shows the device status, and a list of files present on the device.

2 Press [File Edit].

3 Select the type of data to be displayed.

- To display still image files, press [Still].
- To display clip files, press [Clip].
- To display extended clip files, press [Ext Clip].
- To display all types of file, press [All].

4 Using any of the following methods, select the file you want to rename.
(When you selected [Clip] or [Ext Clip] in step **3**, you cannot select multiple files.)

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

Knob	Parameter	Adjustment	Setting values
1	List L	File selection in the left list	1 and upwards
2	List R	File selection in the right list	1 and upwards
3	Num	Number to be selected	1 and upwards

5 Press [Rename].

The keyboard window appears.

6 Depending on the selections of steps **3** and **4**, enter a name as follows and press [Enter].

- When you selected a single file with [Still] or [All]: Enter a name of not more than eight characters.
- When you selected more than one file with [Still] or [All]: Enter a name of not more than four characters.
- When you selected a clip file or an extended clip file: Enter a name of not more than four characters.

The name you have entered is reflected in the status area.

Notes

- If you select [Register] in the operation device selection block, then with [Still] or [All] select multiple files and change a file name, these still images are converted to a clip.
- It is not possible to simultaneously select a file for which the Ext field in the status area is empty and a file for which the Ext field shows "Ext" to change the name.
- When the signal format is 1080P, a still image file name must be a maximum of seven characters.

Deleting Files

You can delete data from the hard disk or memory card and snapshot or effect data from a register. As an example, to delete a snapshot file, use the following procedure.

1 In the File menu, select VF3 'Snapshot' and HF1 'Snapshot.'

The Snapshot menu appears. The status area shows the device status, and a list of files present on the device.

2 Press [File Edit].

A detailed list appears. Here too, you can select a device or specify a directory. *(See page 126.)*

3 Using any of the following methods, select the file you want to delete.

- To select all files within the list, press [All] below the list.
- To select multiple files, turn the knobs to select in the following ranges.

Knob	Parameter	Adjustment	Setting values
1	List	Select the first file	1 to 99
3	Num	Number to be selected	1 to 99

- To select a single file, press the arrow keys to scroll the reverse video cursor, or press directly on the list in the status area.

4 Press [Delete].

A confirmation message appears.
- Select "Yes" to delete.
- Select "No" to cancel the deletion.

Deleting frame memory files

Between steps **2** and **3** of the procedure above, "Deleting Files," do as follows.

Notes

- In a still image file saved in the 1080P signal format, there are two still image files for each frame. When a register is selected for the operation, if you delete one still image file, the other file of the pair is automatically deleted.
- When a device other than a register is selected for the operation, if you delete one still image file, the other file of the pair is not automatically deleted. You must manually delete both files.

1 To select the frame memory folder, press [Default] in the device selection in the list.

A pull-down menu appears.

2 Press the required folder name.

3 Select the type of data to be displayed.

- To display still image files, press [Still].
- To display clip files, press [Clip].
- To display extended clip files, press [Ext Clip].
- To display all types of file, press [All].

Converting Between Frame Memory Clips and Extended Clips

Notes

When the signal format is 1080P, this operation is not possible.

1 In the File menu, select VF5 'Frame Mem' and HF1 'Frame Memory.'

The Frame Memory menu appears. The status area shows the device status and a list of files on the device.

2 Press [File Edit].

3 In the device selection section of the list, select where the file is held ([HDD] or [Memory Card]), and specify the directory, and frame memory folder.

4 Press either of the following at the top of the list, to select the type of data displayed.

- To display clip files, press [Clip].
- To display extended clip files, press [Ext Clip].

5 Using any of the following methods, select the files you want to convert.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.

• Turn the knobs.

Knob	Parameter	Adjustment	Setting values
1	List L	File selection in the left list	1 and upwards
2	List R	File selection in the right list	1 and upwards
3	Num	Number of files selected	1 and upwards

6 Carry out either of the following.

- To convert clips to extended clips, press [Clip -> Ext Clip].
- To convert extended clips to clips, press [Ext Clip ->Clip].

Creating a frame memory folder on the device (HDD or Memory Card)

1 In the File menu, press VF5 'Frame Mem' and HF2 'Frame Memory Folder.'

The Frame Memory Folder menu appears. The status area shows the device status, and a list of files present on the device.

2 In the pull-down menu of the device selection section, select [HDD] or [Memory Card], and then specify the directory.

3 Press [New].

A keyboard window appears.

4 Enter a name of up to eight characters, and press [Enter].

The name entered appears in the status area as a frame memory folder.

Notes

- The following names cannot be used.
  Default, Flash1, Flash2
  CON, PRN, AUX, CLOCK$, NUL, COM0, COM1, COM2, COM3, COM4, COM5, COM6, COM7, COM8, COM9, LPT0, LPT1, LPT2, LPT3, LPT4, LPT5, LPT6, LPT7, LPT8, LPT9
- It is not possible to create 12 or more directories in the frame memory folder.

To rename a frame memory folder

1 Using any of the following methods, select the folder.

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

Knob	Parameter	Adjustment	Setting values
1	List L	Folder selection	1 and upwards

2 Press [Rename].

A keyboard window appears.

3 Enter a name of up to eight characters, and press [Enter].

The name entered appears in the status area as a frame memory folder.

To delete a frame memory folder

1 With the same operations as in step **1** of the procedure "To rename a frame memory folder," select the folder.

2 Press [Delete].

A confirmation message appears; select "Yes" to carry out the deletion.

Saving the list of frame memory files to hard disk or memory card

If you save all files currently held in frame memory as a single backup data set, by high-speed recording on video tape or other medium, is created a file of file list data that is needed for successful frame memory file restore operation. It is necessary to save this file in a hard disk or memory card.

1 In the File menu, select VF5 'Frame Memory' and HF3 'File Name Data.'

2 In the operating device selection section on the left or right, select [Register].

The register name "FM_Bkup" appears. In the device selection section on the opposite side, the destination for saving automatically appears.

3 As the destination for saving select [HDD] or [Memory Card], then specify the directory.

4 Select the destination file for saving.

5
- To save to disk, press 'Save.'
- To load from disk, press 'Load.'

To view details of files

Press 'File Edit.'
A list of the saved file names appears. You can manipulate these files like any other files.

File Batch Operations

You can batch process all files or registers. Carry out these operations using the File >All, External File >All menu.

Displaying the Batch Operation Menu

1 Press the top menu selection button [FILE].

2 Select VF6 'All, External File' and HF1 'All.'

The All menu appears.

Batch Saving Files

To save the data of all registers to hard disk or memory card, use the following procedure.

Notes

- Files saved on the hard disk may be lost if the hard disk fails. Always keep separate backup copies of important files on a memory card.
- Format a memory card before using it for the first time *(see page 154)*.
- You cannot perform the following operation when [Src Patch Link] is lit on the menu screen *(see page 250)*.

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 126.)*

2 If there are registers you do not want to save, in the <Category> group, exclude them from the operation. To select all registers, press [All Select].

For details of the data to which operations apply, see "Files that can be manipulated" (page 122).

Notes

The frame memory is not selected when you press [All Select]. To apply the setting to frame memory, press [Frame Memory], turning it on. When frame memory is selected, it is not possible to apply settings to the <Category> group data.

3 Press [→ Save].

A confirmation message appears.
- Select "Yes" to carry out the batch save.
- Select "No" to cancel the batch save.

Batch Loading Files

To load files from hard disk or memory card, use the following procedure.

Notes

It is not possible to recall a file from a category for which recall operations are locked *(see page 155)*.

1 In the device selection area of the All menu, select where the files are held ([HDD] or [Memory Card] and directory). *(See page 126.)*

2 If there are files you do not want to load, in the <Category> group, exclude them from the operation. To select all files, press [All Select].

For details of the data to which operations apply, see "Files that can be manipulated" (page 122).

Notes

- The frame memory is not selected when you press [All Select]. To apply the setting to frame memory, press [Frame Memory], turning it on. When frame memory is selected, it is not possible to apply settings to the <Category> group data.
- You cannot select [User Setup] when [Src Patch Link] is lit on the menu screen *(see page 250)*.

3 Press [← Load].

A confirmation message appears.
- Select "Yes" to carry out the batch load. (Setup data is first loaded.)
- Select "No" to cancel the batch load.

To execute the load after clearing the data in the destination regions

Before pressing [← Load], press [CLR Before Load], turning it on.
The following categories of data can be cleared before execution of the load.

Effect, Snapshot, Wipe Snapshot, DME Wipe Snapshot, Key Snapshot, Shotbox, and Macro

Notes

When frame memory is selected for the setting, the data is always deleted before recalling.

Batch Copying Files

To copy files between the hard disk and a memory card, use the following procedure.

1 In the operating device selection section to the left of the All menu, select the storage location ([HDD] or [Memory Card] and directory) of the source files *(see page 126)*.

2 In the operating device selection section to the right of the All menu, select the destination storage location ([HDD] or [Memory Card] and directory) *(see page 126)*.

3 If there are files you do not want to copy, remove them from the selection in the <Category> group. To select all files, press [All Select].

For details of the data to which the operation applies, see "Files that can be manipulated" (page 122).

Notes

The frame memory is not selected when you press [All Select]. To apply the setting to frame memory, press [Frame Memory], turning it on. When frame memory is selected, it is not possible to apply settings to the <Category> group data.

4 Press [→ Copy].

This copies the selected files to the specified destination.
If there is already data present in the destination location, a confirmation message appears.
- Select "Yes" to overwrite.
- Select "No" to cancel copying all of the files.

Importing and Exporting Files

You can import or export frame memory image data from or to external media.
Import: to transfer a file in a different format from hard disk or memory card to frame memory as image data.
Export: to change the file format of register data and save the data on hard disk or memory card.
To carry out these operations, use the File >All, External File >Import/Export menu.

For details of the formats supported for import and export, see "Importing or exporting files to or from frame memory" (page 123).

Notes

When the signal format is 1080P, exporting is not possible.

Displaying the Import/Export Menu

In the File menu, select VF6 'All, External File' and HF2 'Import/Export.'
The list on the left shows the frame memory registers, and the list on the right shows the content of the external recording media.

Importing Frame Memory Data

As an example, to import data in a bitmap format from a memory card to a frame memory register, use the following procedure.

Notes

When the signal format is 1080P, importing as an extended clip file is not possible.

About the points you should take note of when importing data, see "About import image size" (page 123).

1 In the Import/Export menu, press the file format selection area at the top of the screen to select [Frame Memory (.BMP)].

Files of the selected type are shown in the list on the right.

2 Press one of the buttons at the top left to select the type of data to display.

- To display still image files, press [Still].

- To display clip files, press [Clip].
- To display extended clip files, press [Ext Clip]

All of the selected type of frame memory data appears in the list on the left.

3 In the folder selection area on the left, select the frame memory folder to which you want to import the file.

4 Press the device selection area on the right to select [Memory Card].

5 Select the directory to hold the imported files.

Notes

Files on a memory card to be imported must always be in a directory immediately below root.

6 Using any of the following methods, select the file you want to import.

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

Knob	Parameter	Adjustment	Setting values
4	List R	File selection	1 and upwards

7 Press [← Import].

Exporting Frame Memory Data

As an example, to save image data from frame memory in a bitmap format on a memory card, use the following procedure.

1 In the Import/Export menu, press the file format selection area at the top of the screen to select [Frame Memory (.BMP)].

Files of the selected type are shown in the list on the right.

2 Press one of the buttons at the top left to select the type of data to display.

- To display still image files, press [Still].
- To display clip files, press [Clip].
- To display extended clip files, press [Ext Clip]

All of the selected type of frame memory data appears in the list on the left.

3 Press the device selection area on the right to select [Memory Card].

4 Select the directory to which to export the files.

Notes

The displayed directories are only those directories immediately below root.

5 In the folder selection area on the left, select the frame memory folder that contains the file you want to export.

6 Using any of the following methods, select the file you want to export from the list on the left.

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

Knob	Parameter	Adjustment	Setting values
1	List L	Register selection	1 and upwards
2	Num	Number of files to be selected	1 and upwards

7 Press [→ Export].

This adds the image data from the frame memory in a bitmap format on the memory card.
If the specified destination file name already exists, an overwriting confirmation message appears.
- Select “Yes” to overwrite the data.
- Select “No” to cancel the whole file export operation.

Directory Operations

You can create a new directory on hard disk or memory card, rename, or delete a directory.
To carry out these operations, use the File >Configure >Directory menu.

Displaying the Directory Menu

In the File menu, select VF7 ‘Configure’ and HF1 ‘Directory.’
The Directory menu appears.

Creating a New Directory

You can create a maximum of 120 directories on a memory card and NFS, or 200 on an internal hard disk.

1 In the device selection pull-down menu, select [HDD] or [Memory Card]. *(See page 126.)*

2 Press [New].

The keyboard window appears.

3 Enter a name of not more than eight characters, and press [Enter].

A new directory with the name you have entered appears in the status area.

Notes

The following names cannot be used for directories:
CON, PRN, AUX, CLOCK$, and NUL
COM0, COM1, COM2, COM3, COM4, COM5, COM6, COM7, COM8, and COM9
LPT0, LPT1, LPT2, LPT3, LPT4, LPT5, LPT6, LPT7, LPT8, and LPT9

Renaming a Directory

1 In the device selection pull-down menu, select [HDD] or [Memory Card]. *(See page 126.)*

2 Using any of the following methods, select the directory.

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

Knob	Parameter	Adjustment	Setting values
1	List	Directory selection	1 and upwards

3 Press [Rename].

The keyboard window appears.

4 Enter a new name of not more than eight characters, and press [Enter].

The new name appears in the status area.

Deleting a Directory

1 In the device selection pull-down menu, select [HDD] or [Memory Card] *(see page 126)*.

2 Using any of the following methods, select the directory.

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

Knob	Parameter	Adjustment	Setting values
1	List	Directory selection	1 and upwards

3 Press [Delete].

A confirmation message appears.
- Select “Yes” to delete the directory.
- Select “No” to cancel the deletion.

Copying Files Between Different Unit IDs

Switcher and DME files on the hard disk or a memory card are handled separately for each unit ID *(see page 138)*. With the normal file copy operation, it is not possible to copy files between different unit IDs. To copy files between different unit IDs, use the following procedure.

Displaying the Unit ID Copy menu

In the File menu, select VF7 'Configure' and HF2 'Unit ID Copy.'
The Unit ID Copy menu appears.

Copying files between different unit IDs

To copy files between different unit IDs, grouped by category, use the following procedure.

1 In the Unit ID Copy menu, press the category selection section at the top right of the screen.

2 Press the categories you do not want to select, turning them off.

3 Press [OK].

4 In the operating device selection section on the left list, select the storage location of the source files, and in the operating device selection section on the right list, specify the destination storage location.

For details, see "Selecting a Device for Operations" (page 126).

5 Using either of the following methods, select the copy source and copy destination unit IDs.

- Press directly on the list for the copy source on the left of the status area, and on the right for the copy destination.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knobs.

Knob	Parameter	Adjustment	Setting values
1	List L	Selection of copy source unit ID	1 to 4
2	List R	Selection of copy destination unit ID	1 to 4

6 Press [→Copy].

A confirmation message appears.

- Select "Yes" to carry out the copy to the specified destination of the selected file categories.
- Select "No" to cancel the copy.

Notes

If there is already data present in the copy destination, note that this will overwrite all of the data.

Saving Files Recalled by Autoload

If you save effect setting data, frame memory image files and so on in the PWON_LD directory on the hard disk, then when the system is powered on this data is recalled automatically. This is known as the autoload function. To save the data to be recalled by the autoload function, use the menu for operations on individual files.

For the data recalled by the autoload function, see "Saving data recalled by autoload" (page 124).

For the setting enabling or disabling the autoload function, see "Setting Automatic Loading of Register Data at Power On (Autoload Function)" (page 146).

For example, to save snapshot data, use the following procedure.

1 In the File menu, select VF3 'Snapshot' and HF1 'Snapshot.'

The Snapshot menu appears.

2 In the device selection area on the left, select [Register].

3 In the device selection area on the right, select [HDD].

Be sure to select [HDD] as the saving destination.

4 Select the PWON_LD directory.

The PWON_LD directory is automatically created when [Power On File Load] is set to On in the System >Start Up menu. If set to Off, the directory does not appear.

5 Using any of the following methods, select the data to be saved, and the file in which to save it.

- To select all files within the list, press [ALL] below the list.
- To select multiple files, turn the knobs to select in the following ranges.

Knob	Parameter	Adjustment	Setting values
1	List L	Select the first register whose data is to be saved	1 to 99
2	List R	Select the first file to which data is to be saved	1 to 99
3	Num	Number of registers to be selected	1 to 99

- To select a single file, press the arrow keys to scroll the reverse video cursor, or directly press on the list in the status area.

6 Press [→Save].

The data from the selected registers is saved in the specified destination.
If the specified destination already contains data, a confirmation message appears.
- Select "Yes" to overwrite the existing data.
- Select "No" to cancel the entire saving operation.

System Setup (System)

Chapter 18

Setup for the Whole System

Carry out operations relating to setup for the whole system in the Engineering Setup menu.
To access the Engineering Setup menu, press the top menu selection button [ENG SETUP].
Here the "whole system" refers to all devices connected on the Control LAN.
The DCU is connected through the control panel, but is also included in the "whole system."

Setting the unit ID

When there are two switchers and connected DME units on the same network, it is necessary to set the unit ID on each device, as follows.

Switcher	ID
1st switcher	1
2nd switcher	2

DME	ID
DME1 for 1st switcher (channels 1 to 4)	1
DME2 for 1st switcher (channels 5 to 8)	2
DME1 for 2nd switcher (channels 1 to 4)	3
DME2 for 2nd switcher (channels 5 to 8)	4

Notes

The unit ID for the MKS-7470X/7471X is DME1 or DME3.
- DME1 (unit ID: 1) when connected to the 1st switcher (unit ID: 1).
- DME3 (unit ID: 2) when connected to the 2nd switcher (unit ID: 3).

When the signal format is 1080P

You can connect up to four MVE-8000A units to the first switcher. The unit IDs for these DMEs are assigned as follows.

DME	ID
DME1 for 1st switcher (Ch1/2)	1
DME2 for 1st switcher (Ch3/4)	2
DME3 for 1st switcher (Ch5/6)	3
DME4 for 1st switcher (Ch7/8)	4

Notes

- When the signal format is 1080P, the MKS-7470X is always assigned DME1 (unit ID: 1), supporting four channels. An external DME unit (MVE-8000A) is assigned DME3 (unit ID: 3) or DME4 (unit ID: 4).
- The signal format for the second switcher cannot be changed to 1080P.

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

Network Settings (Network Config Menu)

This provides automatic configuration of all devices connected to the Data LAN (excluding the DCU), and displays a list of them.
To make the network settings, use System >Network Config menu.

To display the Network Config menu
In the Engineering Setup menu, select VF1 ‘System’ and HF1 ‘Network Config.’
The status area shows the device ID, and Control LAN and Data LAN IP addresses for each device excluding the DCU.

Making the Network Settings

Checking IP address automatically

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

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

2 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.

Notes

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

Using the NFS server

The address of the currently selected NFS server appears in the [NFS Server Address] box in the lower status area.

Notes

When the control panel is reset, no NFS server can be used via the Network Config menu. In this case, to use an NFS server, make sure to carry out the following procedure.

1 In the System >Network Config menu, press [NFS Server].

A keyboard window appears.

2 Enter the address of the server you want to use.

3 Press [NFS Mount].

System Settings (System Config Menu)

To make the system settings, use the System >System Config menu.
Specify the hierarchical relationship of the devices.

To display the System Config menu

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

Notes

After changing the following settings, be sure to press [Execute] to save the new values. If you want to cancel the setting changes without saving them, press [Clear].

Device hierarchical relationship setting

- **Panel Assign:** Specify the switcher controlled by a control panel.
- **Switcher Assign:** Specify the DME connected to a switcher.

Specifying the Switcher Controlled by the Control Panel

The number of control panels that can be connected to a single switcher depends on the signal format setting.
1080P: 2
Other than 1080P: 4

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

The Panel Assign menu appears.

2 Select the switcher to be controlled by the selected control panel, as follows.

In the <1st Switcher> group, set either [SWR1] or [SWR2] to On to select the switcher to be operated.
In the <2nd Switcher> group, set both [SWR1] and [SWR2] to Off.

3 To set the selected control panel as tally control master panel, press [Tally Master], turning it on.

If there are multiple panels and processors, the control panel for which [Tally Master] is set to On carries out tally control for the whole system.

Notes

- When there are multiple control panels, make sure that one of them has [Tally Master] set to On. When you change the master panel, be sure to copy and save the setup tally (TLY) and router (RTR) data in the File menu, and make the same settings for other panels.
- If you load the master panel tally data into a panel with a different unit ID, then [Tally Master] changes to Off.

To select the lighting mode of the switcher bus selection buttons on the remote panel

When switching buses with the MKS-8080/8082 AUX Bus Remote Panel or other remote panel connected via S-Bus data link, you can select the lighting mode of the bus selection buttons.
In the System >System Config >Panel Assign menu, select either of the following in the <S-Bus Remote Sw'er Status> group.

Mode 1: The inhibited buttons do not light even when pressed, and the other buttons light after a longer delay time than in Mode 2.

Mode 2: The delay time for button lighting is reduced, but even the inhibited buttons may light for a moment when pressed.

Notes

- Make sure that [Tally Master] is set to On.
- When simple connection is used between the center control panel and remote panel *(see page 252)*, this setting is disabled.

Specifying the DME Connected to the Switcher

1 In the System >System Config menu, press [Switcher Assign].

The Switcher Assign menu appears.

2 Using either of the following methods, select the switcher to which the settings apply.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.

The selected switcher appears in reverse video.

3 Make the DME settings as follows.

- **When making DME settings for SWR1,** for the first DME, select [DME1] in the <1st DME> group. For the second DME, select [DME2] in the <2nd DME> group. When a second DME is not connected, turn all buttons in the <2nd DME> group off.

- **When making DME settings for SWR2,** for the first DME, select [DME3] in the <1st DME> group. For the second DME, select [DME4] in the <2nd DME> group. When a second DME is not connected, turn all buttons in the <2nd DME> group off.

Notes

If you use the MKS-7470X/7471X, select either DME1 or DME3.

When the signal format is 1080P

You can connect up to four MVE-8000A units to SWR1. For SWR1, you can select a DME combination as follows, depending on the number of DMEs connected.

Only one DME connected: DME1
Two DMEs connected: DME1 and DME2
Three DMEs connected: DME1, DME2, and DME3
Four DMEs connected: DME1, DME2, DME3, and DME4

When you use both the MKS-7470X/7471X and MVE-8000A to the MVS-7000X, DME1 is assigned to the MKS-7470X/7471X and the selectable DME combinations are as follows.

Only one MVE-8000A unit connected: DME1 and DME3
Two MVE-8000A units connected: DME3 and DME4

Depending on the selected DME combination, press [DME1] (first DME), [DME2] (second DME), [DME3] (third DME), or [DME4] (fourth DME), turning them on. For SWR2, the signal format cannot be changed to 1080P.

Enabling the FM Data Port of the Switcher

With the FM data port enabled, frame memory data can be transferred in a short time between the switcher and the control panels.

Notes

If multiple control panels are in use, [FM Data Port Enbl] can be turned on for only one control panel per switcher.

1 In the System >System Config menu, press [Switcher Assign].

The Switcher Assign menu appears.

2 Using any of the following methods, select the switcher to be set.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.

The selected switcher is displayed in reverse video. If there is only one switcher on the network, make the setting only for SWR1 (the first switcher).

3 Press [FM Data Port Enbl], turning it on.

Setting the Signal Format (Format Menu)

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

To display the Format menu

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

Notes

After changing any of the following settings, be sure to press [Execute] (or [FC Format Execute] for changing the format converter signal format) to save the new values. If you want to cancel the settings and return to the original state, press [Clear] without pressing [Execute] or [FC Format Execute]. When you press [Execute], some data is lost (such as frame memory images). If you press [FC Format Execute], memory is not initialized, and this data is not lost.

Restrictions on signal formats and re-entry

Re-entry restrictions for an M/E on which a selected signal format can be used depend on whether or not the color corrector is used.

For details, see "Preparations" in Chapter 9 (Volume 1).

Setting the Signal Format

Specify the signal format to be handled by the devices. The combinations of signal formats that can be selected are as follows.

System	Field frequency	Effective number of scan lines
HD system	50	1080i
	59.94	
	50	1080P
	59.94	
	23.976	1080PsF
	24	
	25	
	29.97	
	50	720P
	59.94	
SD system	59.94	480i
	50	576i

Notes

When the MVS-8000X is used with the 1080P signal format or the MVS-7000X is used with multiple signal formats, you need to install software options *(see page 148)*.

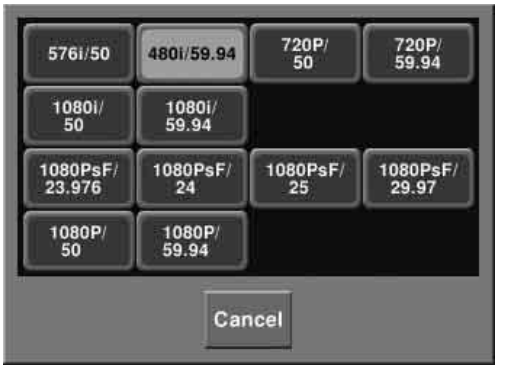
1 In the System >Format menu, select the device for operations.

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

Knob	Parameter	Adjustment	Setting values
1	Device	Selection of device for operations	1 and upwards

2 Press [Signal Format].

A pop-up window appears.



3 Press the button for the desired signal format.

Switching the Input Reference Signal for HD System

Notes

The input reference signal for the MKS-7470X/7471X is used in common with the switchers.

This changes the input reference signal.

- **Tri Sync:** tri-level sync for an HD system
- **BB (Black Burst):** black burst or sync

The following table shows the relation between signal format and the frequency of a signal that can be used as the input reference signal.

Signal format	Input reference signal		
	Tri Sync	Black burst	
1080PsF/29.97 1080P/59.94, 1080i/59.94	59.94	Black Burst 59.94	Sync 59.94
1080PsF/25 1080P/50, 1080i/50	50	Black Burst 50	Sync 50
1080PsF/24	48	–	
1080PsF/ 23.976	47.952	Black Burst 59.94 a)	Sync 59.94 a)
720P/59.94	59.94	Black Burst 59.94	Sync 59.94
720P/50	–	Black Burst 50	Sync 50

a) Interlock mode

Setting Conversion Formats

Installing the MKS-8450X Format Converter Board in the MVS-8000X/7000X enables signal video format conversions.
This operation is valid only when BB is selected in the <Ref Input Format> group.
In the MVS-7000X, format conversion is assigned to primary inputs in advance. For details about the primary input assignment, *see "Selecting the Primary Input to be Used in the Format Converter" (page 204)*.

Format converter

Installing the Format Converter Board in the switcher enables the following signal video format conversions.
- Up-conversion: from SD (4:3) to HD (16:9)
- Down-conversion: from HD (16:9) to SD (4:3)
- Cross-conversion: from HD (720P) to HD (1080i), or from HD (1080i) to HD (720P)

In the MVS-8000X, the maximum number of input signals for which format conversion is possible is 16 (or 8 when only one MKS-8450X board is installed), and the maximum number of output signals is 4 (two outputs when the MKS-8160X is not installed).
In the MVS-7000X, the maximum number of primary input signals for which format conversion is possible is 8, and the maximum number of output signals is 4 (two outputs when the MKS-8160X is not installed).

Notes

- After format conversion, input and output signals have one-frame delays with respect to the reference signals. To synchronize converted input signals and unconverted input signals, it is possible to delay the unconverted input signal.
  For details, see "To delay unconverted input signals (frame delay function)" (page 144).
- When the input reference signal for HD system is set to Tri Sync, the format converter function is not available. *For details, see "Switching the Input Reference Signal for HD System" (page 142).*

Format combinations allowing conversion

The supported combinations of switcher signal format and format converter (inputs 1 to 4, 5 to 8, 9 to 12 and 13 to 16) are as follows.
(Inputs 9 to 12 and 13 to 16 are available only in the MVS-8000X.)

Notes

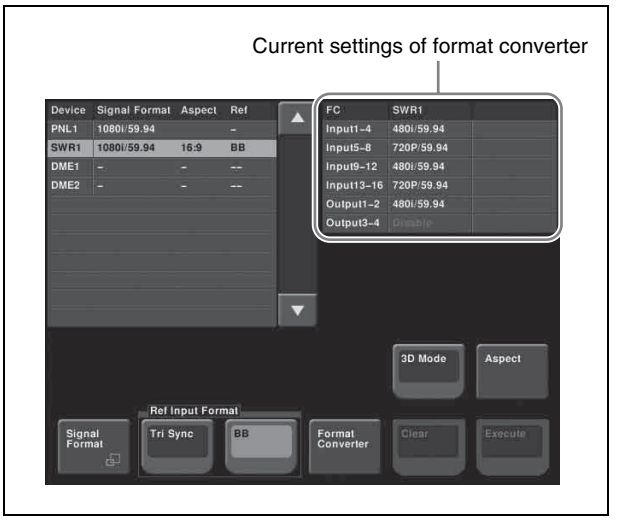
The format converter cannot be used when the signal format is 1080PsF/23.976 or 1080PsF/24.

Switcher signal format setting	Format converter signal format setting	
	FC Input 1 to 4, 5 to 8 / 9 to 12 a) / 13 to 16 a)	FC Output 1, 2 / 3, 4
480i/59.94	720P/59.94 1080i/59.94 1080PsF/29.97	720P/59.94 1080i/59.94 1080PsF/29.97
576i/50	720P/50 1080i/50 1080PsF/25	720P/50 1080i/50 1080PsF/25
720P/50	576i/50 1080i/50	576i/50 b) 1080i/50 b)
720P/59.94	480i/59.94 1080i/59.94	480i/59.94 b) 1080i/59.94 b)
1080i/50	576i/50 720P/50	576i/50 720P/50
1080i/59.94	480i/59.94 720P/59.94	480i/59.94 720P/59.94
1080PsF/25	576i/50	576i/50
1080PsF/29.97	480i/59.94	480i/59.94

a) Only on MVS-8000X
b) Output signals converted from 720P format are not synchronized to the switcher input reference signal.
On the destination device, do not use an external reference signal, but use an operation mode that can sync to the format converter output signal.

Setting the conversion format

1 Display the System >Format menu.



2 Click [Format Converter].

The Format Converter menu appears.

3 To select the conversion format for SWR1 format converter inputs 1 to 4, press [Input 1-4 Format] in the <SWR1 FC Input> group.

A pop-up window appears.

4 Press the button for the desired signal format.

5 For "Input 5-8 Format" in MVS-7000X and "Input 9-12 Format" and "Input 13-16 Format" in the MVS-8000X, set the desired signal format in the same way as in steps **3** and **4**.

6 To set the output format for format converters 1 and 2, in the <SWR1 FC Output> group press [Output 1-2 Format], then press the button for the desired format.

7 For "Output 3-4 Format," set the desired signal format in the same way as in step **6**.

8 With reference to steps **3** to **7**, make the settings for SWR2.

To delay unconverted input signals (frame delay function)

When the signal format is 1080i/59.94 or 1080i/50, you can press [Frame Delay] in the pop-up window shown in step **3** and step **5** to delay input signals.
For the format of the format converter input signal, the same format as the signal format is shown.

Notes

You can set the delay amount up to eight frames in units of frames.

For details, see "Selecting the Input to Which the Frame Delay Function Applies" (page 204).

Setting the Screen Aspect Ratio (Format Menu)

Switch the screen aspect ratio to 16:9 or 4:3.
To set the screen aspect ratio, use the System >Format menu.

Setting the screen aspect ratio

1 In the System >Format menu, press [Aspect].

The Aspect menu appears.

2 In the <Screen Aspect> group, select one of the following.

- 16:9
- 4:3
- Independ: Set the screen aspect ratio separately for M/E, P/P, and USER on the switcher, and for each channel independently on the DME.

3 If you selected [Independ] in step **2**, select from the following.

Switcher Aspect: Make the setting for the switcher.
DME Aspect: Make the setting for the DME.
A menu appears according to the selection.

4 Carry out either of the following, depending on the selection you made in step **3**.

When you selected [Switcher Aspect]: In each of the <M/E-1>, <M/E-2>, <M/E-3>, <M/E-4>, <P/P>, and <USER> groups, select either [16:9] or [4:3].
When you selected [DME Aspect]: For each of the <CH1> to <CH4> groups, select either [16:9] or [4:3].

5 To confirm the above setting, press [Aspect Execute].
To cancel the setting and return to the original state, press [Clear] without pressing [Aspect Execute].

When you press [Aspect Execute], a confirmation message appears.

6 Press [Yes].

Selecting the State After Powering On (Start Up Menu)

Set the initial state of the devices when the system is powered on.
For each device, you can select Resume mode or Custom mode.

Resume mode

This resumes the setting state at the previous power-off operation. This setting is only available for the switcher processor and control panel.

Custom mode

This uses the settings saved in non-volatile memory or ROM within the device.
In this mode, there are Setup and Initial Status settings which can be set separately.

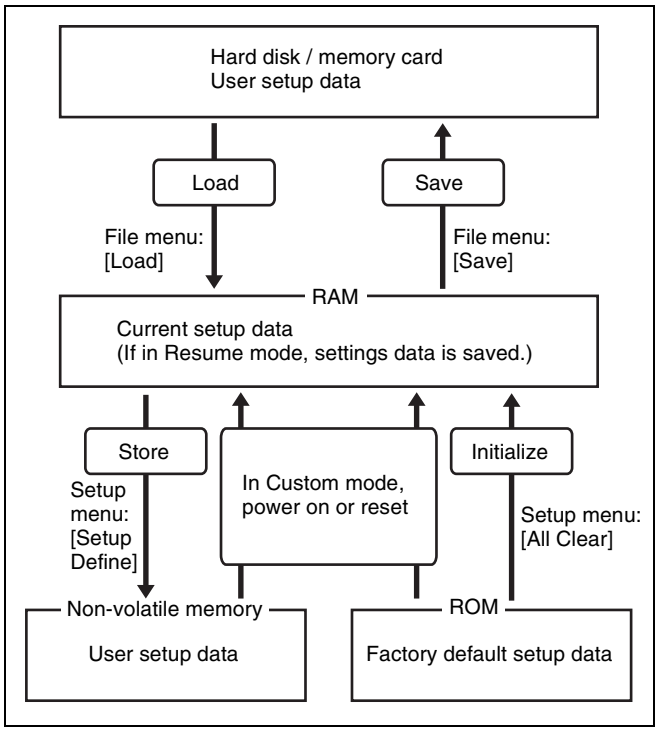
- **Setup mode:** Select the setup state to be used after powering on from the following.
  User: Start up using the user data previously saved with [Setup Define].
  Factory: Start up with the factory default settings.
- **Initial status mode:** Select the state of each device after powering on (excluding the settings to which "setup" applies).
  User: Start up using the user data previously saved with [Initial Status Define]. For the control panel, this applies to the key bus delegation buttons only.
  Factory: Start up with the factory default settings.

For details of saving and recalling setup data, see "Saving and Recalling Setup Data" (page 145) and the appendix "Data Saved by [Setup Define] and [Initial Status Define]" (page 265).

Autoload function

Switch on or off the function to automatically load predetermined register data or frame memory image data at power on. Set the data to be read in the File menu.

Saving and Recalling Setup Data



Concept of saving and recalling setup data

Updating the switcher or control panel setup data saves the updated setup data in RAM in each device.

- In Resume mode *(see page 145)*, even if devices are reset or powered off, the data is preserved in RAM, and recalled when the power is turned back on.

Notes

The Resume mode cannot be used for DMEs and DCUs.

- In Custom mode *(see page 145)*, the user-defined settings (user setup data) saved in non-volatile memory or factory default setup data held in ROM in each device is recalled when a reset is made or the power is turned back on *(see page 146)*.

Note that the setup data in RAM can also be saved to the control panel hard disk or memory card.
To set the initial state at start-up, use the System >Start Up menu.

Notes

It is not possible to set the DCU state at start-up, but its settings can be saved in the control panel.

To display the Start Up menu

In the Engineering Setup menu, select VF1 'System' and HF4 'Start Up.'
The status area shows the current start-up mode settings of each device.

Selecting the State at Start-up

1 In the status area of the System >Start Up menu, select the device to which the settings are to apply.

2 In the <Start Up Mode> group, select one of the following modes.

Resume: When this is on, Resume mode is enabled.
Custom: When this is on, Custom mode is enabled.

Notes

The Resume mode is only valid when a switcher or control panel is selected for the setting.

3 When Custom mode is selected, in each of the <Setup> group and <Initial Status> group, select one of the following.

User: When this is on, user-defined settings are used for the Setup or Initial Status settings. For the method of saving the user-defined settings, *see the next item*.
Factory: When this is on, factory default settings are used for the Setup or Initial Status settings.

4 To confirm the settings, press [Execute]. If you want to cancel the setting changes without saving them, press [Clear].

When [Execute] is pressed, a confirmation message appears.

5 Select [Yes].

Saving User-Defined Settings

Saving the Setup settings

1 After selecting the devices to which the settings apply to, in the System >Start Up menu, press [Setup Define].

A confirmation message appears.

2 Press [Yes].

This saves the setup settings for the selected devices in non-volatile memory within the respective devices.

For details about the settings which will be saved, see"Data Saved by [Setup Define] and [Initial Status Define]" (page 265).

Saving the Initial Status settings

1 After selecting the devices to which the settings apply to, in the System >Start Up menu, press [Init Status Define].

A confirmation message appears.

2 Press [Yes].

This saves the initial status settings other than the "setup" settings for the selected devices in non-volatile memory within the respective devices.

For details about the settings which will be saved, see "Data Saved by [Setup Define] and [Initial Status Define]" (page 265).

Setting Automatic Loading of Register Data at Power On (Autoload Function)

To have specified data read in at power on, in the System >Start Up menu, press [Power On File Load], turning it on. This enables the autoload function.
When the autoload function is enabled, a directory "PWON_LD" appears in the corresponding File menu.

About saving data which can be loaded by the autoload function, see "Saving Files Recalled by Autoload" (page 137).

Reset and Initialization (Initialize Menu)

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

- **Reset:** Reset to state after powering on.
- **All Clear:** Clear the memory, and carry out initialization. The Network Config, System Config, Format, and Start Up setup values are set by reference to data stored in non-volatile memory, and the system automatically starts up. It is not necessary to reset the Date/Time settings.

For more details, see "Saving and Recalling Setup Data" (page 145).

To display the Initialize menu

In the Engineering Setup menu, select VF1 'System' and HF5 'Initialize.'
The status area shows the current start-up mode settings.

Resetting the device and initializing memory

Notes

When the MVS-7000X is reset, the MKS-7470X/7471X is also reset at the same time.

1 In the status area of the System >Initialize menu, select the device to which the settings are to apply.

2 In the <Initialize> group, select one of the following modes.

Reset: Reset the device.
All Clear: Initialize memory.

3 Press [Execute].

A confirmation message appears.

4 Select [Yes].

Depending on the selection in step **2**, the following is the result.

- When you selected [Reset], a reset is applied to the device causing it to be restarted in the start-up state.
- When you selected [All Clear], all memory in the device is cleared, including snapshots, keyframe effects, setup, and so on, and the device returns to its factory default settings. However, the Network Config, Format, Start Up, and Date/Time settings are not initialized.

Installation and Device Setup (Install/Unit Config Menu)

To install software or firmware in a device, use the System >Install/Unit Config menu.
This installs the software and firmware in all devices (including the DCU) connected to the Data LAN.

Notes

The MKS-7470X/7471X software is included in the MVS-7000X software.

To display the Install/Unit Config menu

In the Engineering Setup menu, select VF1 'System' and HF6 'Install/Unit Config.'
The status area shows the version of the software and the firmware installed in each device.
The following functions are available here.

Install: Automatically detects the software that can be installed on each device, and installs the selected software.
Detail Information: Gives details of the software and firmware installed in each device.
Unit Config: Makes switcher processor settings and changes the DME input/output signal format.
License: Makes the license valid or invalid.

Displaying installation details

In the System >Install/Unit Config menu, press [Detail Information].
This accesses the Detail Information menu, and displays the detailed information on the software and firmware installed in the currently selected device.

Notes

When the MKS-7470X/7471X is selected, the Detail Information menu cannot be opened.

Installing Software

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

2 In the System >Install/Unit Config menu, press [Install].

The Install menu appears; the status area shows the following information.

Upper list: For each connected device, this shows the device name, current software version (Current), and the latest version that can be installed (Install, Title).
- **OK:** Installation already completed.
- **On:** For installation, but not completed.
- **Error:** An error occurred during installation.
- **Cancel:** Installation canceled.

Lower list: For the device selected in the upper list, this shows an automatically detected list of software that can be installed on the particular device. Also, software selected as a candidate for installation in the upper list is marked in the lower list with an bullet.

3 If you are satisfied with the currently installed version of all items in the upper list, skip to step **6**.

To change the items to be installed, use any of the following methods to select the relevant device.
- Press directly on the list in the status area.
- Use the arrow keys to scroll the reverse video cursor.
- Turn the knob.

Knob	Parameter	Adjustment	Setting values
1	Device	Device selection	1 and upwards

The display of the lower list changes according to the selected device.

Notes

When the MKS-7470X/7471X is selected, no software is displayed in the lower list.

To display all related software
Press [Display All Software], turning it on.
Not just the automatically detected software, but the names of all related software for the selected device appear.

4 In the lower list, select the software you want to install.

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

Knob	Parameter	Adjustment	Setting values
3	No	Software selection	1 and upwards

5 Press [Set].

The selection is reflected under "Install" and "Title" in the upper list.

6 Press [Install].

The "Install" box shows "On," confirming that this is to be installed. To cancel this installation setting, press "Install" once more, making the box blank.

7 Repeat steps **3** to **6**, to confirm all software to be installed.

8 Press [Execute].

A confirmation message appears.

9 Press [Yes].

This carries out the installation, and when it completes normally, the "Install" box shows "OK."

Making Settings Required to Use the Software

To use the software listed below, you are required to enter an install key which validates the software. (If the software has been factory installed, the install key is not required.) For the method of obtaining an install key, contact your Sony representative. To obtain a key, you may be required to submit the unique device ID of the switcher you are using. You can check the unique device ID in the Install/Unit Config menu of the switcher, using the following procedure.

When using the MVS-8000X

BZDM-9050	Texture Lighting Software (for MVE-9000)
BZS-8050	Editing Control Software
BZS-8200X	Multi Program 2 Software
BZS-8420X	Color Corrector Software
BZS-8560X	Switcher Upgrade Software
BZDM-8560	DME Upgrade Software a)

a) This can be used only on MVE-8000A.

When using the MVS-7000X

BZS-7500X a)	Switcher Upgrade Software
BZS-7510X	
BZS-7520X b)	
BZS-7530X c)	
BZS-7540X d)	DME Upgrade Software
BZS-7541X e)	
BZS-7561X	
BZDM-8560 f)	
BZDM-9050 g)	Texture Lighting Software
BZS-8050	Editing Control Software
BZS-7200X	Multi Program 2 Software
BZS-7420X	Color Corrector Software

BZS-7560X	Switcher Upgrade Software

a) This is used for license registration common to the MVS-7000 and the MKS-7470X/7471X.
b) This is used for license registration required to support multiple signal formats when two MKS-7210X boards are used.
c) This is used for license registration required to support multiple signal formats when three MKS-7210X boards are used.
d) This is used for license registration required to support multiple signal formats on the MKS-7470X.
e) This is used for license registration required to support multiple signal formats on the MKS-7471X.
f) This can be used only on MVE-8000A.
g) This can be used only on MVE-9000.

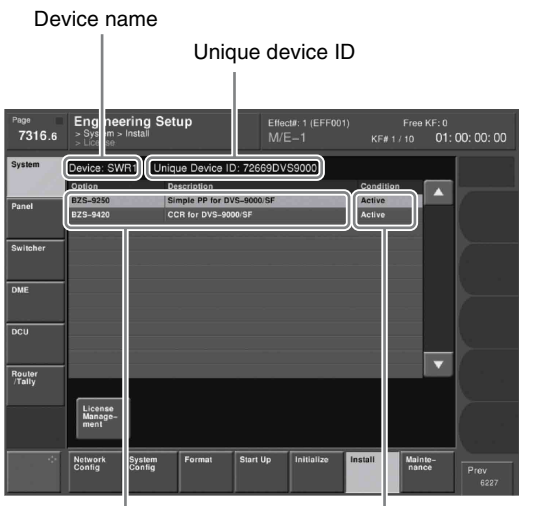
To display the unique device ID

1 In the System >Install/Unit Config menu, use either of the following methods to select the device for which you want to register the license.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.

2 Press [License].

The License menu appears as follows.



Entering the install key

When you have the install key, carry out the following procedure.

1 In the System >Install/Unit Config menu, use either of the following methods to select the device for which you want to register the license.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.

2 Press [License].

The License menu appears.

3 Press directly on the name of the software you want to license (the Condition box is blank).

4 Press [License Management].

The License Management menu appears.

5 Press [Activate License].

A keyboard window appears.

6 Enter the 16-character install key you have been given, and press [Enter].

A license registration completed message appears.

7 Press [OK].

The status area Condition box shows “Active.”

8 Using either of the following methods, restart the device.

- In the System >Initialize menu, with only the device for which you registered the license being selected, press [Reset] in the <Initialize> group and then press [Execute].
- Power off and on again.

After restarting, the licensed software is now available for use.

(In case it becomes necessary to cancel the license registration, you can use the following procedure.)

To cancel the license registration

1 In the System >Install/Unit Config menu, use either of the following methods to select the device for which you want to cancel the license registration.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.

2 Press [License].

The License menu appears.

3 Press directly on the name of the software for which you want to cancel the license registration (the Condition box shows “Active”).

4 Press [License Management].

The License Management menu appears.

5 Press [Deactivate License].

A confirmation message appears.

6 Press [Yes].

A license registration canceled message appears.

7 Press [OK].

The status area Condition box showing *"Active"* changes to blank.

8 Using either of the following methods, restart the device.

- In the System >Initialize menu, select only the device for which you registered the license, and press [Reset] in the <Initialize> group.
- Power off and on again.

After restarting, the software for which the license registration has been canceled is no longer available.

Adding User Texture Patterns

You can add user created texture patterns to the repertory of texture patterns with which the spotlighting function enables the light falls on the image surface.

Notes

This function is not supported on the MVE-8000A and MKS-7470X/7471X.

For details of spotlighting and texture patterns, see "Spotlighting Settings" in Chapter 11 (Volume 1).

The procedure for adding a texture pattern is as follows.

Prepare the texture file *(next item)*

↓

Create the texture package *(page 151)*

↓

Install the texture package *(page 152)*

To prepare a texture file

Create a texture file meeting the following conditions, and save it on a memory card.

File format: Windows bmp ("bitmap") (extension: bmp, 24-bit RGB)

File name: alphanumeric (maximum 8 characters) + extension (bmp)

Example: wood_01.bmp

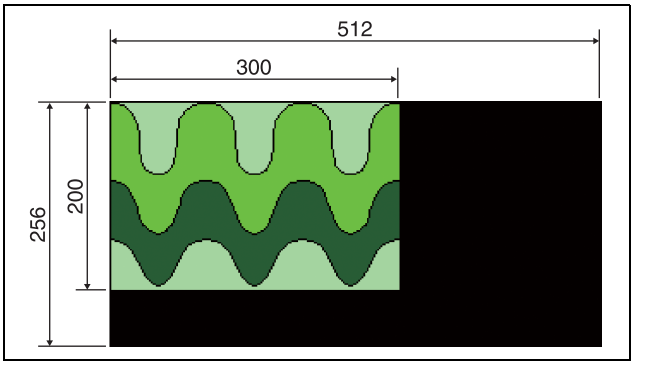
Image size (horizontal × vertical): 128 × 128 to 1024 × 1024 pixels

The maximum number of texture files that can be handled by the system is related to the image size of the texture files, as shown in the following table (when all images are the same size).

Dimension (vertical) \ Dimension (horizontal)	Maximum number of texture files handled: 128 pixels	256 pixels	512 pixels	1024 pixels
128 pixels	64	32	16	8
256 pixels	32	16	8	4
512 pixels	16	8	4	2
1024 pixels	8	4	2	1

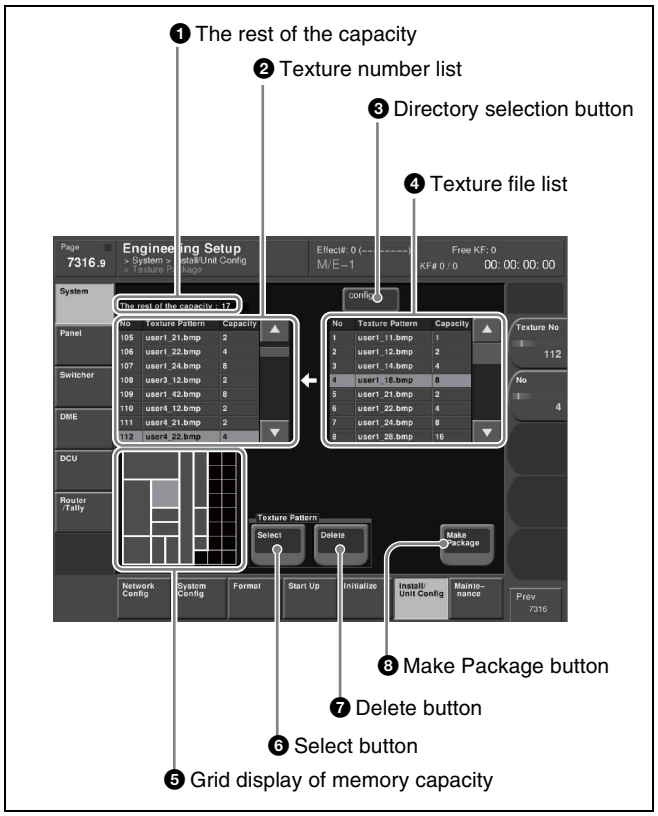
Notes

- Different image sizes can be combined, but this affects the total number of texture files that can be handled.
- The number of texture files that can be handled may be reduced, depending on the way in which they are stored in memory.
- For a texture file with an image size outside the specification, the minimum enclosing image size is applied *(see table above)*, and the region below and to the right is filled with black.
  Example: a 300 × 200 pixel texture file is treated as 512 × 256 pixels.



Texture Package menu

To create user texture patterns, use the Texture Package menu.



❶ The rest of the capacity (available memory space)
This shows an available memory space in units of 128×128 pixels (a maximum of 64 units of memory space is available).

❷ Texture number list
This shows the texture numbers (101 to 164) registered in the texture package.
The list Capacity shows the file size in units of 128×128 pixels (a total maximum of 64 units of texture files can be registered).

❸ Directory selection button
By pressing this button to display the popup window, you can select a directory on the memory card.

❹ Texture file list
This shows the texture files stored on the memory card.
If a texture file is stored in a directory, press the directory selection button and select the directory in the popup window, to show a list of files.
The list Capacity shows the file size in units of 128×128 pixels.

❺ Grid display of memory capacity
This shows how the texture files are stored in memory (an 8×8 grid, of 64 squares, each equivalent to 128×128 pixels).
And this shows the location where the texture files are stored in memory by bold frames. The grid for the texture file selected in the texture number list is shown in amber.

❻ Select button
Pressing this button assigns the texture file selected in the texture file list to the number selected in the texture number list.

❼ Delete button
Pressing this button deletes the texture file assigned to the number in the texture number list.

❽ Make Package button
Pressing this button creates the texture package.

Creating a texture package

To use a user-provided texture pattern with the spotlighting function, it is necessary to convert the texture files to vector files for bump mapping. This operation is referred to as “creating a texture package.”

1 Insert the memory card holding the texture file into the memory card slot.

2 In the Engineering Setup menu, select VF1 ‘System’ and HF6 ‘Install/Unit Config.’

The Install/Unit Config menu appears; the status area shows the version information for the software installed on the various devices.

3 Using any of the following methods, select a DME for which the spotlighting license is valid.

Notes

The MKS-7470X/7471X does not require license registration.

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

4 Press [Texture Package].

Notes

If you select a device for which the spotlighting license is not enabled, then [Texture Package] is not enabled.

5 In the texture number list, select the number for which you want to register the texture package, by any of the following methods.

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

Knob	Parameter	Adjustment	Setting values
1	Texture No	Texture number selection	101 to 164

6 In the texture file list, select the texture file by any of the following methods.

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

Knob	Parameter	Adjustment	Setting values
2	No	Texture file selection	1 and upwards a)

a) The range of the setting values depends on the number of saved files on a memory card.

7 In the <Texture Pattern> group, press [Select].

This assigns the texture file selected in step **6** to the number selected in step **5**, and updates the texture number list.
The grid display of memory capacity shows the location where the texture files are stored in memory by bold frames. The grid portion for the texture file selected in the texture number list is shown in amber.

8 Repeat steps **5** to **7**, to assign all of the texture files to texture packages.

Notes

- If you assign a texture file that is already in the texture number list to a different texture number, then the previous assignment is deleted. (It is not possible to assign the same texture file to two or more different texture numbers.)
- In the following cases, texture file assignment is not possible.
  - If there is no available memory space ("The rest of the capacity:0" appears)
  - If the selected texture file is too large to fit in the available memory space

To delete a texture file assignment
Select the texture file (multiple selections are not possible) you want to delete in the texture number list, and in the <Texture Pattern> group press [Delete].

9 To create the texture package, press [Make Package].

A confirmation message appears.

10 Select [OK].

The texture package is created in the same location that the texture file is stored on the memory card (extension: zsp, file name generated automatically).

Notes

- If you remove the memory card on which the texture file is stored, it is not possible to create the texture package.
- If a texture package is already present on the memory card, it is overwritten by a new texture package.
- If you carry out steps **9** and **10** without having assigned even one texture file, it is not possible to create a texture package.
- If there is insufficient space on the memory card to store the texture package, an error message appears, and the process is aborted. If this happens, delete unwanted files from the memory card using your computer, so that there is enough free space on the memory card, and repeat the process. (As a guide, the space required is approximately equal to total number of bytes of the texture files assigned in steps **5** to **8**.)

Installing the texture package

1 Insert the memory card holding the texture package into the memory card slot.

2 In the Engineering Setup menu, select VF1 'System' and HF6 'Install/Unit Config.'

The Install/Unit Config menu appears; the status area shows the version information for the software installed on the various devices.

3 Press [Install].

The System >Install/Unit Config >Install menu appears; the status area shows the following information.

Upper list: For each connected device, this shows the device name, current software version (Current), and the information about the texture package that can be installed (Install, Title).
- **OK:** Installation already completed.
- **On:** For installation, but not completed.
- **Error:** An error occurred during installation.
- **Cancel:** Installation canceled.

Lower list: For the device selected in the upper list, this shows an automatically detected list of software that can be installed on the particular device. Also, software selected as a candidate for installation in the upper list is marked in the lower list with an asterisk.

4 Using any of the following methods, select in the upper list a DME for which the spotlighting license is valid.

- Press directly on the list in the status area.

- Use the arrow keys to scroll the reverse video cursor.
- Turn the knob.

Knob	Parameter	Adjustment	Setting values
1	Device	Device selection	1 and upwards

5 Press [Display All Software], turning it on.

The lower list shows the texture packages.

6 Using any of the following methods, select the texture package you want to install from the lower list.

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

Knob	Parameter	Adjustment	Setting values
3	No	Package selection	1 and upwards

7 Press [Set].

The selection is reflected under “Install” and “Title” in the upper list.

8 Press [Install].

The “Install” box shows “On,” confirming that this is to be installed. To cancel this installation setting, press “Install” once more, making the box blank.

9 To carry out the installation, press [Execute].

A confirmation message appears.

10 Select [Yes].

This carries out the installation, and when it completes normally, the “Install” box shows “OK.”

Saving a Frame Memory Clip With Ancillary Data

Notes

When the signal format is 1080P, this operation is not possible.

1 In the System >Install/Unit Config menu, select [SWRx], and press [Unit Config].

The Unit Config menu appears.

2 Press [FM Ancillary], turning it on.

On: Save with ancillary data.
Off: Save without ancillary data.

Notes

Enabling this selection by pressing [Execute] in the following step reinitializes all frame memory data. Make backups of required data beforehand.

3 Press [Execute].

A popup window appears, displaying a message.

4 Check the message, and select [Yes].

Setting the DME Input/Output Signal Format

Notes

This setting is only valid when the system signal format is set to 1080P.

1 In the System >Install/Unit Config menu, select [SWRx], and press [Unit Config].

The Unit Config menu appears.

2 In the <DME I/F Type> group, press one of the following.

3G Mode: Use 3G mode (single 3G SDI signal) for DME input/output. [1)]
Dual Link Mode: Use dual link mode (two 1.5G SDI signals) for DME input/output. [2)]

1) 3G SDI: Standard defined by SMPTE 424M
2) Dual link: Standard defined by SMPTE 372M

Notes

- When the MKS-7470X/7471X is used, this setting is fixed to “3G Mode.”
- When “Dual Link Mode” is selected, half as many DME units can be connected to the switcher. In this case, the available channels are DME1 channels 1 and 2, and DME2 channels 3 and 4.
- When “Dual Link Mode” is selected, you cannot use an external DME unit (MVE-8000A/MVE-9000) connected via the SDI interface.

3 Press [Execute].

A popup window appears, showing a message.

4 Check the message, and select [Yes].

System Maintenance (Maintenance Menu)

- Date and time setting
- Formatting a memory card
- Primary settings for USB external storage device
- Reloading a USB driver
- Formatting the hard disk
- Locking setup menu operations
  - For each VF button group, selecting a set of candidate menus to be locked, then locking all of the candidates using a password. Except for list scrolling, moving menus, and similar operations, menu operations for all settings can be locked.
  - Changing the password
- Locking file recall operations
  - Locking file recall operations by category
  - Locking and removing the lock using the password (You can change the password.)

To display the Maintenance menu

In the Engineering Setup menu, select VF1 'System' and HF7 'Maintenance.' In the status area, the current date and time, and details of the memory card appear.

Setting the Date and Time

1 In the System >Maintenance menu, turn the knobs to set the following parameters.

Parameter group [1/2]

Knob	Parameter	Adjustment	Setting values
1	Hour	Hour	0 to 23
2	Min	Minute	0 to 59
3	Sec	Second	0 to 59

Parameter group [2/2]

Knob	Parameter	Adjustment	Setting values
1	Month	Month	1 to 12
2	Day	Day	1 to 31
3	Year	Year	2000 to 2037

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

2 Press 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.

Using a Memory Card

Displaying memory card information

1 Insert the memory card into the memory card slot.

2 In the <USB Storage Device> group of the System >Maintenance menu, press [Refresh].

Formatting a memory card

Notes

Format a memory card before using it for the first time.

1 Insert the memory card in the memory card slot.

2 In the System >Maintenance menu, using either of the following methods, select the USB device.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.

3 In the <USB Storage Device> group, press [Format].

A confirmation message appears.

4 To carry out the formatting, press [YES].

Carrying Out the Primary Setting

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

Notes

Without this setting, you cannot use the "Memory Card" item in the File menu to access a memory card on a storage device connected to the USB device.

1 In the System >Maintenance menu, using any of the following methods, select the USB device you want to set as primary.

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

Knob	Parameter	Adjustment	Setting values
5	Mount Point	USB device selection	1 to 18

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

Making the primary setting automatic

In the <USB Storage Device> group, press [Auto Detect].

Reloading a USB Driver

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

Notes

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

Initializing the Hard Disk

If a file system corruption error has occurred on the hard disk, you should initialize the hard disk.

1 In the <HDD> group of the System >Maintenance menu, press [HDD Format].

Notes

When the hard disk is operating normally, pressing [HDD Format] has no effect.
An initialization confirmation message appears.

2 To execute the initialization operation, press [Yes]. To cancel, press [No].

If you have pressed [Yes], the hard disk initialization operation is executed, and a finished message appears.
If you have pressed [No], the initialization operation is canceled, and the System >Maintenance menu appears again.

3 Press [OK].

Locking the Setup Menu Settings

To protect the data, you can inhibit operations in selected setup menus. Use the following procedure. (It is not possible to lock the Setup Operation Lock menu.)

1 In the System >Maintenance menu, press [Setup Operation Lock].

The Setup Operation Lock menu appears.

2 In the <VF Group> group, select the group including the desired menu.

The status area shows a list of menu numbers and menu names in the selected group.

Subsequent lock operations apply within the group selected here.

3 Using any of the following methods, select the menu or the set of menus as candidates for the locking operation.

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

Knob	Parameter	Adjustment	Setting values
1	No	Selection of a menu by its number in the list	1 and upwards
3	Num	Selection of number of menus in the list	1 and upwards

- To select all setup menus within the selected group, press [ALL].

You can also select a menu while it is open *(see page 156)*.

4 Press [Lock Item Select].

This makes the selected menus candidates for locking, and a padlock icon appears in the “Lock” box (in the unlocked state)  .

Notes

If there are already one or more locked menus, selection of lock candidates is not possible.

To deselect a lock candidate

After selecting a menu, press [Lock Item Select] once more, to clear the Lock box.

To deselect all lock candidates in the selected VF group

Press [Lock Item All Clear].

5 Repeat steps **2** to **4**, to select all of the lock candidates.

6 Press [Lock].

A keyboard window appears.

7 Enter the password with a maximum of 16 characters, and press [Enter].

If the password is correct, the menus selected in the list of candidates are all locked. The padlock icon changes to the locked state  .

Releasing the lock

When a lock is already applied, use the following procedure.

1 In the System >Maintenance >Setup Operation Lock menu, press [Lock].

A keyboard window appears.

2 Enter the password.

If the password is correct, the lock is released, and the padlock icon disappears.

Changing the lock password

1 In the System >Maintenance >Setup Operation Lock menu, press [Change Password].

A confirmation message appears.

2 Press [Yes].

A keyboard window labeled “Old Password” appears.

3 Enter the old password, and press [Enter].

If the password is correct, a keyboard window labeled “New Password” appears.

4 Enter the new password, and press [Enter].

A keyboard window labeled “New Password(Confirm)” appears.

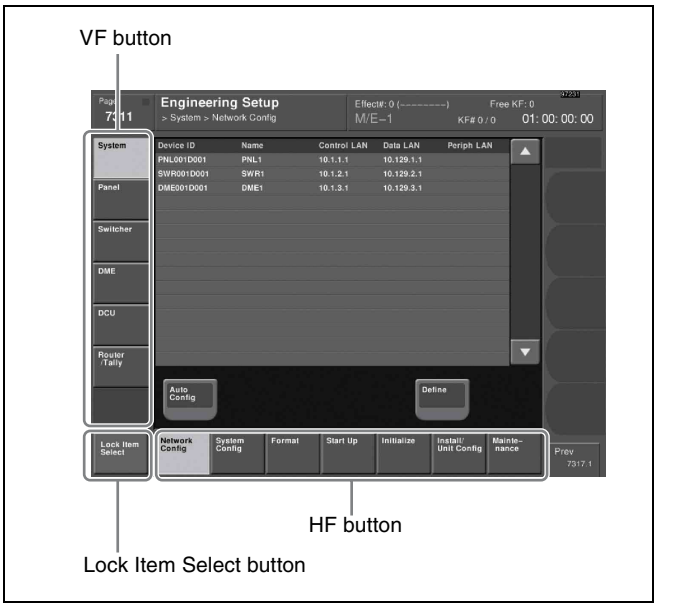
5 Enter the new password once more for confirmation, and press [Enter].

If the password is correct, the password change completed message appears.

6 Press [OK].

Selecting an opened setup menu for locking

With the menu you want to lock open, press [Lock Item Select] button at the lower left.

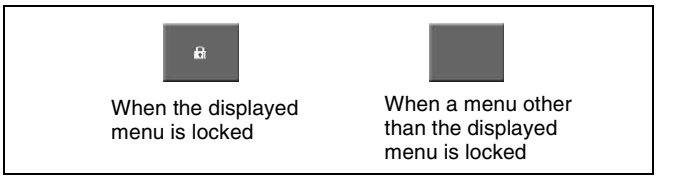


The [Lock Item Select] button turns red, and a padlock icon appears.

This selection is reflected in the lock candidate list in the Setup Operation Lock menu.

Notes

If there are already one or more locked menus, selection of lock candidates is not possible.
In this case, the indication of the [Lock Item Select] button changes as follows.



If you want to select lock candidates, first remove the lock in the Setup Operation Lock menu.

Locking File Loading Operations

You can inhibit load operations for a specified file category.

1 In the System >Maintenance menu, press [File Load Lock].

The File Load Lock menu appears.
The status area shows a list of file category numbers, category names, and the lock status.
Subsequent lock operations apply to the category selected here.

2 Using any of the following methods, select the category or the set of categories as candidates for the locking operation.

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

Knob	Parameter	Adjustment	Setting values
1	No	Selection of a category by its number in the list	1 to 14
3	Num	Selection of number of categories in the list	1 to 14

- To select all categories, press [ALL].

3 Press [Lock].

This makes the selected categories candidates for locking. The category name display color changes to yellow, and the indication "Lock" is displayed in yellow in the Lock box.

To deselect a lock candidate
After selecting a category, press [Clear] to clear the indication "Lock" in the Lock box.

4 Repeat steps **2** and **3**, to select all of the lock candidates.

5 Press [Execute].

A keyboard window appears.

6 Enter the password with a maximum of 16 characters, and press [Enter].

If the password is correct, the categories selected in the list of candidates are all locked. The category name display color and the "Lock" indication color in the Lock box both change to white.

To release the lock

When a lock is already applied, use the following procedure.

1 In the System >Maintenance >File Load Lock menu, press [Lock].

A keyboard window appears.

2 Enter the password.

If the password is correct, the lock is released, and the indication "Lock" in the Lock box disappears.

To change the lock password

In the System >Maintenance >File Load Lock menu, press [Change Password], and carry out step **2** and following of *"Changing the lock password" (page 156)*.

Chapter 19 Control Panel Setup (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 M/E and PGM/PST banks, the allocated bank names, and whether or not operation is enabled.

Panel Setup

In panel setup, you carry out settings particular to the control panel.
You can make the following settings.

Panel settings (Config)

- **M/E Assign:** Set the logical configuration of the M/E and PGM/PST banks.
- **M/E Operation:** For each of the M/E and PGM/PST banks, make operations possible, not possible, or disabled (Enable/Disable/Inhibit).
- **Dual M/E Assign:** Using two M/E banks, assign the shift and non-shift button rows of a single M/E bank.
- **Dual M/E Xpt Swap:** When a setting has been made for Dual M/E Assign, swap the shift and non-shift button rows.
- **DSK Fader Assign:** Carry out fader function assignment and key delegation for the key delegation buttons, in each of the maximum of four downstream key control blocks.
- **External Bus Link:** Make link settings relating internal switcher buses to routing switcher destinations.
- **Key Trans Link:** Select whether or not to link transitions between keyers, and if so which keyer to link to. You can set the links between keyers for each M/E bank separately.
- **Joystick/Trackball User Setting:** When a trackball module and a joystick module are both connected as device control blocks, select which is used as the reference. Also select whether key wipe positioning applies to keys 1 to 8, or to keys 1 to 4.
- **10 Key Region Assign:** Assign any regions to the region selection buttons in the numeric keypad control block. Also used for setting the regions included in the selection when the [All] button is pressed.
- **Program Button:** Make assignments for buttons of some control blocks such as assigning the buttons in a transition control block for controlling a VTR and assigning the Flexi Pad control block to macro operation.
- **Compact Key Module Assign:** You can select which keys can be operated with an independent key transition control block (simple type).
- **M/E Operation Inhibit:** For each M/E or PGM/PST bank, enable or inhibit utility 2 bus-related and key-related operations.
- **Joystick/Trackball Module:** Enable or inhibit DME channel selection operations from the device control block (trackball) or device control block (joystick).

Interchanging the Bank Order or Disabling Operation

1 In the Panel >Config menu, select the Bank you want to set, using any of the following methods.

- Press directly on the status area display.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

Knob	Parameter	Adjustment	Setting values
1	Bank	Select the position of the bank you want to set	1 to 7

The Bank selection here indicates the physical position on the control panel, numbering from the top as the 1st Row, 2nd Row, 3rd Row, and 4th Row.
This is followed by the system control unit extension interface ports 1, 2, and 3.

2 Select the bank that you want to assign to the selected Bank number in the <M/E Assign> group.

The status area shows the interchanged state of the banks.

Notes

- It is not possible to assign the same M/E logical bank to more than one physical bank. Be sure to make different M/E assignments.
- When the bank order is changed, the state of region selection button assignment in the numeric keypad control block also changes correspondingly.

3 For the selected Bank number, in the <M/E Operation> group, select one of the following.

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

Notes

When this is set to Inhibit, snapshots of the bank are not recalled.

Assigning Two M/E Banks to One M/E Bank

1 In the Panel >Config menu, select the M/E bank for which you want to make the setting.

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

Knob	Parameter	Adjustment	Setting values
1	Bank	Selection of position of bank for which you want to make the setting	1 to 7 a)

a) Depends on the center control panel configuration. When 7 (Ext 3) is selected, or a switcher bank is selected which is immediately above a switcher bank to which nothing is assigned, then [Dual M/E Assign] is invalid.

For example, if the furthest bank from you is assigned to M/E-1, and you want no shift button operation for the bank, select 1 (1st Row) for Bank.

2 Press [Dual M/E Assign].

This assigns the furthest M/E bank from you to the unshifted (shifted) cross-points and the M/E bank in front of it to the shifted (unshifted) cross-points. For fader lever operations, only the M/E bank closer to you is enabled.
The shift/non-shift assignment is set by [Dual M/E Xpt Swap].

For more details, see the next section, "Interchanging shifted and non-shifted operations for a dual M/E."

To return to the original assignment

Interchange the bank order *(see page 158)*.

Interchanging shifted and non-shifted operations for a dual M/E

1 In the Panel >Config menu, select the M/E bank for which the dual M/E setting is made.

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

Knob	Parameter	Adjustment	Setting values
1	Bank	Bank to be selected for dual M/E setting	1 to 7

2 Press [Dual M/E Xpt Swap], toggling it on or off.

On: The lower M/E bank is non-shifted, and the higher M/E bank is shifted.
Off: The lower M/E bank is shifted, and the higher M/E bank is non-shifted.

Assigning the Key Delegation in the Downstream Key Control Block

As an example, to assign key 4 of the M/E-1 bank to key delegation button 1 of the downstream key control block 1, use the following procedure.

1 In the Panel >Config menu, press the [DSK Fader Assign].

The DSK Fader Assign menu appears.

2 Directly press on the indications in the status area, to select the downstream key control block for which you want to make the setting, and select the key delegation.

Here, press on the intersection of the “1st Module” column and “Key1 Assign” row.

3 In the <M/E Select> group, select the bank of the key you want to assign.
Here, select [M/E-1] as an example.

4 In the <Key Link Select> group, select the key you want to assign.
Here, select [Key4] as an example.

5 Press [Fader Assign] in the DSK Fader Assign menu.

The Fader Assign menu appears.

6 To disable the fader lever of the selected downstream key control block, select [Disable] in the <Fader Assign> group.
To enable the fader lever, select one of the following in the <Fader Assign> group, determine the key to which the fader lever operation applies.

All: Key selected with one of the key delegation buttons
Key1 to Key4: Key assigned to key delegation buttons 1 to 4 ([DSK1] to [DSK4] buttons)

Linking Switcher Bus and Router Destination

To provide links between the switcher bus and router destination, make the following settings as required.
Matrix selection: Select the target of link setting from the eight matrices (1 to 8).
Matrix position definition: Set the start address and level for the source and destination on the S-Bus.
Link table setting: Link a switcher cross-point button and matrix source.
Link bus setting: Link a switcher bus address and router destination.

Selecting a matrix number

1 In the Panel >Config menu, press [Link/Program Button].

The Link/Program Button menu appears.

2 In the <Link> group, press [External Bus Link].

The External Bus Link menu appears.
The status area shows the current link status.

3 Turn the knobs to select the matrix.

Knob	Parameter	Adjustment	Setting values
1	Link No	Link number	1 to 64
2	Link Matrix	Matrix number	1 to 8

In the status area, the color of the selected part changes.

4 Press [Link Matrix Set].

This confirms the matrix selection and the selected part in the status area returns to the previous color.

To delete a link
With the link selected, press [Clear].

Defining the position of a matrix

Specify where in the 1024 × 1024 S-Bus space the link matrix is to be provided, by setting the source and destination start address.
For the matrix selected in the External Bus Link menu, use the following procedure.

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

The Link Matrix Adjust menu appears.
The status area shows the status of the currently selected matrix, and a list of the source and destination start addresses that can be selected.
In this menu too, you can use the knobs to select the link for the setting.

2 Using any of the following methods, define the position of the matrix to be linked.

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

Knob	Parameter	Adjustment	Setting values
2	Source	Source start address	1 to 897
3	Destination	Destination start address	1 to 897
4	Level	Level	1 to 8

3 To confirm a source address selected in step **2**, press [Source Set], to confirm a destination address press [Destination Set], and to confirm a level press [Level Set].

This confirms the selection, which is reflected in the status area.

Setting a link table

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

1 In the Panel >Config >Link/Program Button >External Bus Link >Link Matrix Adjust menu, press [Link Table Adjust].

The Link Table Adjust menu appears.
The status area lists the status of the currently selected link, combinations of video signals and sources, and the sources that can be selected.

2 Using any of the following methods, select the switcher cross-point button and the matrix source to be linked to the button.

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

Knob	Parameter	Adjustment	Setting values
1	Main No	Switcher cross-point button	1 to 300
2	Source No	Matrix source selection	1 to 128

3 To confirm the matrix source selection made in step **2**, press [Link Source Set].

This confirms the selection, which is reflected in the status area.

4 As required, repeat steps **2** and **3** to select the matrix sources to be linked to other cross-point buttons.

To initialize the set links

In the Panel >Config >Link/Program Button >External Bus Link >Link Matrix Adjust menu, press [Init Link Table].
A confirmation message appears.
Press [Yes].
The links set using the above procedure are initialized to the default settings, and this is reflected in the status area.

Making link bus settings

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

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

The Link Bus Adjust menu appears. The status area lists the current link status, and the switcher buses and router destinations that can be selected.
In this menu too, you can use knob 1 to select the link to be set.

2 Using any of the following methods, select the switcher bus and the router destination to be linked to the switcher bus.

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

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

3 To confirm the bus selected in step **2**, press [Master Bus Set], and to confirm the destination press [Linked Dest Set].

This confirms the selection, which is reflected in the status area.

Linking Transitions Between Keyers

1 In the Panel >Config menu, press [Link/Program Button].

The Link/Program Button menu appears.

2 In the <Link> group, press [Key Trans Link].

The Key Trans Link menu appears.
The status area shows the keyers for each M/E bank and the linked keyers.

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

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

Knob	Parameter	Adjustment	Setting values
1	Master Key	Select keyer to be master	1 to 40

The selected keyer appears in reverse video.

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

Notes

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

Linking the Next Transition Selection Buttons

To the transition links between keyers, you can add a link for the next transition selection buttons in the transition control block. The effect of this additional link is such that if for example, two keyers (Key 2 and Key 3) are linked with the master keyer (Key 1), pressing the [KEY1] next transition selection button also selects the [KEY2] and [KEY3] buttons.

1 Set the transition links between keyers.

For details of the operation, see the previous section "Linking Transitions Between Keyers."

2 Press [Next Trans Link], turning it on.

The [KEY1] to [KEY8] next transition selection buttons in the transition control block are now selected coupled to the settings in the Key Trans Link menu for transition links between keyers.

Notes

These settings apply to the whole Key Trans Link menu. It is not possible to make separate settings for each master keyer.

Selecting the Module to Be the Reference for Device Control Block

When both trackball and joystick device control blocks are connected, select which is to be the reference. Also select the range to which key wipe positioning applies.

To select the reference module

1 In the Panel >Config menu, press [JS/TB User Setting].

The JS/TB User Setting menu appears.

2 In the <Reference Module> group, select one of the following.

Trackball: Trackball device control block
Joystick: Joystick device control block

To select the range to which key wipe positioning applies

In the Panel >Config menu <Wipe Pos Key Select Module> group, select one of the following.
KEY1-4: Applies to keys 1 to 4.
KEY1-8: Applies to keys 1 to 8.

Notes

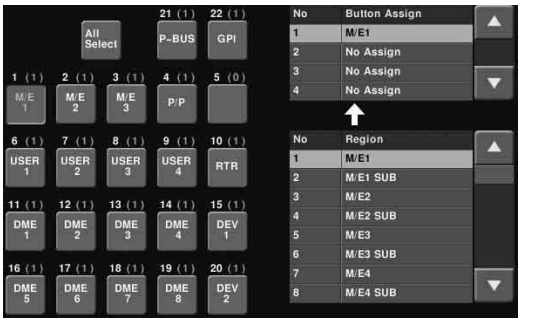
When "KEY1-8" is selected, after selecting more than one key it is not possible to carry out key wipe positioning. There is no such restriction when "KEY1-4" is selected.

Assigning a Region to the Region Selection Buttons in the Numeric Keypad Control Block or Multifunction Flexi Pad Control Block

You can set a maximum of four regions to each of the region selection buttons in the numeric keypad control block or Multifunction Flexi Pad control block.
In the Multifunction Flexi Pad control block, pressing the region selection button [MORE] displays the regions not assigned to the region selection buttons on the memory recall section numeric keypad buttons, so that you can select them, and set the assignment of regions to the numeric keypad buttons.
However, in the Multifunction Flexi Pad control block, it is not possible to assign a region to the [EXIT] button.

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

The 10 Key Region Assign menu appears.



When a CCP-6224 or CCP-6324 control panel including a Multifunction Flexi Pad control block is connected, the display in the button area at the lower part of the status area changes as follows.

The left side of the status area shows region selection buttons; the upper part of the right side shows a list of regions assigned to region selection buttons, and the lower part shows a list of assignable regions.

2 To assign regions to the region selection buttons in the Multifunction Flexi Pad control block or the numeric keypad buttons in the memory recall section, press

either of the following buttons in the <Flexi Pad Area Sel> group of the button area.

[Region Sel Btn Area] button: When assigning a region to the region selection buttons

[Mem Rcl Btn Area] button: When assigning a region to the numeric keypad buttons in the memory recall section

3 Press the indication of the button for the assignment.

The button you pressed appears in reverse video.

4 Using any of the following methods, select one of the four regions for the setting.

- Press directly on the list in the upper part of the right side.
- Press the arrow keys to scroll the reverse video cursor in the list in the upper part of the right side.
- Turn the knob.

Knob	Parameter	Adjustment	Setting values
1	Button Assign	Selection to which setting applies	1 to 4

5 Using any of the following methods, select the region to be assigned.

- Press directly on the list in the lower part of the right side.
- Press the arrow keys to scroll the reverse video cursor in the list in the lower part of the right side.
- Turn the knob.

Knob	Parameter	Adjustment	Setting values
2	Region	Region selection	1 and upwards

6 Press [Set], to confirm the selection.

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

Notes

Only regions assigned here can be used for keyframe or snapshot recall.
If an M/E bank is not assigned to a region selection button in the numeric keypad control block or Multifunction Flexi Pad control block, the M/E Flexi Pad control block or Multifunction Flexi Pad control block cannot be used to recall a snapshot.

To return the region assignment to the factory default state

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

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

To delete a region assignment

In step **3** of the procedure "Assigning a Region to the Region Selection Buttons in the Numeric Keypad Control Block or Multifunction Flexi Pad Control Block" *(page 162)*, make the selection to which the operation applies, then press [Clear].
This clears the assignment of the selected region.

Setting the region selection buttons selected when the [ALL] button is pressed

1 In the Panel >Config >10 Key Region Assign menu, press [All Select] in the button area, or the [All Select] button indication in the status area, setting it to On.

The [All Select] button indication in the status area changes to orange, and the system switches to a mode for assigning region selection buttons to the [ALL] button. In the factory default state, all buttons appear in reverse video, and are assigned to the [ALL] button.

2 If you do not want to assign any region selection button to the [ALL] button, press the corresponding button indication, setting it to Off.

The button you pressed returns to normal display.

Notes

Assignment to the [ALL] button is region by region. Changing the assignment of a region selection button does not change the regions assigned to the [ALL] button.

Setting Transition Control Block Button Assignments

There are three separate menus for these settings, for the left part of the transition control block (Transition Module1), upper right part (Transition Module2), and lower right part (Transition Module3).

The following example describes the operation for the left part (Transition Module1 menu), but operations in the Transition Module2 and Transition Module3 menus are similar.

1 In the Panel >Config menu, press [Link/Program Button].

The Link/Program Button menu appears.

2 Press [Transition Module1].

The Transition Module1 menu appears.

3 Select the bank of the transition control block you want to set in the <Bank Select> group.

The current assignment of the buttons appears at the left.

4 Press the transition type selection button for which you want to change the assignment.

The button you pressed appears in reverse video.

5 Using any of the following methods, select the function to be assigned, from the list on the right.

- Press directly on the list.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

Knob	Parameter	Adjustment	Setting values
1	Button Assign	Selection of function	1 and upwards

6 Press [Set].

The texts on the button illustrations change to reflect the selection.

To cancel the assignment
Press [Clear].

To make the assignment the default
Press [Default].

Setting the Assignment of Macro Operation Buttons

Notes

This setting applies to all simple type Flexi Pad control blocks on the control panel.
To switch the [UNDO] button on a simple type Flexi Pad control block to a [MCRO] button for macro operation, use the following procedure.

1 In the Panel >Config >Link/Program Button menu, press [Flexi Pad Module].

The Flexi Pad Module menu appears.

2 Select the assignment of the [UNDO] button in the simple type Flexi Pad control block from the <UNDO Button Assign> group.

UNDO: use as an [UNDO] button.
MACRO: use as a [MCRO] button.

Assigning the Dual Background Bus Mode Switching Function

The dual background bus mode is a mode in which the background A row shifted signal can be selected with the key 1 row, and the background B row shifted signal can be selected with the key 2 row. To switch this mode on and off, it is necessary to assign this function to the cross-point control block [PRE MCRO] button.

For details of the dual background bus, see "Signal Selection" in Chapter 3 (Volume 1).

1 In the Panel >Config menu, press [Link/Program Button].

The Link/Program Button menu appears.

2 Press [Xpt Module].

The Xpt 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.

Knob	Parameter	Adjustment	Setting values
1	Bank	Bank selection	1 to 5

4 In the <PRE MCRO/POST MCRO> group, select [Dual Bkgd Bus].

This assigns the dual background mode to the [PRE MCRO] button, and disables the [POST MCRO] button.

Assigning the Utility/Shotbox Mode Switching Function

You can first assign functions to the key 2 row cross-point buttons, and then use them in the same way as the buttons in the utility/shotbox control block.
To switch this mode on and off, it is necessary to assign this function to the cross-point control block [PRE MCRO] button *(see page 187)*.

1 In the Panel >Config menu, press [Link/Program Button].

The Link/Program Button menu appears.

2 Press [Xpt Module].

The Xpt 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.

Knob	Parameter	Adjustment	Setting values
1	Bank	Bank selection	1 to 5

4 Select [Utility/Shotbox] in the <PRE MCRO/POST MCRO> group.

This assigns the utility/shotbox mode to the [PRE MCRO] button, and disables the [POST MCRO] button.

Assigning the Function to Disable Cross-Point Button Operations to a Button

1 In the Panel >Config menu, press [Link/Program Button].

The Link/Program Button menu appears.

2 Press [Xpt Module].

The Xpt 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.

Knob	Parameter	Adjustment	Setting values
1	Bank	Bank selection	1 to 5

4 Press [Inhibit Set] in the <PRE MCRO/POST MCRO> group.

This assigns the function to disable cross-point button operations to the [PRE MCRO] button.

Assigning the AUX Bus Control Mode Switching Function

You can switch the cross-point control block of the CCP-6224/6324 control panel to AUX bus control mode (AUX panel-less function). You can display the names of the sources or buses for the AUX buses in the source name displays.
The function for switching to AUX control (AUX Ctrl) mode is assigned to the [PRE MCRO] button. And the function for switching the source name displays to the names of the sources or buses for the AUX buses is assigned to the [POST MCRO] button.

1 In the Panel >Config menu, press [Link/Program Button].

The Link/Program Button menu appears.

2 Press [Xpt Module].

The Xpt 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.

Knob	Parameter	Adjustment	Setting values
1	Bank	Bank selection	1 to 5

4 Select [Aux Ctrl/Aux Disply] in the <PRE MCRO/POST MCRO> group.

This assigns the Aux Ctrl function to the [PRE MCRO] button, and the Aux Display function to the [POST MCRO] button.

Assigning Keys to the DSK1 and DSK2 Buttons in the Downstream Key/Fade-to-Black Control Block

It is possible to select the key used for downstream key/fade-to-black control block operations.

1 In the Panel >Config >Link/Program Button menu, press [DSK/FTB Module].

The DSK/FTB Module menu appears.
The left side of the status area shows the DSK1 and DSK2 buttons, and the right side shows a list of keys to be assigned.

2 Press the indication (DSK1, DSK2) of the button for the assignment.

The button you pressed changes to reverse video.

3 Using any of the following methods, select the key to be assigned.

- Press directly on the list.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

Knob	Parameter	Adjustment	Setting values
1	Key No	Selection of key assigned to button	1 to 40

4 Press [Set], to confirm the selection.

This assigns the selected key to the key delegation button.

To return the key delegation button assignment to the factory default state

In the DSK/FTB Module menu, press [Default].
This returns the key delegation assignment to the factory default state.

Assigning Keys to the Independent Key Transition Control Block (Simple Type)

It is possible to select the keys that can be used in an independent key transition control block (simple type) operation.
The control panel comprises a main base for installing the principal switcher bank control blocks, and an extension section for extended control blocks. The independent key transition control block (simple type) can be installed in either, but the assignable keys differ as follows.

When the independent key transition control block (simple type) is installed in the main base

Select the keys to be assigned from the following.

- Key1, 2 (keys 1 and 2) 1)
- Key3, 4 (keys 3 and 4) 1)
- Key5, 6 (keys 5 and 6) 1)
- Key7, 8 (keys 7 and 8) 1)
- DSK1, 2 (downstream keys 1 and 2)
- DSK3, 4 (downstream keys 3 and 4)
- DSK5, 6 (downstream keys 5 and 6)
- DSK7, 8 (downstream keys 7 and 8)
- N/A (no assignment)

1) The M/E bank depends on the settings in the M/E Assign menu where the independent key transition control block is installed.

When the independent key transition control block (simple type) is installed in the extension section

Select the keys to be assigned from the following.

- M/E-1 Key1, 2
- M/E-1 Key3, 4
- M/E-1 Key5, 6
- M/E-1 Key7, 8
- M/E-2 Key1, 2
- M/E-2 Key3, 4
- M/E-2 Key3, 4
- M/E-2 Key5, 6
- M/E-2 Key7, 8
- M/E-3 Key1, 2
- M/E-3 Key3, 4
- M/E-3 Key5, 6
- M/E-3 Key7, 8
- M/E-4 Key1, 2
- M/E-4 Key3, 4
- M/E-4 Key5, 6
- M/E-4 Key7, 8
- DSK1, 2
- DSK3, 4
- DSK5, 6
- DSK7, 8
- Key1, 2 1)
- Key3, 4 1)
- Key5, 6 1)
- Key7, 8 1)
- N/A (no assignment)

1) These keys are the keys of the M/E-1, M/E-2, M/E-3, M/E-4 or PGM/PST bank depending on the settings of the M/E Assign menu of the interface port for the extension section in which the independent key transition control block is installed.

To assign a key to the main base

To assign a key to the independent key transition control block (simple type), use the following procedure. Here the example shown is the case in which keys 3 and 4 (“Key3, 4”) are assigned to the second row switcher bank of the main base.

1 In the Panel >Config menu, press [Compact Key Module Assign].

The Compact Key Module Assign menu appears. The left side of the status area shows data for the main base (physical layout and switcher bank names and key assignment).

2 Press directly on the display on the left, to select the control block for the assignment.
Here, press on the intersection of the “2nd Row” column and “Module” row.

3 Select the key from the table on the right.

4 Press [Set].

To return the key assignment to the default

In the Compact Key Module Assign menu, press [Default].
This returns all key assignments for the main base to their factory default state.

To assign a key to an extension

Press [Extension Port], to display the Extension Port menu, then continue as for the main base.

To return the extension assignments to their original values, press [Default].

Assigning Functions to Key Control Block Buttons

Select one of the four key control blocks installed in the main base and extension, then assign functions to the 30 buttons.

1 In the Panel >Config menu, press [Link/Program Button].

The Link/Program Button menu appears.

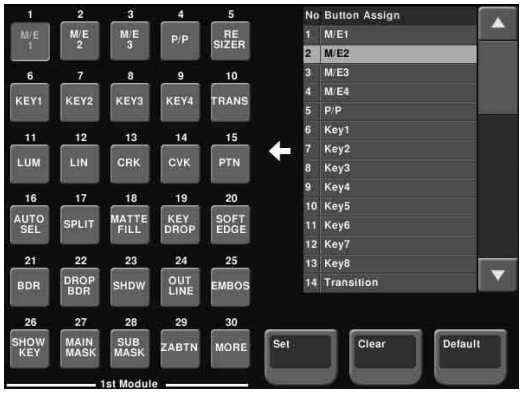
2 Press [Key Control Module].

The Key Control Module menu appears.

3 Press one of [1st], [2nd], [3rd], and [4th], to select the key control block.

4 Press [Button Assign].

The assignment status of the control block you selected in step **3** above appears.



5 Press the button to which you want to assign a function, displaying it in reverse video.

6 Using any of the following methods, select the function you want to assign from the Button Assign list.

- Press directly on the list.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

Knob	Parameter	Adjustment	Setting values
1	Button Assign	Select function to be assigned to button	1 to maximum value

7 When you have completed the required assignments, press [Set].

Assigning Preview Output to Preview Selection Buttons

It is possible to assign any preview output to a preview selection button.
This applies to the preview selection buttons in the fade-to-black control block and the downstream key/fade-to-black control block.

1 In the Panel >Config menu, press [Link/Program Button].

The Link/Program Button menu appears.

2 Press [Fade To Black Module].

The Fade To Black Module menu appears.
On the left of the status area, preview selection buttons (1 to 11) appear. On the right side a list of signals to be assigned appears.

3 In the button indications on the left, press the button for the assignment.

4 Using any of the following methods, select the signal to be assigned.

- Press directly on the list on the right.
- In the list on the right, press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

Knob	Parameter	Adjustment	Setting values
1	Button	Button selection	1 and upwards

5 Press [Set].

This assigns the signal selected in the list to the button.

To cancel an assignment

Select the button, then press [Clear].
This leaves nothing assigned.

To return all preview selection button assignments to the factory default state

In the Fade To Black Module menu, press [Default].

Assigning Functions to the Device Control Block

Assigning devices or functions to the device selection buttons and other buttons of the device control block (search dial)

You can assign devices and functions to the device selection buttons, SBOX buttons and [DELAY] button of the device control block (search dial).

1 In the Panel >Config menu, press [Link/Program Button].

The Link/Program Button menu appears.

2 Press [Device Control Module].

The Device Control Module menu appears.
The left of the status area shows the device selection buttons, SBOX buttons and [DELAY] button of the device control block (search dial). The list on the right shows the devices and functions that can be assigned.

3 In the button displays on the left, press the button for the assignment.

4 Using any of the following methods, select the device or function to be assigned.

- Press directly on the list on the right.
- In the list on the right, press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

Knob	Parameter	Adjustment	Setting values
1	Device Function	Selection of device or function to be assigned	1 and upwards

5 Press [Set].

To cancel an assignment

Select the button, then press [Clear].
This removes the assignment to that button.

To return all device selection button assignments to the factory default state

In the Device Control Module menu, press [Default].

Assigning devices and functions to the region selection buttons of the device control block (trackball)/device control block (joystick)

You can assign devices and functions to the region selection buttons of the device control block (trackball)/ device control block (joystick).

1 In the Panel >Config menu, press [Link/Program Button].

The Link/Program Button menu appears.

2 Press [Joystick/Trackball Module].

The Joystick/Trackball Module menu appears.

3 In the lower right <Mode Select> group, select [Device/Clip] or [Wipe/RSZR].

Device/Clip: Assignment while the device control block DEV button is lit
Wipe/RSZR: Assignment while no button is lit on the device control block or the RSZR button is lit
According to the selection, the left of the status area shows the region selection buttons of the device control block. The list on the right shows the devices and functions that can be assigned.

4 In the button displays on the left, press the button for the assignment.

5 Using any of the following methods, select the device or function to be assigned.

- Press directly on the list on the right.
- In the list on the right, press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

Knob	Parameter	Adjustment	Setting values
1	Function	Selection of device or function to be assigned	1 and upwards

6 Press [Set].

To cancel an assignment

Select the button, then press [Clear].
This removes the assignment to that button.

To return all device selection button assignments to the factory default state

In the Joystick/Trackball Module menu, press [Default].

Inhibiting Utility 2 Bus and Key Operations

You can inhibit operations on the utility 2 bus and keys 1 to 8 of the M/E and PGM/PST banks by menu operations. This inhibitions apply for the following control blocks.

- Cross-point control block
- Transition control block
- Independent key transition control block [1)]

1) Only when the Key1, 2, Key 3, 4, Key5, 6 or Key7, 8 are assigned by the Compact Key Module Assign menu.

Notes

In the auxiliary bus control block and other control blocks which are excluded from M/E and PGM/PST banks, the operations on the utility 2 bus and keys 1 to 8 are not inhibited.

1 In the Panel >Config menu, press [Operation Inhibit].

Operation Inhibit menu appears.

2 Press [M/E Operation Inhibit].

The M/E Operation Inhibit menu appears.

3 In the list in the status area, using any of the following methods, select the switcher bank for which operations are to be inhibited.

- Press directly on the desired switcher bank in the list.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

Knob	Parameter	Adjustment	Setting values
1	Bank	Switcher bank selection for inhibiting operations	1 and upwards

4 In the <M/E Operation Inhibit> group, press the utility 2 bus or key button ([Util2 Bus] or [Key1] to [Key8]) for which operations are to be inhibited.

Inhibiting DME Channel Selection Operations

You can inhibit DME channel selection operations from the device control block (trackball) or device control block (joystick).

1 In the Panel >Config menu, press [Operation Inhibit].

The Operation Inhibit menu appears.

2 Press [Joystick/Trackball Module].

The Joystick/Trackball Module menu appears.

3 In the list in the status area, using any of the following methods, select the DME channel for which operations are to be inhibited.

- Press directly on the desired DME channel in the list.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

Knob	Parameter	Adjustment	Setting values
1	DME Ch	DME channel selection for inhibiting operations	1 to 8

4 Press [Inhibit].

Assigning Functions to the Menu Control Block Top Menu and User Preference Buttons

To these 41 buttons, you can freely assign a menu recall or user preference button function.

1 In the Panel >Config menu, press [Link/Program Button].

The Link/Program Button menu appears.

2 Press [Menu Panel].

The Menu Panel menu appears.
The left side of the status area shows the Top menu selection buttons and user preference buttons, and the right side shows a list of menus and actions to be assigned.

3 Using any of the following methods, scroll the display.

- Press the arrow keys.
- Turn the knob.

Knob	Parameter	Adjustment	Setting values
1	Scroll	Scroll	1 to 5

4 In the button indications on the left, press the button for the assignment.

5 Using any of the following methods, select the menu or action to be assigned.

- Press directly on the right list.
- Press the arrow keys on the right list to scroll the reverse video cursor.
- Turn the knob.

Knob	Parameter	Adjustment	Setting values
3	Menu/ Action	Select the menu or action	1 to 43

6 Press [Set] you confirm the setting.

This assigns the menu or action selected in the list to the button.
To cancel an assignment, select the button, then press [Clear].

To return all button assignments to the factory default state, in the Menu Panel menu, press [Default].

Assigning Functions to the Buttons in the Multifunction Flexi Pad Control Block

You can assign functions to the buttons in the various parts of the Multifunction Flexi Pad control block in the following menus.
Mode selection buttons: Multi Function Module menu
Region selection buttons: 10 Key Region Assign menu
Memory recall buttons: Multi Function Module menu

For details of assignment of regions to the region selection buttons, see "Assigning a Region to the Region Selection Buttons in the Numeric Keypad Control Block or Multifunction Flexi Pad Control Block" (page 162).

1 In the Panel >Config menu, press [Link/Program Button].

The Link/Program Button menu appears.

2 Press [Multi Function Module].

The Multi Function Module menu appears.

3 Press one of the following three buttons displayed in the button area.

[Mode Sel Assign] button: To assign a function to the mode selection buttons
[Eff Edit Assign] button: To assign a function to a button in the memory recall section for effect editing (when the [EFF] and [EDIT ENBL] buttons are pressed)
[Macro Edit Assign] button: To assign a function to a button in the memory recall section for macro editing (when the [MCRO] and [EDIT ENBL] buttons are pressed)
The left side of the status area shows an image of each button, and the right side shows a list of menus and actions to be assigned.

4 In the button indications on the left, press the button for the assignment.

5 Using any of the following methods, select the mode or action to be assigned.

- Press directly on the right list.
- Press the arrow keys on the right list to scroll the reverse video cursor.
- Turn the knob.

Knob	Parameter	Adjustment	Setting values
3	Button Assign	Select the mode or action	1 and upwards [a)]

a) The following modes and functions can be selected.

Mode selection buttons

Mode	Button indication
Effect	EFF
Snapshot	SNAP SHOT
Shotbox	SHOT BOX
Macro	MCRO
Wipe snapshot	WIPE
DME wipe snapshot	DME WIPE
Transition rate	TRANS RATE
Key adjust	KEY ADJ
Key snapshot	KEY SS

Buttons in the memory recall section during effect editing

Function	Button indication
Undo	UNDO
Pause setting	PAUS
Copy	COPY
Paste	PSTE
Select all	ALL
Insert	INS
Modify	MOD
Delete	DEL
Keyframe loop count setting	KF LOOP
Effect duration setting	EFF DUR
Keyframe duration setting	KF DUR
Delay setting	DLY
Constant duration mode on or off	CNST DUR
Go to specified timecode	GOTO TC
Go to specified keyframe	GOTO KF
Set range	FROM TO
Return the button display to that before effect was executed	EXIT
Switch to numeric keypad input mode	STOR
Go to first keyframe	REWIND
Switch to shifted functions	SHFT
Go to previous keyframe	<<PREV
Go to next keyframe	>>NEXT
Execute effect	RUN

The functions of the buttons in the memory recall section during effect editing are on two pages; to set the functions of buttons on the second page, press the [2] button in the < PageSelect > group in the button area.

Buttons in the memory recall section during macro editing

Function	Button indication
Undo	UNDO
Pause setting	PAUS
Auto insert mode on or off	AUTO INS
Copy	COPY
Paste	PSTE
Select all	ALL
Insert	INS
Modify	MOD
Delete	DEL
Set range	FROM TO
Go to specified event	GOTO EVNT

6 Press [Set] to confirm the setting.

This assigns the menu or action selected in the list to the button.

To cancel an assignment

Select the button, then press [Clear].
To return all button assignments to the factory default state, press [Default].

Assigning a Function to the Independent Key Transition Control Block (Simple Type)

You can assign a function to the buttons in the independent key transition control block (simple type).
The assignment may be to the independent key transition type selection buttons and buttons in the independent key transition execution section.

1 In the Panel >Config menu, press [Link/Program Button].

The Link/Program Button menu appears.

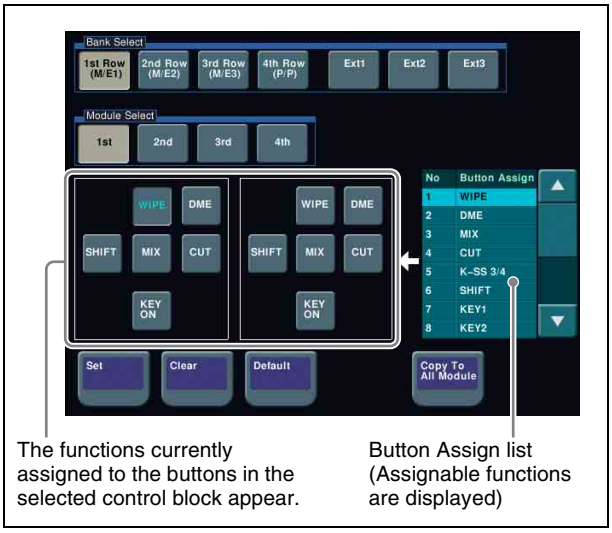
2 Press [Compact Key Trans Module].

The Compact Key Transition Mode menu appears.

3 In the <Bank Select> group, select the bank you want to manipulate.

4 According to the selected bank, select the control block to be assigned, in the <Module Select> group.

The currently assigned function is displayed in the area that displays the buttons in the selected control block.



5 Press a button to which to assign a function so that the button is displayed in reverse video.

6 Using any of the following methods, select a desired function to be assigned in the Button Assign list.

- Press directly on the desired list.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

Knob	Parameter	Adjustment	Setting values
1	Button Assign No	Selection of a function to assign to the selected button	1 to 15

7 Press [Set].

The function selected in step **6** is assigned to the selected button.

To remove a function assignment

In step **5**, select the button whose function assignment you want to remove, and press [Clear].

To return the function assignments to the factory default state

Press [Default].

To make the same assignment for all control blocks on all banks

Press [Copy To All Module].

Cross-Point Settings (Xpt Assign Menu)

To carry out the cross-point settings, use the Panel >Xpt Assign menu.

To display the Xpt Assign menu

In the Engineering Setup menu, select VF2 'Panel' and HF2 'Xpt Assign.'
The status area shows a list of "cross-point assign tables" to use for the M/E banks, PGM/PST bank, and various buses.
The following functions are available here.

- **Xpt Assign:** For each control block or bus, display and set the assignments to the main table and tables 1 to 14. You can also carry out settings to link switcher signal selection to the audio mixer.
- **Main, V/K Pair Assign:** Make cross-point settings for the main table.
  - Assign video/key sources for button numbers 1 to 300.
  - For each table, specify whether the rightmost cross-point button in each row is used as a shift button, and the operation mode when it is used as a shift button.
  - For the [SHIFT] button in the cross-point control block and for each table, select the mode in which this is a shift button dedicated to the source name displays, or the mode in which it is a shift button for all buses.
  - Disable cross-point buttons to work.
- **Mixer Xpt Assign:** Assign audio mixer cross-points to cross-point buttons in the main table.
- **Table Button Assign:** Create tables 1 to 14 in the same way as the main table.
- **Src Name:** Set source names of up to 16 characters.
- **LCD Color:** Set the LCD color for source name display.
- **Table Copy:** Copy table contents from the main table to tables 1 to 14 or between tables 1 to 14 (it is not possible to copy tables 1 to 14 to the main table).
- **Name Export:** This function sends the source name and destination name to the S-Bus.
- **Side Flags Button Assign:** Assign the rightmost button in the background A/B row to the side flag function (inserting a selected image on both sides of a 4:3 image).

Creating Cross-Point Assign Tables

As cross-point assign tables, you can create a "main" table and up to 14 other tables (table 1 to table 14). However, you can only carry out assignment of the video and key combinations in the main table.

Creating the main table

In the main table, a pair consisting of a video signal and a key signal is assigned to each button number. You can also assign the same signal to another button number at the same time. Further, you can delete currently assigned signals from the main table.

1 In the Panel >Xpt Assign menu or Panel >Xpt Assign >Table1 (Table2, Table3, or Table4) menu, press [Main, V/K Pair Assign].

The Main, V/K Pair Assign menu appears.
The left of the status area shows the video and key signal names, source number, and audio mixer cross-points (machine numbers) currently assigned in the main table. On the right is a list of the source numbers and signals that can be assigned. When the shift button is pressed, the number column is distinguished by color.

For details of audio mixer cross-point assignment operations, see "Setting the audio mixer cross-points" (page 176).

2 Using any of the following methods, select the button number.

- Press an auxiliary bus control block cross-point button.
  (The auxiliary bus control block is in selection mode, only when the menu for cross-point button selection is showing.)
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

Knob	Parameter	Adjustment	Setting values
1	V/K Pair No	Selection of video and key pair number	1 to 300

3 When assigning a video signal, press [Video] in the <Assign> group. When assigning a key signal, press [Key]. (You can select a video signal and a key signal at the same time.)

Notes

[Video] and [Key] in the <Assign> group cannot be turned off at the same time. At least the one or the other is always on.

4 Use any of the following methods to select the signal to assign.

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

Knob	Parameter	Adjustment	Setting values
3	Source No	Selection of source to be assigned	1 to 236 (MVS-8000X) 1 to 162 (MVS-7000X)

5 Using the buttons in the <Xpt Assign> group, assign the selected signal to the button number currently selected in the main table.

Set: Delete the signal currently assigned to the selected button number and make a new assignment.

Insert: Move down one line the signal currently assigned to the selected button number and following signals, and make a new assignment.

Notes

When a button number upper than 121 is selected, execution of "Insert" is impossible. The signal assignments to button numbers upper than 121 cannot be changed. When "Insert" is executed for any other number, moving down of signals ends at number 120, and the signals assigned to numbers upper than 121 are maintained in their original lines.

To disable a button

In the Panel >Xpt Assign >Main, V/K Pair Assign menu, select the button you want to disable, and press [Inhibit].

To delete any currently assigned signal

In the Panel >Xpt Assign >Main, V/K Pair Assign menu, select the button corresponding to the signal you want to delete, and press [Delete] in the <Xpt Assign> group. Signal deletion is executed in accordance with the selection in the <Assign> group, and the signal assigned to the button number next to the selected button number and following signals move up one line.

Notes

When a button number upper than 121 is selected, execution of "Delete" is impossible. The signal assignments to button numbers upper than 121 cannot be changed. When a signal assigned to any other button number is deleted, moving up of signals ends when the signal assigned to number 120 has moved to number 119, and the signals assigned to numbers upper than 121 are maintained in their original lines.

Creating tables 1 to 14

When creating tables 1 to 14, in the same way as when creating the main table, you can assign the same signal to more than one button number, or delete currently assigned signals. However, assignment of video and key combinations is impossible.

1 In the Panel >Xpt Assign menu, press [Table Button Assign].

The Table Button Assign menu appears.
The table number appears on the upper left part of the status area.
The left part of the status area shows the cross-point button numbers, video and key pair numbers, video signal source names and source numbers, and key signal source names and source numbers. When the shift button is pressed, the number column is distinguished by color.
The right part shows the video and key pair numbers, and the names of video signals and key signals set in the main table.
The Table Button Assign menu also allows you to access the Main, V/K Pair Assign menu and the Src Name/LCD Color menu.

2 Using the knob, select the table number.

Knob	Parameter	Adjustment	Setting values
1	Table No	Selection of the table to be set	1 to 14

3 Using any of the following methods, select the button number.

- Press an auxiliary bus control block cross-point button.
  (The auxiliary bus control block is in selection mode, only when the menu for cross-point button selection is showing.)
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

Knob	Parameter	Adjustment	Setting values
2	Button No	Cross-point button selection	1 to 300

4 Using any of the following methods, select the pair number.

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

Knob	Parameter	Adjustment	Setting values
3	V/K Pair No	Selection of video and key pair number to be assigned	1 to 300

5 Using the buttons in the <Button Assign> group, assign the selected pair number to the button number currently selected in table 1.

Set: Delete the signal currently assigned to the selected button number and make a new assignment.

Insert: Move down one line the signal currently assigned to the selected button number and following signals, and make a new assignment.

Notes

When a button number upper than 121 is selected, execution of "Insert" is impossible. The signal assignments to button numbers upper than 121 cannot be changed. When "Insert" is executed for any other number, moving down of signals ends at number 120, and the signals assigned to numbers upper than 121 are maintained in their original lines.

To disable a button

In the Panel >Xpt Assign >Table Button Assign menu, select the button you want to disable, and press [Inhibit].

To delete any currently assigned signal

In the Panel >Xpt Assign >Table Button Assign menu, select the button corresponding to the signal you want to delete, and press [Delete] in the <Button Assign> group. The signal assigned to the button number next to the selected button number and following signals move up one line.

Notes

When a button number upper than 121 is selected, execution of "Delete" is impossible. The signal assignments to button numbers upper than 121 cannot be changed. When a signal assigned to any other button number is deleted, moving up of signals ends when the signal assigned to number 120 has moved to number 119, and the signals assigned to numbers upper than 121 are maintained in their original lines.

Returning the table to its default state

1 In the Panel >Xpt Assign >Main, V/K Pair Assign menu or Panel >Xpt Assign >Table Button Assign menu, press [Default Recall].

A confirmation message appears, asking whether or not to return to the default state.

2 To return to the default state, press [Yes], and to cancel the operation, press [No].

Setting the cross-point button shift operation

You can set the operation of the rightmost button in each row of cross-point buttons excluding the reentry buttons.

In the <Xpt Shift Mode> group of the Panel >Xpt Assign >Main, V/K Pair Assign menu or Panel >Xpt Assign >Table Button Assign menu, select one of the following for each cross-point table.

Hold: Acts as a shift button, and the shifted version of the cross-point buttons is enabled while the button is held down.

Lock: Acts as a shift button, and pressing the button toggles between the shifted version and the unshifted version.

Off: Acts as a cross-point button, in a 16-button system as button number 16, in a 24-button system as button number 24, and in a 32-button system as button number 32.

Setting the action of the [SHIFT] button in the cross-point control block

In the <Display Shift Mode> group of the Panel >Xpt Assign >Main, V/K Pair Assign menu or Panel >Xpt Assign >Table Button Assign menu, select either of the following.

Shift All Bus: When this is On, it functions as a shift button for all buses.

Key5-8 Select: This functions as a shift button dedicated to the key 1 and key 2 rows. When On, keys 5 to 8 are selected, and when Off, keys 1 to 4 are selected.

Notes

- It is not possible to make this setting separately for each of the M/E and PGM/PST banks.
- "Shift All Bus" is only valid when the cross-point button shift operation *(see previous item)* is set to "Lock" or "Off."
- If both Shift All Bus and Key5-8 Select are off, this button functions as a shift button for the source name display. It is not possible to set both Shift All Bus and Key5-8 Select to On.

Setting the source signal name

1 In the Panel >Xpt Assign menu or Panel >Xpt Assign >Table Button Assign menu, press [Src Name/LCD Color].

The Src Name/LCD Color menu appears.

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

Knob	Parameter	Adjustment	Setting values
1	Source No	Source signal selection	1 to 236 (MVS-8000X) 1 to 162 (MVS-7000X)
2	Num	Number of source signals to be selected	

3 Press [Source Name].

A keyboard window appears.

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

Sequential names for multiple signals

When you specify a number at the end of a signal name, all of the signals in the range selected by knobs 1 and 2 are automatically assigned names ending with sequential numbers.

Example:

To assign sequential names to source signal 2 through source signal 4

1. In step **2** above, set knob 1 to "2," and set knob 2 to "3."
2. Set the name of source signal 2 to "CAM2."

The name "CAM3" is assigned automatically to source signal 3, and the name "CAM4" is assigned automatically to source signal 4.

Setting the source name display color

1 In the Panel >Xpt Assign >Table Button Assign >Src Name/LCD Color menu, turn the knobs to select the setting target.

Knob	Parameter	Adjustment	Setting values
1	Source No	Source signal selection	1 to 236 (MVS-8000X) 1 to 162 (MVS-7000X)
2	Num	Number of source signals to be selected	

2 In the <LCD Color> group, select the color (Orange/Green/Yellow).

Copying Cross-Point Assign Tables

The contents of a cross-point assign table can be copied to another cross-point assign table, and vice versa.

Notes

The contents of a sub table cannot be copied to the main table.

1 In the Panel >Xpt Assign menu, press [Table Copy].

The Table Copy menu appears.
The status area shows a list of copy sources and a list of copy destinations.

2 Using any of the following methods, select the number of the table to use as the copy source and the number of the table you want to be the copy destination.

- Press directly on the list of copy sources (left-side list) or the list of copy destinations (right-side list) in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

Knob	Parameter	Adjustment	Setting values
1	Left No	Selection of copy source	1 to 15
2	Right No	Selection of copy destination	1 to 14

3 Press [Copy].

A confirmation message appears, asking whether or not to execute the copy.

4 To execute the copy, press [Yes], and to cancel the operation, press [No].

Selecting Cross-Point Assign Tables

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

- M/E-1 to M/E-4 banks and PGM/PST bank
- Buses assignable to AUX delegation buttons

Notes

It is not possible to assign cross-point tables 5 to 14 to a bus of a switcher operated by an MKS-8080/8082 AUX Bus Remote Panel.

1 In the Panel >Xpt Assign menu, using any of the following methods, select the switcher bank or bus.

- Press directly on the list on the left of the status area.
- Press the arrow keys on the list on the left to scroll the reverse video cursor.
- Turn the knobs.

Knob	Parameter	Adjustment	Setting values
1	Bank/Bus No	Switcher bank or bus selection	1 and upwards
2	Num	Number of selected switcher banks or buses	1 and upwards

2 Using any of the following methods, select the table.

- Press directly on the list on the right of the status area.
- Press the arrow keys on the list on the right to scroll the reverse video cursor.
- Turn the knob.

Knob	Parameter	Adjustment	Values
3	Table No	Selection of table to be assigned	1 to 15

3 Press [Table Assign Set].

This sets the table for the selected switcher bank or bus.

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 (with display of "All").

3 Press [Src Name Export].

This exports the source names to the station selected in step **2**.

4 Press [Dest Name Export].

This exports the destination names to the station selected in step **2**.

Notes

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

Making Settings for Audio Mixer

Enabling the function to link the audio mixer

Notes

For audio mixer operations in this system, it is necessary to set Mixer ESAM-II for the DCU 9-pin serial port.

For details, see "Serial Port Settings (Serial Port Assign Menu)" (page 234).

1 In the Panel >Xpt Assign menu, using any of the following methods, select the M/E bank or bus.

- Press directly on the list on the left of the status area.
- Press the arrow keys in the list on the left, to scroll the reverse video cursor.
- Turn the knob.

2 Press [Audio Follow].

"Enable" appears in the "Audio Follow" column.

Setting the audio mixer cross-points

To assign an audio mixer cross-point to a switcher cross-point pair (video/key), carry out the following procedure.

1 In the Panel >Xpt Assign menu, press [Mixer Xpt Assign].

The Mixer Xpt Assign menu appears.

2 In the list on the left, select the number for the setting.

3 In the list on the right, select the audio mixer cross-point (machine number).

4 Press [Set].

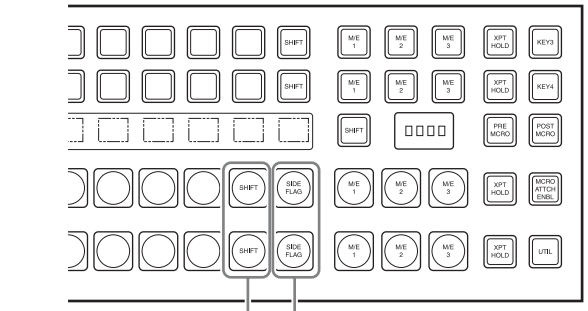
The audio mixer number appears in the "Mixer Xpt" column.

Assigning a Cross-Point Button to Enable/Disable Side Flags

By assigning the side flag function to the rightmost button in a cross-point button row, you can use this button to enable/disable side flags for each of the M/E and PGM/PST banks.
This setting applies to all of the M/E and PGM/PST banks. When you make this assignment, the SHIFT button (the button assigned to the shift function) is moved one to the left.

Notes

If a macro attachment is set, when you assign the button to the side flag function, the button numbers are offset, and therefore when you press the button this does not execute the macro. The settings, however, are maintained, so that when you cancel the side flag assignment, the macro can be accessed once more.



For details of side flag operations, see "Side Flag Settings" in Chapter 10 (Volume 1).

1 In the Panel >XPT Assign menu, press [Side Flags Button Assign].

The Side Flags Button Assign menu appears.

2 Press [Side Flags Btn Assign], turning it on.

Auxiliary Bus Control Block Settings (Aux Assign Menu)

To carry out the settings of the AUX delegation buttons in the auxiliary bus control block, use the Panel >Aux Assign menu.
When using the AUX panel-less function with the CCP-6224/6324, use this menu to assign the AUX delegation buttons.

To display the Aux Assign menu

In the Engineering Setup menu, select VF2 'Panel' and HF3 'Aux Assign.'
The left side of the status area shows the delegation numbers, and the list of buses set; the right side shows a list of buses that can be assigned.
The following functions are available here.

- **Aux Assign:** Assign the AUX delegation buttons in the auxiliary bus control block to any bus.
- **Shift Mode:** Specify whether the rightmost button of the AUX delegation buttons is used as a shift button, and when it is used as a shift button, the operation mode.
- **RTR Mode Setting:** Carry out the following settings for using the auxiliary bus control block for router control.
  - Assigning destinations
  - Setting the shift operation in the destination selection button rows
  - Source table settings
  - Setting the shift operation in the source selection button rows
  - Assigning levels to the level selection buttons
  - Setting destination selection buttons to be used for snapshots

Notes

When using the AUX panel-less function with the CCP-6224/6324, these settings are invalid.

Assigning a Bus to an AUX Delegation Button

1 In the Panel >Aux Assign menu, using any of the following methods, select the delegation button and the bus to be assigned.

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

Knob	Parameter	Adjustment	Setting values
1	Deleg No	Selection of AUX delegation button	1 to 128 a)
2	Bus No	Selection of bus to be assigned	1 to 166 b)

a) The setting can be from 1 to 62. The valid settings, however, depend on the number of buttons and the delegation button shift mode.

Number of buttons	Shift mode	Valid settings
16	OFF	1 to 16
	ON	1 to 30
24	OFF	1 to 24
	ON	1 to 46
32	OFF	1 to 32
	ON	1 to 62

b) The buses that can be assigned are as follows.
(In M/E-x, the x is the M/E bank number (1 to 4); in DSKx the x is the DSK number (1 to 8); in Keyx the x is the key number (1 to 8).)
Edit Preview, Aux1 to Aux48, Frame Memory Source1 and Frame Memory Source2, DME1V to DME8V, DME1K to DME8K, P/P Utility1 and P/P Utility2, M/E-x Utility1 to M/E-x Utility2, DSKx Fill/Source, M/E-x Keyx Fill/Source, PP EXT DME, M/Ex EXT DME, DME Utility1 and DME Utility2, CCR1 and CCR2

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

2 Press [Set] to confirm the selection.

To set the AUX delegation button shift operation

To set the operation mode of the rightmost button in the row of AUX delegation buttons, select one of the following in the <Shift Mode> group of the Panel >Aux Assign menu.

Hold: Acts as a shift button, and the shifted version of the AUX delegation buttons is enabled while the button is held down.

Lock: Acts as a shift button, and pressing the button toggles between the shifted version and the unshifted version of the AUX delegation buttons.

Off: Acts as an AUX delegation button. In a 16-button system it acts as button number 16, in a 24-button system as button number 24, and in a 32-button system as button number 32.

Using the Auxiliary Bus Control Block for Router Control

To make router control settings, display the Setup >Panel >Aux Assign >RTR Mode Setting menu.

To display the RTR Mode Setting menu

1 In the Engineering Setup menu, select VF2 'Panel' and HF3 'Aux Assign.'

The Aux Assign menu appears.

2 Press [RTR Mode Setting].

The RTR Mode Setting menu appears. The left of the status area shows the destination number assignment status and source table, and the right side lists the destinations that can be assigned.

Assigning a destination to a destination selection button

In the Panel >Aux Assign >RTR Mode Setting menu, use the following procedure.

1 Using any of the following methods, select a destination selection button and the destination to be assigned to the button.

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

Knob	Parameter	Adjustment	Setting values
1	Dest No	Destination selection button selection	1 to 128
2	No	Destination selection in S-Bus space	1 to 1024

For a button whose operation you want to disable, press [Inhibit].

Notes

When a destination selection button having a number in the range 65 to 128 is selected, source table selection automatically becomes invalid, and therefore the Inhibit function also becomes invalid.

2 Press [Dest Set] to confirm the selection.

3 If in step **1** you selected a value in the range 1 to 64, turn the knob to select the source table.

Knob	Parameter	Adjustment	Setting values
3	Source Table	Source table selection	1 to 5

4 Press [Source Table Set] to confirm the selection.

5 Repeat steps **1** to **4** as required.

To set the shift operation of the destination selection buttons

To set the operation mode of the rightmost button in the destination selection button row, select one of the

following in the <Dest Shift Mode> group of the Panel >Aux Assign >RTR Mode Setting menu.

Hold: Acts as a shift button, and the shifted destination selection buttons are enabled while the button is held down.

Lock: Acts as a shift button, and pressing the button toggles between the shifted and unshifted states of the destination selection buttons.

Off: Acts as a destination selection button, that is, button number 16 on a 16-button system, button number 24 on a 24-button system, and button number 32 on a 32-button system.

Setting the source table

1 In the Panel >Aux Assign >RTR Mode Setting menu, press [Source Table Assign].

The Source Table Assign menu appears.

2 In the <Source Table Select> group, select the source table you want to manipulate.

3 Press [Table Assign].

The Table Assign menu appears.
The left of the status area lists the button numbers and set sources, and the right side lists the source that can be assigned.

4 Using any of the following methods, select a source selection button and the source you want to assign.

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

Knob	Parameter	Adjustment	Setting values
1	Source No	Source selection button selection	1 to 128
2	No	Source selection in S-Bus space	1 to 1024

For a button whose operation you want to disable, press [Inhibit].

5 Press [Source Set] to confirm the selection.

To set the shift operation of the source selection buttons

To set the operation mode of the rightmost button in the source selection button row with different destinations assigned to the 1st and 2nd rows, select the source table in the Source Table Assign menu, then in the <Xpt Shift Mode> group select one of the following.

Hold: Acts as a shift button, and the shifted source selection buttons are enabled while the button is held down.

Lock: Acts as a shift button, and pressing the button toggles between the shifted and unshifted states of the source selection buttons.

Off: Acts as a cross-point button, that is, button number 16 on a 16-button system, button number 24 on a 24-button system, and button number 32 on a 32-button system.

To expand the shift function

To set the [KEY] button as a shift operation expansion button, in the Source Table Assign menu select the source table, then in the <Expand Xpt Shift Assign> group, press [Key Button].
In order not to expand the shift operation, press [No Assign] in the <Expand Xpt Shift Assign> group.

Assigning levels to a level selection button

To assign levels to the [LEVEL1] to [LEVEL4] buttons in the auxiliary bus control block, use the following procedure.

1 In the Panel >Aux Assign >RTR Mode Setting menu, press [Level Button Assign].

The Level Button Assign menu appears. The status area shows a list of the assignment status of levels to each button.

2 In the <Level Button Select> group, select the button you want to set.

3 In the <Level Assign> group, press the levels you want to assign to the button, turning them on.

You can select plural of levels. You can also make a selection that overlaps that of another button.

Selecting a destination selection button for a snapshot

To set whether snapshots are recalled for each destination selection button individually, use the Panel >Aux Assign >RTR Mode Setting menu as follows.

1 Use any of the following methods to select the destination selection button to which the setting applies.

- Press directly on the list on the left of the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

Knob	Parameter	Adjustment	Setting values
1	Dest No	Selection of destination selection button	1 to 128

2 Press [SS Enable], turning it on or off.

On: When a snapshot applying to the router is recalled, the recall also applies to the selected destination selection button.

Off: When a snapshot applying to the router is recalled, the recall does not apply to the selected destination selection button.

Notes

When a destination selection button is set to Inhibit, then even if SS Enable is on, the snapshot for that destination is not recalled.

Setting Button Assignments (Prefs/ Utility Menu)

Assign the [PREFS 1] to [PREFS 16] buttons in the menu control block, the utility/shotbox control block buttons, and the cross-Point control block.
This assigns recalling frequently used menus (menu shortcuts), enabling/disabling functions (recalling utility commands) and recalling shotbox registers or macro registers.

- **User Preference:** Make the settings for the user preference buttons in the menu control block.
- **Utility Module Assign:** Make the utility/shotbox control block settings.
- **KEY 2/4 Bus Button Assign:** Make the settings for the key 2 row buttons in the cross-point control block.

To display the Prefs/Utility menu

In the Engineering Setup menu, select VF2 ‘Panel’ and HF4 ‘Prefs/Utility.’
The status area shows the settings of the user preference buttons.

Assigning Functions to User Preference Buttons

1 In the Panel >Prefs/Utility menu, using any of the following methods, select the button to be assigned.

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

Knob	Parameter	Adjustment	Setting values
1	No	User preference button selection	1 to 16

2 In the <Action> group, select the function to be assigned.

Menu Shortcut: Assign a frequently used menu to be recalled (menu shortcut).
Utility Command: Assign a function enable/disable or similar operation (utility command).
Macro Recall: Assign a macro register recall.
Shotbox Recall: Assign a shotbox register recall.

3 Depending on the selection in step **2**, make the following settings.

When Menu Shortcut is selected: For the subsequent operations, *see the next item "Assigning a menu shortcut to a user preference button" (page 183).*

When Utility Command is selected: A list of commands appears on the right of the status area; using any of the following methods, select the command you want to assign.

- Press directly on the list.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

Knob	Parameter	Adjustment	Setting values
3	Command	Utility command selection	1 and upwards
4 a)	GPI No	GPI port number	1 and upwards

a) When the Command parameter is set to Sw'er GPI Test Fire, Panel GPI Test Fire, DCU GPI, or Test Fire

When Macro Recall is selected: Turn the knob to select the macro register you want to assign.

Knob	Parameter	Adjustment	Setting values
3	Macro	Macro register selection	1 to 250

When Shotbox Recall is selected: Turn the knob to select the shotbox register you want to assign.

Knob	Parameter	Adjustment	Setting values
3	Shotbox	Shotbox register selection	1 to 99

4 Press [Action Set].

This assigns the selected action, which is reflected in the status area.

To cancel an assignment

After selecting the relevant button, press [Clear].

To display register names in the Utility Command column

If in step **2** you select [Macro Recall] or [Shotbox Recall], press the [Reg Name Display] button to select whether or not register names appear in the Utility Command column.

Using the [PREFS 9] to [PREFS 16] settings

There are sixteen user preference buttons that can be set, [PREFS 1] to [PREFS 16], but there are only eight user preference buttons present in the menu control block. By default these buttons are assigned to the [PREFS 1] to [PREFS 8] settings. Therefore, to use the settings of [PREFS 9] to [PREFS 16], it is necessary to access the Engineering Setup >Panel >Config >Link/Program Button >Menu Panel menu, and assign these settings to buttons in the menu control block.

List of utility commands and user preference button status

The following table shows the utility commands that can be assigned to user preference buttons.

Command name a)	Function	Button status	
		Lit amber	Off
SWR Remote1 Enbl | SWR Remote4 Enbl	Switcher Remote 1 enabled/disabled | Switcher Remote 4 enabled/disabled	Enabled	Disabled
DME1 Editor Port Enbl	DME1 editor port enabled/disabled	Enabled	Disabled
DME2 Editor Port Enbl	DME2 editor port enabled/disabled	Enabled	Disabled
DME3 Editor Port Enbl	DME3 editor port enabled/disabled	Enabled	Disabled
DME4 Editor Port Enbl	DME4 editor port enabled/disabled	Enabled	Disabled
ME1 PGM1 ST | ME1 PGM4 ST	M/E-1 PGM1 output safe title on/off | M/E-1 PGM4 output safe title on/off	On	Off
ME1 PVW ST	M/E-1 preview output safe title on/off	On	Off
ME1 Clean ST	M/E-1 clean output safe title on/off	On	Off
ME1 K-PVW ST	M/E-1 key preview output safe title on/off	On	Off
ME2 PGM1 ST | ME2 PGM4 ST	M/E-2 PGM1 output safe title on/off | M/E-2 PGM4 output safe title on/off	On	Off
ME2 PVW ST	M/E-2 preview output safe title on/off	On	Off
ME2 Clean ST	M/E-2 clean output safe title on/off	On	Off

Command name [a)]	Function	Button status	
		Lit amber	Off
ME2 K-PVW ST	M/E-2 key preview output safe title on/off	On	Off
ME3 PGM1 ST | ME3 PGM4 ST	M/E-3 PGM1 output safe title on/off | M/E-3 PGM4 output safe title on/off	On	Off
ME3 PVW ST	M/E-3 preview output safe title on/off	On	Off
ME3 Clean ST	M/E-3 clean output safe title on/off	On	Off
ME3 K-PVW ST	ME-3 key preview output safe title on/off	On	Off
ME4 PGM1 ST | ME4 PGM4 ST	M/E-4 PGM1 output safe title On/Off | M/E-4 PGM4 output safe title On/Off	On	Off
ME4 PVW ST	M/E-4 preview output safe title On/Off	On	Off
ME4 Clean ST	M/E-4 clean output safe title On/Off	On	Off
ME4 K-PVW ST	ME-4 key preview output safe title On/Off	On	Off
PP PGM1 ST | PP PGM4 ST	P/P PGM1 output safe title on/off | P/P PGM4 output safe title on/off	On	Off
PP PVW ST	P/P preview output safe title on/off	On	Off
PP Clean ST	P/P clean output safe title on/off	On	Off
PP K-PVW ST	P/P key preview output safe title on/off	On	Off
DME MON1 ST	DME Monitor 1 output safe title on/off	On	Off
DME MON2 ST	DME Monitor 2 output safe title on/off	On	Off
Edit PVW ST	Edit preview output safe title on/off	On	Off
Preset ST	Preset output safe title on/off	On	Off
AUX1 ST | AUX48 ST	AUX1 output safe title on/off | AUX48 output safe title on/off	On	Off
FM Src1 Frame Freeze	Frame freeze of frame memory source 1	During frame freeze	Either of the other two states
FM Src1 Filed Freeze	Field freeze of frame memory source 1	During field freeze	Either of the other two states
FM Src1 Freeze Off	Release freeze of frame memory source 1	While freeze being released	Either of the other two states
FM Src2 Frame Freeze	Frame freeze of frame memory source 2	During frame freeze	Either of the other two states
FM Src2 Field Freeze	Field freeze of frame memory source 2	During field freeze	Either of the other two states
FM Src2 Freeze Off	Release freeze of frame memory source 2	While freeze being released	Either of the other two states
SWR GPI Enbl	Enable/disable switcher GPI	Enabled	Disabled
DME1 GPI Enbl	Enable/disable DME1 GPI	Enabled	Disabled
DME2 GPI Enbl	Enable/disable DME2 GPI	Enabled	Disabled
DME3 GPI Enbl	Enable/disable DME3 GPI	Enabled	Disabled
DME4 GPI Enbl	Enable/disable DME4 GPI	Enabled	Disabled
Panel GPI Enbl	Enable/disable panel GPI	Enabled	Disabled
SWR GPI1 Test Fire | SWR GPI8 Test Fire	Output test trigger from switcher GPI1 | Output test trigger from switcher GPI8	Output (lights only at the instant the button is pressed)	When the output is assigned
Panel GPI1 Test Fire | Panel GPI8 Test Fire	Output test trigger from panel GPI1 | Output test trigger from panel GPI8	Output (lights only at the instant the button is pressed)	When the output is assigned

Command name [a]	Function	Button status	
		Lit amber	Off
DCU GPI1 Test Fire | DCU GPI50 Test Fire	Output test trigger from port assigned to DCU GPI1 | Output test trigger from port assigned to DCU GPI50	Output (lights only at the instant the button is pressed)	When the output is assigned
Macro Attachment Enbl	Enable/disable macro attachment	Enabled	Disabled
Macro Only Set	Macro only mode on/off	On	Off
Pre Macro	Set macro attachment in pre macro mode	Can be set only while pressed (lit)	When the function is assigned
Post Macro	Set macro attachment in post macro mode	Can be set only while pressed (lit)	When the function is assigned
Macro Take	Macro execution	During execution	When the function is assigned
Macro Auto Ins	Macro auto insert mode on/off	On	Off
Macro AT with Rate	When registering an auto transition macro event, on/off setting of mode to save transition rate	On	Off
Macro AT with A/B Bus	When registering an auto transition macro event for the transition control block, on/off setting of mode to save A/B Bus cross-point settings	On	Off
Macro TL with Region	When registering a timeline macro event, on/off setting of mode to save applicable region	On	Off
DME Override	DME override on/off	On	Off
DME Graphic	DME graphics on/off (Applies to graphics for channel selected in device control block)	On	Off
System Manager Enbl	Enable/disable operation from System Manager	Enabled	Disabled
Plug-In Editor Enbl	Enable/disable operation from an editing keyboard	Enabled	Disabled
Inhibit Set	Inhibit cross-point button	Can be set only while pressed (lit)	When the function is assigned
Inhibit All Clear	Clear all cross-point button inhibit settings	Can be set only while pressed (lit)	When the function is assigned
K-SS Store	Enable/disable key snapshot saving [b]	Enabled	Disabled

a) For the safe title on/off commands (from ME1 PGM1 ST-ME1 PGM4 ST to AUX1 ST-AUX48 ST), the name of the assigned output signal is shown.

b) Pressing this button to turn it on enables key snapshot operations for all control blocks.

Assigning a menu shortcut to a user preference button

1 Referring to the procedure up to step **2** of "Assigning Functions to User Preference Buttons" *(page 180)*, select [Menu Shortcut].

The user preference buttons [PREFS 1] to [PREFS 16] 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 16] flash amber.

4 Repeat steps **2** and **3** as required, to assign all desired menu shortcuts to the user preference buttons.

To abandon the process of menu shortcut assignment

In the Prefs/Utility menu, press [Menu Shortcut] once more.
This exits the menu shortcut assignment mode.

Assigning a Function to a Memory Recall Button in the Utility/Shotbox Control Block

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.

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 on/off or similar operation (utility command).
Macro Recall: Assign a macro register recall.
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" (page 187).*

When Utility Command is selected: A list of commands appears on the right of the status area; using any of the following methods, select the command you want to assign.

- Press directly on the list.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

Knob	Parameter	Adjustment	Setting values
3	Command	Utility command selection	1 and upwards
4 a)	GPI No	GPI port number	1 and upwards

a) When the Command parameter is set to Sw'er GPI Test Fire, Panel GPI Test Fire, DCU GPI, or Test Fire

When Macro Recall is selected: Turn the knob to select the macro register you want to assign.

Knob	Parameter	Adjustment	Setting values
3	Macro	Macro register selection	1 to 250

When Shotbox Recall is selected: Turn the knob to select the shotbox register you want to assign.

Knob	Parameter	Adjustment	Setting values
3	Shotbox	Shotbox register selection	1 to 99

5 Press [Action Set].

This assigns the selected action, which is reflected in the status area.
In the utility/shotbox control block, the assigned button lights orange.
If a shotbox register was assigned, the register name appears.

To cancel an assignment

After selecting the relevant button, press [Clear].

To display register names in the Utility Command column

If in step **3** you select [Macro Recall] or [Shotbox Recall], press the [Reg Name Display] button to select whether or not register names appear in the Utility Command column.

List of utility commands and memory recall button status

The following table shows the utility commands that can be assigned to memory recall buttons.

Command name a)	Function	Button status	
		Lit green	Lit orange
SWR Remote1 Enbl | SWR Remote4 Enbl	Switcher Remote 1 enabled/disabled | Switcher Remote 4 enabled/disabled	Enabled	Disabled

Command name [a)]	Function	Button status	
		Lit green	Lit orange
DME1 Editor Port Enbl	DME1 editor port enabled/disabled	Enabled	Disabled
DME2 Editor Port Enbl	DME2 editor port enabled/disabled	Enabled	Disabled
DME3 Editor Port Enbl	DME3 editor port enabled/disabled	Enabled	Disabled
DME4 Editor Port Enbl	DME4 editor port enabled/disabled	Enabled	Disabled
ME1 PGM1 ST | ME1 PGM4 ST	M/E-1 PGM1 output safe title on/off | M/E-1 PGM4 output safe title on/off	On	Off
ME1 PVW ST	M/E-1 preview output safe title on/off	On	Off
ME1 Clean ST	M/E-1 clean output safe title on/off	On	Off
ME1 K-PVW ST	M/E-1 key preview output safe title on/off	On	Off
ME2 PGM1 ST | ME2 PGM4 ST	M/E-2 PGM1 output safe title on/off | M/E-2 PGM4 output safe title on/off	On	Off
ME2 PVW ST	M/E-2 preview output safe title on/off	On	Off
ME2 Clean ST	M/E-2 clean output safe title on/off	On	Off
ME2 K-PVW ST	M/E-2 key preview output safe title on/off	On	Off
ME3 PGM1 ST | ME3 PGM4 ST	M/E-3 PGM1 output safe title on/off | M/E-3 PGM4 output safe title on/off	On	Off
ME3 PVW ST	M/E-3 preview output safe title on/off	On	Off
ME3 Clean ST	M/E-3 clean output safe title on/off	On	Off
ME3 K-PVW ST	ME-3 key preview output safe title on/off	On	Off
ME4 PGM1 ST | ME4 PGM4 ST	M/E-4 PGM1 output safe title On/Off | M/E-4 PGM4 output safe title On/Off	On	Off
ME4 PVW ST	M/E-4 preview output safe title On/Off	On	Off
ME4 Clean ST	M/E-4 clean output safe title On/Off	On	Off
ME4 K-PVW ST	ME-4 key preview output safe title On/Off	On	Off
PP PGM1 ST | PP PGM4 ST	PP PGM1 output safe title on/off | PP PGM4 output safe title on/off	On	Off
PP PVW ST	P/P preview output safe title on/off	On	Off
PP Clean ST	P/P clean output safe title on/off	On	Off
PP K-PVW ST	P/P key preview output safe title on/off	On	Off
DME MON1 ST	DME Monitor 1 output safe title on/off	On	Off
DME MON2 ST	DME Monitor 2 output safe title on/off	On	Off
Edit PVW ST	Edit preview output safe title on/off	On	Off
Preset ST	Preset output safe title on/off	On	Off
AUX1 ST | AUX48 ST	AUX1 output safe title on/off | AUX48 output safe title on/off	On	Off
FM Src1 Frame Freeze	Frame freeze of frame memory source 1	During frame freeze	Either of the other two states
FM Src1 Filed Freeze	Field freeze of frame memory source 1	During field freeze	Either of the other two states
FM Src1 Freeze Off	Release freeze of frame memory source 1	While freeze being released	Either of the other two states
FM Src2 Frame Freeze	Frame freeze of frame memory source 2	During frame freeze	Either of the other two states

Command name [a]	Function	Button status	
		Lit green	Lit orange
FM Src2 Field Freeze	Field freeze of frame memory source 2	During field freeze	Either of the other two states
FM Src2 Freeze Off	Release freeze of frame memory source 2	While freeze being released	Either of the other two states
SWR GPI Enbl	Enable/disable switcher GPI	Enabled	Disabled
DME1 GPI Enbl	Enable/disable DME1 GPI	Enabled	Disabled
DME2 GPI Enbl	Enable/disable DME2 GPI	Enabled	Disabled
DME3 GPI Enbl	Enable/disable DME3 GPI	Enabled	Disabled
DME4 GPI Enbl	Enable/disable DME4 GPI	Enabled	Disabled
Panel GPI Enbl	Enable/disable panel GPI	Enabled	Disabled
SWR GPI1 Test Fire | SWR GPI8 Test Fire	Output test trigger from switcher GPI1 | Output test trigger from switcher GPI8	Output (lights only at the instant the button is pressed)	When the output is assigned
Panel GPI1 Test Fire | Panel GPI8 Test Fire	Output test trigger from panel GPI1 | Output test trigger from panel GPI8	Output (lights only at the instant the button is pressed)	When the output is assigned
DCU GPI1 Test Fire | DCU GPI50 Test Fire	Output test trigger from port assigned to DCU GPI1 | Output test trigger from port assigned to DCU GPI50	Output (lights only at the instant the button is pressed)	When the output is assigned
Macro Attachment Enbl	Enable/disable macro attachment	Enabled	Disabled
Macro Only Set	Macro only mode on/off	On	Off
Pre Macro	Set macro attachment in pre macro mode	Can be set only while pressed (lit)	When the function is assigned
Post Macro	Set macro attachment in post macro mode	Can be set only while pressed (lit)	When the function is assigned
Macro Take	Macro execution	During execution	When the function is assigned
Macro Auto Ins	Macro auto insert mode on/off	On	Off
Macro AT with Rate	When registering an auto transition macro event, on/off setting of mode to save transition rate	On	Off
Macro AT with A/B Bus	When registering an auto transition macro event for the transition control block, on/off setting of mode to save A/B Bus cross-point settings	On	Off
Macro TL with Region	When registering a timeline macro event, on/off setting of mode to save applicable region	On	Off
DME Override	DME override on/off	On	Off
DME Graphic	DME graphics on/off (Applies to graphics for channel selected in device control block)	On	Off
Plug-In Editor Enbl	Enable/disable operation from an editing keyboard	Enabled	Disabled
Inhibit Set	Inhibit cross-point button	Can be set only while pressed (lit)	When the function is assigned
Inhibit All Clear	Clear all cross-point button inhibit settings	Can be set only while pressed (lit)	When the function is assigned
K-SS Store [b]	Enable/disable key snapshot saving	Enabled	Disabled

a) For the safe title on/off commands (from ME1 PGM1 ST-ME1 PGM4 ST to AUX1 ST-AUX48 ST), the name of the assigned output signal is shown.

b) Pressing this button to turn it on enables key snapshot operations for all control blocks.

Assigning a menu shortcut to a memory recall button

1 Referring to the procedure up to step **3** on *"Assigning a Function to a Memory Recall Button in the Utility/Shotbox Control Block" (page 184)* , 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 flash.

4 Repeat steps **2** and **3** as required, to assign all desired menu shortcuts to the buttons in the utility/shotbox control block.

To abandon the process of menu shortcut assignment

In the 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

Notes

The name you set using the following procedure is displayed only when "Menu Shortcut" or "Utility Command" has been assigned to the selected memory recall button. To set a name for display in a memory recall button to which "Shotbox Recall" or "Macro Recall" has been assigned, use the Shotbox menu or Macro menu.

1 In the Prefs/Utility >Utility Module Assign menu, select the button using any of the following methods.

- Press directly on the list.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knobs.

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

2 Press [Name].

A keyboard window appears.

3 Enter a name of not more than eight characters, and press [Enter].

The name you have set is reflected in the status area and on the memory recall button in the utility/shotbox control block.

Assigning a Function to the Key 2 Row Cross-Point Buttons

You can assign a function to the key 2 row cross-point buttons of each of the M/E-1 to M/E-4, or PGM/PST banks, and use them in the same way as the buttons in the utility/shotbox control block.

1 In the Prefs/Utility menu, press [Key2/4 Bus Button Assign].

The Key2/4 Bus Button Assign menu appears. The cross-point settings for the key 2 row appear.

2 Refer to *"Assigning a Function to a Memory Recall Button in the Utility/Shotbox Control Block" (page 184)* to make the assignment. Note, however, the following differences.

- The bank setting of knob 1 is from 1 to 5.
- The adjustment range of knob 2 is from 1 to the number of cross-point buttons.
- The character string for a button name is a maximum of four characters.

For details of executing a utility/shotbox function with the key 2 row, see "Executing a Shotbox Function With the Key 2 Row Cross-Point Buttons" (page 88) and "Executing Utilities With the Cross-Point Buttons in the Key 2 Row" (page 82).

Interfacing With External Devices (Device Interface Menu)

To carry out setup relating to connections with external devices, display the Panel >Device Interface menu.

To display the Device Interface menu

In the Engineering Setup menu, select VF2 'Panel' and HF5 'Device Interface.'
The following functions are available here.

- **GPI Input:** Set the GPI input ports and trigger type, and make the action settings.
- **GPI Output:** Set the GPI output ports and trigger type, and make the action settings.
- **P-Bus Control:** Set the control mode for P-Bus devices.
- **DCU Serial Port Assign:** Assign the devices (disk recorder/VTR/Extended VTR) connected to a DCU and accessible from the control panel to the [DEV1] to [DEV12] buttons which become operative when you press the [DEV] button on the device control block. For a disk recorder or Extended VTR, you can also make settings relating to sharing of file lists. Further, you can make settings for devices (disk recorder/VTR/Extended VTR) operable from an editing keyboard.
- **Editor Port Assign:** When the BZS-8050 license is valid, make settings for the SCU editor panel port.
- **Aux Bus Override Mode:** Set the operating mode when "Aux ? O'ride Src ??" is selected as the GPI input action.

Making Control Panel GPI Input Settings

1 In the Panel >Device Interface menu, press [GPI Input].

The GPI Input menu appears.

2 Using any of the following methods, select the settings.

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

Knob	Parameter	Adjustment	Setting values
1	Port	Port selection	1 to 8

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

(Rising Edge): Apply the trigger on a rising edge of an input pulse.

(Falling Edge): Apply the trigger on a falling edge of an input pulse.

(Any Edge): Apply the trigger on a change in the polarity of the input signal.

(Level): Carry out the specified operation when the input is low or high.

No Operation: Apply no trigger on an input pulse.

4 In the <Target> group, select the action block.

M/E-1, M/E-2, M/E-3, M/E-4, P/P: Set the action for one of the banks.

Common/Setup: Set an action for something other than the above, or a setup action.

5 Using any of the following methods, select the action to be set.

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

Knob	Parameter	Adjustment	Setting values
2	Action	Action selection	1 and upwards a)
4	Aux Bus No	AUX bus selection	1 to 48 b)
5	Reg No	Register number	1 to 4 c) 1 to 99 d) 1 to 250 e) 1 to 399 f)
5	Src No	Source signal selection	1 and upwards b) h) i)
5	No	User preference button selection	1 to 16 g)

a) As for the setting values, see "Selectable actions for various trigger types" *(page 188)*.
b) When knob 2 selection is "Aux ? O'ride Src ??"
c) When knob 2 selection is "Key Snapshot"
d) When knob 2 selection is "Snapshot" or "Shotbox"
e) When knob 2 selection is "Macro"
f) When knob 2 selection is "Effect"
g) When knob 2 selection is "Prefs Button?"
h) The following values apply to the MVS-8000X.
For primary inputs: 1 to 144
For premium inputs: 145 to 164 ((PREM1) to (PREM20) indicated after the number)
For format converter dedicated inputs: 165 to 180 ((FC1) to (FC16) indicated after the number)
i) The values from 1 to 80 apply to the MVS-7000X.

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

The selected setting appears in the status area.

Selectable actions for various trigger types

- **When the trigger type is other than "Level"**
(In M/E-x, the x is the M/E bank number (1 to 4); in DSKx the x is the DSK number (1 to 8); in Keyx the x is the key number (1 to 8)).

When Target is M/E-x: Cut, Auto Trans, Keyx Cut, Keyx Auto Trans, Keyx SS ? Recall
When Target is P/P: Cut, Auto Trans, DSKx Cut, DSKx Auto Trans, DSKx SS ? Recall, FTB Auto Trans, FTB Cut
When Target is Common/Setup: Master SS ? Recall, Master Effect ? Recall, SS ? Recall, Effect ? Recall, Effect ? Recall & Run, KF Run, KF Stop, KF Rewind, FM Src1 Frame Freeze, FM Src1 Field Freeze, FM Src1 Freeze Off, FM Src2 Frame Freeze, FM Src2 Field Freeze, FM Src2 Freeze Off, FM Src1 Clip Record, FM Src1 Clip Stop, FM Src2 Clip Record, FM Src2 Clip Stop, FM1 to FM8 Clip Cueup, FM1 to FM8 Clip Play, FM1 to FM8 Clip Stop, Shotbox ? Recall, Macro Take, Prefs Button?, Macro ? Recall, No Action

- **When the trigger type is only "Rising Edge" or "Falling Edge"**
  Aux? O'ride Src??
- **When the trigger type is "Level"**
  When Target is M/E-1, M/E-2, M/E-3, M/E-4 or P/P: No Action
  When Target is Common/Setup: System Format Aspect (overall system settings), Level Enable, No Action

Notes

- "Level Enable" is a function that determines whether GPI inputs are enabled ("Enable") or disabled ("Disable") for the "Aspect" and "System Format" actions that can be used when the trigger type is Level. When Level Enable is used, if the input is "Disable" then it is not possible to switch "Aspect" or "System Format" by GPI input.
  If a GPI to switch "Aspect" or "System Format" occurs when powering the system off, the action triggered by the GPI may start immediately before the power goes off and the power may go off before the action is completed. This may corrupt the setup settings. It is therefore recommended to use Level Enable to avoid such a situation.
- As for "Aux ? O'ride Src ??," when "Rising Edge" is selected, on a rising edge the set AUX bus input is used. On a falling edge, the original state of the cross-point is restored. If the GPI trigger is applied repeatedly at short intervals (0.5 second or less), the cross-point switching may not be carried out correctly. In this case, apply the GPI trigger again.
- If "System Format" is selected for "Action" when the format converter is used on the switcher, you can set the conversion format of the format converter for "FC Input 1-4," "FC Input 5-8," "FC Input 9-12" (MVS-8000X only), "FC Input 13-16" (MVS-8000X only), "FC Output 1-2," and "FC Output 3-4."

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

Knob	Parameter	Adjustment	Setting values
1	No	Signal format/ screen aspect ratio selection	1 and upwards

3 To apply the selection made in step **2** when the input is the GPI high level, press [H Set]. To apply the selection made in step **2** when the input is low, press [L Set].

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

To Set the Level for the Format Converter

1 Set "System Format" for "Action" using the same operation in Step **5** of *"Making Control Panel GPI Input Settings" (page 188)*.

The format converter list appears.

2 Select the format converter that you want to set from the list.

3 In the <FC Input/Output> group, press [H Set] or [L Set] to set the high level or low level, respectively.

Making Control Panel GPI Output Settings

1 In the Panel >Device Interface menu, press [GPI Output].

The GPI Output menu appears.

2 Using any of the following methods, select the settings.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.

• Turn the knob.

Knob	Parameter	Adjustment	Setting values
1	Port	Port selection	1 to 8

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

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

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

(Any Edge): 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)
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-4 and P/P: Set an action for the M/E or PGM/PST bank.

Common: Set an action for error status.

6 Using any of the following methods, select the action to be set.

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

Knob	Parameter	Adjustment	Setting values
2	Action	Action selection	1 and upwards a)
5	Reg No	Register number	1 to 4 b)

a) **Action list when the trigger type is other than "Status"**
(In M/E-x, the x is the M/E bank number (1 to 4); in DSKx the x is the DSK number (1 to 8); in Keyx the x is the key number (1 to 8)).
When Source is M/E-x: Keyx SS ? Recall, No Action
When Source is P/P: DSKx SS ? Recall, No Action
When Source is Common: KF Run, No Action
Action list when the trigger type is "Status"
(In M/E-x, the x is the M/E bank number (1 to 4); in DSKx the x is the DSK number (1 to 8); in Keyx the x is the key number (1 to 8)).
When Source is M/E-x: Keyx SS ? Recall, Keyx On, No Action
When Source is P/P: DSKx SS ? Recall, DSKx On, No Action
When Source is Common: Error Make, Error Break, Keep Break, Keep Make, PREFS1, PREFS2, PREFS3, PREFS4, PREFS5, PREFS6, PREFS7, PREFS8, PREFS9, PREFS10, PREFS11, PREFS12, PREFS13, PREFS14, PREFS15, PREFS16, Device Recording, No Action

b) When knob 2 selection is "Key Snapshot"

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

The selected setting appears in the status area.

Test firing the trigger

To test fire the trigger, press [Test Fire].
This outputs a trigger from the selected output port. This is not output when the trigger type is "Status."

Setting the Control Mode for P-Bus Devices

In the <P-Bus Control> group of the Panel >Device Interface menu, select the mode.

Trigger: When a predetermined button is pressed, the action command assigned to that button is output, to control an external device.

Timeline: The external device is controlled as a keyframe effect controlled by the center control panel.

Setting the SCU Editor Panel Port

When an editing keyboard is used, this port setting is for the editing keyboard if the license for the BZS-8050 is valid *(see page 148)*, and for the serial tally if the license for the BZS-8050 is invalid.
If you want to use the port setting for the serial tally when the license for the BZS-8050 is valid, select [Serial Tally] from the <Editor Port Assign> group in the Panel >Device Interface menu.

Serial Tally: Use the SCU editor panel port for the serial tally.

Editor Keyboard: Use the SCU editor panel port for the editing keyboard.

Making DCU Serial Port Settings

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

ports. For a disk recorder/Extended VTR, you can also set the sharing of file lists.

For details of DCU serial port settings, see "Serial Port Settings (Serial Port Assign Menu)" (page 234).

Associating a serial port with a device selection button

1 In the Panel >Device Interface menu, press [DCU Serial Port/MPE Assign].

The DCU Serial Port/MPE Assign menu appears.

2 Using any of the following methods, select the DCU serial port.

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

Knob	Parameter	Adjustment	Setting values
1	No	Serial port selection	1 and upwards 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.

Notes

- It is not possible to assign more than one device selection button to the same port. The later assigned device selection button takes priority, and the previous selection is invalidated.
- If P-Bus/Mixer ESAM-II is assigned to a serial port, it is not possible to assign a device selection button to that port.

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

To select whether to use an editing keyboard

If you want to use an editing keyboard for the selected device, select a port using the same operation as in step **2**, then press [Plug-In Editor Enbl] to display "Enbl" in the Editor column. If you do not want to use an editing keyboard, press [Plug-In Editor Enbl] to make the "Enbl" display disappear.

Notes

- This selection is possible when the BZS-8050 license is valid *(see page 148)*.
- A port to which Mixer ESAM-II is assigned is automatically set to Enbl, and you cannot change this setting.

Sharing Disk Recorder/Extended VTR File Lists

To share files between devices connected to the same disk recorder/Extended VTR, use the following procedure.

Notes

The following operation can only be carried out for the ports to which a disk recorder or Extended VTR is assigned.

1 In the Panel >Device Interface >DCU Serial Port/MPE Assign menu, select the target disk recorder/Extended VTR.

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

Knob	Parameter	Adjustment	Setting values
1	No	Serial port selection	1 and upwards 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.

Setting the AUX Bus Override Operating Mode

Set the operating mode when the trigger type is "Rising Edge" or "Falling Edge," and "Aux ? O'ride Src ??" is selected as the GPI input action.
In the <Aux Bus Override Mode> group of the Panel >Device Interface menu, select one of the following modes.

Momentary: On an input pulse rising (falling) edge, the input of the selected AUX bus is used, and on a falling (rising) edge this returns to the original cross-point.

Latch: On an input pulse rising (falling) edge, the input of the selected AUX bus is used, and this does not return to the original cross-point change even on a falling (rising) edge.

This setting is also valid when AUX bus override is selected as the DCU GPI input *(see page 230)*.

Operation Settings (Operation Menu)

To make settings relating to panel operation, use the Panel >Operation menu.

To display the Operation menu

In the Engineering Setup menu, select VF2 'Panel' and HF6 'Operation.'

The status area shows the items that can be set and a list of the settings.

The following functions are available here.

- **Button Tally:** Set whether or not the system tally generation results are reflected in the panel tally.
- **Key Row Operation:** Set the operation mode for cross-point control block key 1 and key 2 rows.
- **Trans Rate Display:** Select whether the transition rate display mode is in frames or timecode units.
- **S-Bus Name Link:** Copy the S-Bus description name to the source name.
- **Effect:** For keyframe effects, you can make the following settings.
  - Recall mode
  - Automatically turning off the [EDIT ENBL] button when an effect is recalled
  - Automatic insertion of a first keyframe when an empty register is recalled
  - Effect Auto Save
  - Default KF Duration
  - Setting whether or not to replay the first keyframe after rewinding a GPI/P-Bus/disk recorder/VTR/Extended VTR/Macro effect
- **Source/Dest Name:** For the Source/Dest (source/destination) names used by the system, select one of the following:
  - Source name set by cross-point assignment or fixed bus name
  - Description name set on routing switcher
  - "Type + Num" name set on routing switcher

  Names assigned with Xpt Assign can be replaced later with description names.
- **Name Display:** Specify the number of characters for display of the names selected in Source/Dest Name above, as two characters, four characters, or Auto.
- **Flexi Pad Mode:** Carry out Flexi Pad settings. Specify the delegation selection coupling, and display mode for the LCD buttons. You can also make menu settings for wipe snapshots.
- **Custom Button:** Set the following button operation modes.
  - [ALL] button for next transition selection
  - [AUTO TRANS], [TAKE] or [FTB] button during auto transition execution
  - [RUN] button during keyframe execution
  - [AUTO TRANS] and [CUT] button replacement

- [TRANS PVW] button
- [UTIL] button
- [XPT HOLD] button in key rows
- Selection of signal assigned to the auxiliary bus control block key source bus (either key signal only, or either video signal or key signal selectable)

- **Sensitivity:** Adjust trackball, joystick and double-click sensitivity, or set the relationship between the angle of the search dial and the playback speed or the sensitivity for the search dial in jog mode.
- **Main Split Fader:** When the split fader is active, specify whether the fader to control other than mix is the left side or the right side.
- **Macro:** Set the macro execution mode and the mode in which to edit macros using the standard type Flexi Pad control block.

Setting the On-Air Tally

To set the high tally state reflected on the control panel, use the following procedure.

1 In the Panel >Operation menu, press [Button Tally].

The Button Tally menu appears.

2 In the <Tally Type> group, select either of the following.

[R1] to [R8]: Reflect any of tally groups 1 to 8 as the tally state.
Independent: Reflect only the switcher tally state.

3 Press [Execute].

A popup window appears and shows the progress of the operation.

Assigning a Key or AUX Bus to a Button in the Key 1 or Key 2 Row

These settings enable keys 1 to 8 and AUX bus selection in the key 1 and key 2 rows of the cross-point control block.

1 In the Panel >Operation menu, press [Key Row Operation].

The Key Row Operation menu appears.

2 In the <Key Row Mode> group, select one of the following.

Key Bus: Use the key 1 and key 2 rows as cross-point button rows for the keyers.

Key Deleg/AUX: Use the key 1 row as a key and AUX delegation button row, and the key 2 row as a delegation cross-point button row.

Setting key 1 row delegation

1 In the Key Row Operation menu, press [Key Deleg/AUX Assign].

The Key Deleg/AUX Assign menu appears.

2 Select the button you want to assign from the list on the right.

3 Using any of the following methods, select the key to be assigned from the list on the right.

- Press directly on the list.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

Knob	Parameter	Adjustment	Setting values
1	Deleg No	Select button	1 and upwards
2	Bus No	Select function to be assigned to button	1 to 82

Setting the Transition Rate Display Mode

To determine whether to display transition rate values in menus and on the control panel in frames or as timecode values, select either of the following in the <Trans Rate Display> group.
Frame: display in frames.
Timecode: display as timecode (SS:FF).

Making Settings Relating to Effects

To make settings relating to the functions used when carrying out keyframe effect operations, use the following procedure.

1 In the Panel >Operation menu, press [Effect Mode].

The Effect Mode menu appears.
The status area shows a list of the items with their settings.

2 Make the following settings as required.

Effect recall mode: To select the state of the first keyframe when an effect is recalled, select [Recall] (the first keyframe is not recalled) or [Recall&Rewind] (the first keyframe is recalled) in the <Recall Mode> group.

Automatically turning [EDIT ENBL] off: When an effect is recalled with the [EDIT ENBL] button on, to automatically turn this button off, disabling keyframe editing, turn [Edit Enable Auto Off] on.

Automatic first keyframe insertion: When an empty register is recalled, to automatically insert a first keyframe of the state at that point, turn [1st KF Auto Insert] on.

Automatic effect saving: To automatically save an effected when it is recalled after being edited, turn [Effect Auto Save] on.

Keyframe duration default value: Press [Default KF Duration], then enter the default value from the numeric keypad window.

Setting the First Keyframe When a Rewind is Executed

For P-Bus, GPI, and DDR/VTR timeline operations, to execute the first keyframe when a rewind is carried out, set each external device on in the <REWIND&1st KF> group in the Effect Mode menu.

Notes

When an effect is executed by pressing the [RUN] button with this setting on, the first keyframe action is not executed.

GPI: setting for the GPI timeline
P-Bus: setting for the P-Bus timeline
DDR/VTR: setting for the VTR/disk recorder/Extended VTR timeline
Macro: setting for the macro timeline

Setting the Source and Destination Names

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

Notes

Before carrying out these settings, it is necessary to set the number of the S-Bus description name *(see page 241)*.

1 In the <Source/Dest Name> group of the Panel >Operation menu, select the names to be used from the following.

Sw'er Local: Source names set in the Xpt Assign menu, and fixed bus names
S-Bus Descript: Description names set in the router
S-Bus Type + Num: Type + Num set in the router (In this case always eight characters.)

2 In the <Name Display Mode> group, select the method of display in the source name displays.

Auto: Optimize display according to number of characters. A name of up to two characters appears as two characters in one line. A name of up to four characters appears as four characters in one line. Otherwise, up to the first eight characters are shown in two lines.
2 Character: The first two characters appear.
4 Character: The first four characters appear.

To replace a name set in the Xpt Assign menu with an S-Bus description name

Turn [S-Bus Name Link] on.
This has such effect that each time a description name is changed on the router, the corresponding source name is automatically changed. Thus, the same description name can always be used both on the router and the switcher. Even when [Sw'er Local] is selected, the same name as when [S-Bus Descript] is selected can be displayed. The S-Bus description name can also be displayed in the Xpt Assign menu.

Settings for the Flexi Pad and Wipe Snapshot Menu

You can select the pattern numbers or register names as the button indications for Flexi Pad control block and the following menus.
- M/E-1 > Wipe >Wipe Snapshot menu
- M/E-1 > DME Wipe >DME Wipe Snapshot menu
- Misc >Snapshot menu

This setting is also valid in the Multifunction Flexi Pad control block.

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], [Effect], or

[MCRO], select [Register No] or [Register Name] in the <Snapshot/Effect Display> group.

Setting the Button Operation Mode

1 In the Panel >Operation menu, press [Custom Button].

The Custom Button menu appears.
The status area shows a list of the items with their settings.

2 Make the following settings as required.

Operation mode during an auto transition: For the operation mode when the [AUTO TRANS] or [TAKE] button is pressed once more during an auto transition, select [Continue] or [Cancel] in the <Auto Trans/Take> group.
- **Continue:** Continue the auto transition.
- **Cancel:** Cancel the auto transition and return to the state before starting the auto transition.

Operation mode during keyframe execution: For the operation mode when the [RUN] button is pressed once more during effect execution, select [Continue] or [Cancel] in the <Run> group.
- **Continue:** Continue the execution.
- **Cancel:** Cancel the execution and return to the state before starting the execution.

Status display for auto transition execution button: When the [AUTO TRANS] or [TAKE] button is pressed to carry out an auto transition, select how the button is lit or off in the <Auto Trans/Take Key On Stats> group.
- **Disable:** Lights amber during the transition, and goes off at the end of the transition.
- **Enable:** Lights green during the transition, and at the end of the transition lights red if on air and amber if not on air.

Notes

This setting is only valid in the independent key transition execution section of the following control block.
- Transition control block (standard)
- Downstream key control block (DSK Fader Module)
- Independent key transition control block (simple type)
- Downstream key/fade-to-black control block

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.

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 211)*.

[KEY] button operation mode for key source bus operations: When the key source bus is selected with the delegation buttons in the auxiliary bus control block, specify the [KEY] button operation mode in the <Key Source Bus Select Mode> group, as follows.
- **Key:** If you select this, the [KEY] button is always lit, and this mode allows only key signals to be selected with the cross-point buttons.
- **Video & Key:** The [KEY] button is enabled, and either video or key signals can be selected.

CCP-6000/8000-specific button settings: Press [CCP-6000/8000 Button], and skip to step **3**. (This setting is enabled when the CCP-6224/6324 is used.)

3 If required, make the following settings.

Operation mode during a fade-to-black: To set the operation mode if the [FTB] button is pressed once more during a fade-to-black, select either of the following in the <FTB> group.
- **Continue:** Continue the fade-to-black.
- **Cancel:** Cancel the fade-to-black, and return to the state before executing the fade-to-black.

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.
- **Normal:** The <Xpt Hold Mode> in the Switcher >Key/Wipe/FM/CCR menu is enabled.
- **Protect:** In this mode, pressing a panel button cannot change the cross-point settings.

Notes

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.

[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.

- **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.

Setting the Operation Mode of the [ALL] Button in the Transition Control Block

Specify the next transition selected by pressing the [ALL] button in the transition control block.

Notes

If everything here is set to Off, then pressing the [ALL] button does not change the specification of the next transition.

1 In the Panel >Operation >Custom Button menu, press [Next Trans All].

The Next Trans All menu appears.

2 Press the button for the next transition you want to select with the [ALL] button, turning it On.

Setting Trackball, Joystick, Search Dial, and Double-Click Sensitivity

You can set the operational sensitivity for trackball, joystick and the buttons which recall the relevant menus when pressed twice, and the relation of the rotation angle of search dial with the playback speed.

1 In the Panel >Operation menu, press the [Sensitivity].

The Sensitivity menu appears.
The status area shows a list of the items with their settings.

2 Make the following settings as required.

Trackball and Z-ring sensitivity in normal mode: In the <Trackball Normal Mode> group, select [×1], [×2], or [×4].
Trackball and Z-ring sensitivity in fine mode: In the <Trackball Fine Mode> group, select [$^1/_2$], [$^1/_4$], or [$^1/_8$].
Joystick sensitivity in normal mode: In the <Joystick Normal Mode> group, select [×1], [×2], or [×4].
Joystick sensitivity in fine mode: In the <Joystick Fine Mode> group, select [$^1/_2$], [$^1/_4$], or [$^1/_8$].
Touch sensitivity for recalling menus by double-clicking buttons: In the <Double Click> group, select [Fast], [Normal], or [Slow].

Making advanced settings for the search dial

1 In the Panel >Operation >Sensitivity menu, press [Search Dial].

The Search Dial menu appears.
The status area shows a list of the settings and their content.

2 Set the sensitivity for the search dial in jog mode.

When operated with the [JOG] button pressed to be lit amber: In the <Jog Sensitivity> group, press one of [1 (Slow)] to [6 (Fast)].
When operated with the [JOG] button held down: In the <Jog Sensitivity (While pressing [JOG] button)> group, press one of [1 (Slow)] to [6 (Fast)].

3 In the <SHTL/VAR Dial Range> group, select [Narrow] or [Wide] to set the sensitivity for the search dial in shuttle mode or variable mode.

Narrow: The search speed varies in a relatively narrow range.
Wide: The search speed varies in a relatively wide range.

For details of search dial operations, see "Controlling the Tape/Disk Transport" (page 16).

Specifying Main Split Fader

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

Setting the Macro Execution Mode

1 Press [Macro] in the Panel >Operation menu.

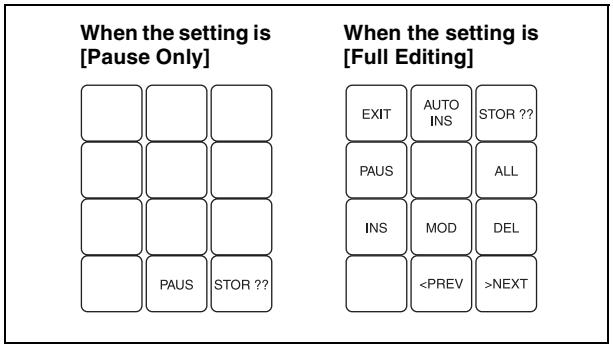
The Macro menu appears.

2 In the <Macro Execution Mode> group, select the macro execution mode.

Normal: normal execution mode
Step: step execution mode

3 In the <Flexi Pad Edit Mode> group, set the macro editing mode of the standard type Flexi Pad to [Pause Only] or [Full Editing].

This enables the standard type Flexi Pad control block to be used for macro editing. Depending on the macro editing mode setting, functions are assigned to the memory recall buttons as shown in the following figure.



4 When making a macro attachment setting, select whether or not to enable cross-point button operations in the <Attachment Setting Mode> group.

With Btn Function: enable cross-point button operations
W/o Btn Function: disable cross-point button operations

5 Using the <Macro 2nd Recall Mode> group, set the action to occur during macro execution or when a macro is stopped, if the cross-point button with the macro attachment set is pressed again.

Continue: Execution of a macro that has been stopped is resumed, and an executing macro continues.
Cancel: A stopped macro, or a macro during execution is terminated.

6 Using the <Macro Recall Override> group buttons, set the action to occur during macro execution or when a macro is stopped, if another macro is recalled.

Disable: Ignore the other macro recall.
Enable: Execute the other macro.

To have a cross-point button with a macro attachment set lit continuously

Press [Attchd Btn Indication], turning it on.
When the [MCRO ATTCH ENBL] button in the cross-point control block is on, the cross-point button with a macro attachment is constantly lit green.

Screen Saver and Other Settings (Maintenance Menu)

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

- **Screen Saver:** Make the menu display saver settings.
- **LCD Brightness:** Adjust the LCD brightness.
- **LED Brightness:** Adjust the LED brightness.
- **Switch Brightness:** Adjust the switch brightness.
- **Touch Beep:** Select whether or not to sound a beep when a menu operation is carried out.
- **Touch Panel Calibration:** Calibrate the touch panel.
- **Initial Menu Set:** Specify the menu to be displayed at menu startup.
- **Scrl Down = Clockwise/ Scrl Up = Clockwise:** Set the mouse wheel scrolling direction for parameter setting.
- **Mouse Slider Control:** Select the mouse button used for adjusting the bar positions of the knob parameters.

To display the Maintenance menu

In the Engineering Setup menu, select VF2 'Panel' and HF7 'Maintenance.'
The status area shows a list of the items with their settings.

Screen Saver Settings

To enable the menu display saver, use the following procedure.

1 In the Panel >Maintenance menu, press [Screen Saver], turning it on.

2 Adjust the following parameter.

Knob	Parameter	Adjustment	Setting values
1	Sleep Time	Time until screen saver starts operation	1 to 300 (minutes)

Adjusting the Brightness

You can adjust the brightness of the following hardware parts.

LCD: Adjust the brightness of the source name displays and the LCD buttons in the Flexi Pad control block.
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.

Setting Whether or not to Sound a Beep when a Touch Operation is Carried Out

In the Panel >Maintenance menu, press [Touch Beep]. Each time you press this button, it toggles the beep setting on and off.

Calibrating the Touch Panel

1 In the Panel >Maintenance menu, press [Touch Panel Calibration].

The following message appears.
"To Perform Calibration, please touch the center of each plus sign."

2 Press [Yes].

3 Press the center of the plus sign displayed on the screen.

When you press on the plus sign, it disappears and a diagonally opposite plus sign appears.

4 Press the center of the plus sign.

A confirmation message appears.
- Select "Yes" to restart the panel reflecting the new setting.
- Select "No" to cancel the setting and return to the Maintenance menu.

Setting the Menu to be Shown When the Menus Are Started

1 In the Panel >Maintenance menu, press [Initial Menu Set].

A popup window appears.

2 Enter the page number of the desired menu.

The next time the menus are started, the menu specified by this number appears.

Notes

To enable this setting, the initial state of the control panel when powered on must be set to one of the following.
- Set to Resume mode
- Set to Custom mode, with "User" selected in the <Setup> group.

For details of these settings, see "Selecting the State After Powering On (Start Up Menu)" (page 145).

Setting the Mouse Wheel Scrolling Direction for Parameter Setting

In the < Mouse Wheel Direction > group of the Panel >Maintenance menu, press one of the following buttons.

Scrl Down = Clockwise: Turning the mouse wheel in the direction to scroll down is the same as turning the parameter setting knob clockwise.

Scrl Up = Clockwise: Turning the mouse wheel in the direction to scroll up is the same as turning the parameter setting knob clockwise.

Selecting the Mouse Button Used for Adjusting the Knob Parameters

In the Panel >Maintenance menu, press either of the following buttons in the <Mouse Slider Control> group.

Left Button: Dragging the bar while holding down the left mouse button adjusts the parameter assigned to the knob.

Right Button: Dragging the bar while holding down the right mouse button adjusts the parameter assigned to the knob.

Notes

When Left Button selected, even pressing one of the knob parameter buttons in the menu control block does not display a numeric keypad window.

Switcher Setup (Switcher)

Chapter 20

Settings for Switcher Configuration (Config Menu)

To make settings for the switcher processor configuration, use the Switcher >Config menu.

To display the Config menu

In the Engineering Setup menu, select VF3 'Switcher' and HF1 'Config.'
The status area shows the output signal assignment for each of the M/E and PGM/PST banks.
The following functions are available here.

- **System Phase:** Adjust the switcher internal reference phase.
- **Switching Timing:** Specify the timing of video switching.
- **M/E Config:** Set the configuration for the M/E and PGM/PST outputs.
  - **Standard mode:** Fix the output configuration for the maximum of four outputs (Out1 to 4) as follows.
    Out1: Program output
    Out2: Preview output
    Out3: Clean output
    Out4: Key preview output
    The program output is: clean output + key1 to key8
    For the key preview output, you can select either video mode (background and key) or key mode (key only), and select the background and key (K-PVW Config).
  - **Multi-program mode:** Increase the number of M/E or PGM/PST programs, and assign any of the following to the maximum of six outputs (Out1 to 6). (M/E Output Assign)
    Program outputs 1 to 4, preview output, key preview outputs 1 and 2, clean output.
    Further, you can select the program background from Clean or Utility2, and change the combination of signals from which the program output is configured. (PGM Config)
  - **DSK mode:** Treat P/P as four DSKs, with no background transitions. From among backgrounds 1 to 4, select one for which to make settings for program output configuration. (PGM Config) The signals which can be selected as the background are limited to Out1 to 6 from M/E-1 to M/E-4.
- **User 1 to 8 Config:** Assign the User regions, being color backgrounds 1 and 2, AUX1 to 48, frame memory 1 to 8, and color correctors 1 and 2, to any of User1 to User8.
- **Logical M/E Assign:** Make settings for handling PGM/PST hardware logically as an M/E.
- **DME Config:** Set the DME channel assignments used on the individual
  M/E and PGM/PST banks.
- **Side Flags:** Make settings relating to the side flag function (inserting a selected image on both sides of a 4:3 image).

Adjusting the Reference Phase

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

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

Specifying the Video Switching Timing

1 In the Switcher >Config menu, press [Switching Timing].

The Switching Timing menu appears.

2 Select any of the following.

Any: Not specified
Field 1: Field 1 (odd fields)
Field 2: Field 2 (even fields)

Notes

When the signal format is set to 720P, 1080PsF or 1080P, this selection is not possible.

Setting the Operation Mode

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

- Standard mode
- Multi Program mode
- DSK mode (PGM/PST only)

For details of the modes, see the explanation of the M/E Config function (page 199).

Notes

When Multi Program mode is selected, two or more transition type indication may light. It is also possible that more than one "Transition Type" has been selected in the Misc >Transition menu for each M/E.

Assigning the output of each bank in Multi Program mode

When you selected [Multi Program] as the operation mode, use the following procedure.

1 In the Switcher >Config menu, press [M/E Output Assign].

The M/E Output Assign menu appears.

2 On the list in the status area, select the bank output to be assigned.

The selected output appears in reverse video.

3 In the <M/E Output Assign> group, select the output signal to be assigned.

Setting the output configuration for each bank

When you selected [Multi Program] or [DSK] as the operation mode, use the following procedure.

1 In the Switcher >Config menu, press [PGM Config].

The PGM Config menu appears.
The status area shows the background and key configuration assigned to the output of each bank.

2 Using either of the following methods, select the output for which you want to make the setting.

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

Knob	Parameter	Adjustment	Setting values
1	No (PGM)	Output to which setting applies	1 to 20

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 24 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
19 to 24: M/E4 OUT1 to 6

5 In each of the <Key1> to <Key8> groups, select [Enable] or [Disable].

Setting the key preview configuration

You can make this setting at any time, regardless of the operation mode.

1 In the Switcher >Config menu, press [K-PVW Config].

The K-PVW Config menu appears.
The status area shows the key preview configuration for each bank.

2 Using either of the following methods, select the key preview to which the settings apply.

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

Knob	Parameter	Adjustment	Setting values
1	No (K-PVW)	Key preview to which setting applies	1 to 10

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 24 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
19 to 24: M/E4 OUT1 to 66

6 In the <Key 1> to <Key 8> groups, select the corresponding key status from the following.

- **Link:** Follow the key on/off setting.
- **On:** Key is always on.
- **Off:** Key is always off.

Setting User Regions

Notes

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

1 In the Switcher >Config menu, press [User1-8 Config].

The User1-8 Config menu appears. The status area shows the region names and assigned user region numbers.

2 Using any of the following methods, select the region you want to set.

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

Knob	Parameter	Adjustment	Setting values
1	Region	Region selection	1 and upwards

3 In the <User Region Assign> group, select the user region you want to assign. If you do not want to assign a user region, select [No Assign].

4 Repeat steps **2** and **3** as required to make the settings for other regions.

5 To confirm the setting, press [Execute]. To cancel the setting and return to the original state, press [Clear] before pressing [Execute].

When you press [Execute], a confirmation message appears.

6 Press [Yes].

Assigning PGM/PST Logically to an M/E

1 In the Switcher >Config menu, press [Logical M/E Assign].

The Logical M/E Assign menu appears. The status area shows the physical M/E and logical M/E organization.

2 Select the M/E you want to logically set to the PGM/PST from the <Logical M/E to Physical P/P> group.

P/P: Assign the physical PGM/PST as logical PGM/PST.
M/E-1: Assign the physical PGM/PST as logical M/E-1.
M/E-2: Assign the physical PGM/PST as logical M/E-2.
M/E-3: Assign the physical PGM/PST as logical M/E-3.
M/E-4: Assign the physical PGM/PST as logical M/E-4.

Setting the Assignments of DME Channels to Use on the Individual M/E Banks

The Switcher >Config >DME Config menu allows you to select the DME channels to use on the M/E and PGM/PST banks for processed keys or DME wipes.

1 In the Switcher >Config menu, press [DME Config].

The DME Config menu appears.

2 Using either of the following methods, select the M/E or PGM/PST bank for which you want to set a DME channel assignment.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.

3 In the <DME Channel> group, press one of the [Ch1] to [Ch8] buttons turning it on to select the channel which you want to assign to the bank selected in step **2**.

4 Repeat steps **2** and **3** to assign DME channels to other banks.

Setting the Side Flag Video Material and Operation

Make settings relating to the video material (4:3 aspect ratio) for applying side flags.

For details of side flag operations, see "Side Flag Settings" in Chapter 10 (Volume 1).

Setting the aspect ratio (4:3/16:9)

1 In the Switcher >Config menu, press [Side Flags].

The Side Flags menu appears.
The status area lists the video/key pair numbers, video signal source names, and aspect ratio settings (16:9/4:3).

2 Using any of the following methods, select the pair number for which you want to make the setting.

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

Knob	Parameter	Adjustment	Setting values
1	V/K Pair No	Selection of a V/K pair by its number in the list	1 to 300
2	Num	Selection of number of V/K pairs in the list	1 to 300

- To select all of the pair numbers, press [ALL].

3 In the <Aspect> group, press [4:3].

If you select [16:9], no side flags are applied.

To set 4:3 video material to have side flags applied automatically

You can make a setting so that when a signal with aspect ratio set to 4:3 is selected in the cross-point control block, side flags are automatically applied.
To do so, in the Switcher >Config >Side Flags menu press [Auto Side Flags]. Pressing this button toggles the setting on and off.
This setting applies to all of the M/E and PGM/PST banks.

To set to crop to 4:3 when a DME wipe is executed

When side flags are enabled, you can automatically crop an image as set to be a 4:3 image when executing a DME wipe.
To do so, in the Switcher >Config >Side Flags menu press [Auto Crop]. Pressing this button toggles the setting on and off.
This setting applies to all of the M/E and PGM/PST banks.

Adjusting the width of the side flags

You can adjust the width of the side flags.

1 In the Switcher >Config >Side Flags menu, press [Width].

2 Adjust the following parameters.

Knob	Parameter	Adjustment	Setting values
3	Left	Width of left side flag	–100.00 to +100.00
4	Right	Width of right side flag	–100.00 to +100.00
5	All	Width of both side flags	Left value shown

Displaying the menu for enabling/disabling the side flags

In the Switcher >Config >Side Flags menu, press [Misc >Enbl >Setup Flags].

Displaying the menu for assigning the side flags on/off function to a cross-point button

In the Switcher >Config >Side Flags menu, press [Side Flags Button Assign].

Signal Input Settings (Input Menu)

For setup relating to signal inputs, use the Switcher >Input menu.

To display the Input menu

In the Engineering Setup menu, select VF3 'Switcher' and HF2 'Input.'
The status area shows source numbers and source names and through mode on/off setting.
The following functions are available here.

- **Through Mode:** Set the through mode for input. You can set this independently for each primary input or premium input.
- **Video Process:** Switch video processing on or off for each input signal, and adjust the brightness, hue and so forth.
- **Matte Illeg. Color Limit:** Switch the illegal limiter on or off for the signal generated by the switcher internal matte generator.
- **FC Input Select:** Select the primary input to be used in the format converter. (MVS-7000X only)
- **FC Adjust:** Select the conversion (up-conversion, cross-conversion, or down-conversion) when the format converter is applied to an input.

Making Through Mode Settings

Notes

For the format converter dedicated inputs in the MVS-8000X, you cannot set through mode.
For the MVS-7000X, through mode is enabled for the input signals which have been converted in the format converter.

1 In the Switcher >Input menu, select the input signal to which the settings apply.

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

Knob	Parameter	Adjustment	Setting values
1	Src No	Input signal selection	1 and upwards a) b)

a) The following values apply to the MVS-8000X.
For primary inputs: 1 to 144
For premium inputs: 145 to 164 ((PREM1) to (PREM20) indicated after the number)
b) The values from 1 to 80 apply to the MVS-7000X.

The selected input signal appears in reverse video.

2 To enable through mode, press [Through Mode], turning it on.

Making Video Process Settings

1 In the Switcher >Input menu, press [Video Process].

The Video Process menu appears.
The status area shows the source number, source name, and video process adjustment settings.

2 Using any of the following methods, select the input signal to which the settings apply.

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

Knob	Parameter	Adjustment	Setting values
1	Src No	Input signal selection	1 and upwards a) b)

a) The following values apply to the MVS-8000X.
For primary inputs: 1 to 144
For premium inputs: 145 to 164 ((PREM1) to (PREM20) indicated after the number)
For format converter dedicated inputs: 165 to 180 ((FC1) to (FC16) indicated after the number)
b) The values from 1 to 80 apply to the MVS-7000X.
For primary inputs: 1 to 80
Input signals which have been converted in the format converter: 81 to 88

3 Press [Video Process], turning it on.

4 Adjust the following parameters.

Knob	Parameter	Adjustment	Setting values
1	Video Gain	Video signal gain	–200.00 to +200.00
2	Y Gain	Y signal gain	–200.00 to +200.00
3	C Gain	Chrominance signal gain	–200.00 to +200.00
4	Hue Delay	Hue delay	–180.00 to +180.00
5	Black Level	Black level	–7.31 to +109.59

To set the parameter settings to their defaults, press [Unity].

Enabling the Illegal Color Limiter

To enable the illegal color limiter for the signals generated by the switcher internal matte generator, press [Matte Illeg Col Limit] in the Switcher >Input menu, turning it on.

Selecting the Primary Input to be Used in the Format Converter

1 In the Switcher >Input menu, press [FC Input Select].

The FC Input Select menu appears.
The status area shows the format converter list (left) and the primary input number list (right).

2 Using any of the following methods, select the number of the FC (format converter) that you want to set from the table on the left.

- Press directly on the list in the status area.
- Turn the knob.

Knob	Parameter	Adjustment	Setting values
1	FC	Format converter	1 to 8

3 Using any of the following methods, select the primary number.

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

Knob	Parameter	Adjustment	Setting values
2	Primary	Input signal to be converted	1 to 80

4 To input the name of the input signal which has been converted in the format converter, press [FC Name]. A keyboard window appears. You can enter a name of not more than 16 characters.

5 Press [Set].

Selecting the Input to Which the Frame Delay Function Applies

1 In the Switcher >Input menu, select the input signal for which you want to make the setting.

You can select the input signals for which the frame delay function is enabled in advance.

2 Adjust the following parameter.

Knob	Parameter	Adjustment	Setting values
2	Frame Delay	Delay amount	1 to 8

Selecting the Format Converter Conversion

Selecting the Format Converter Inputs to be Set

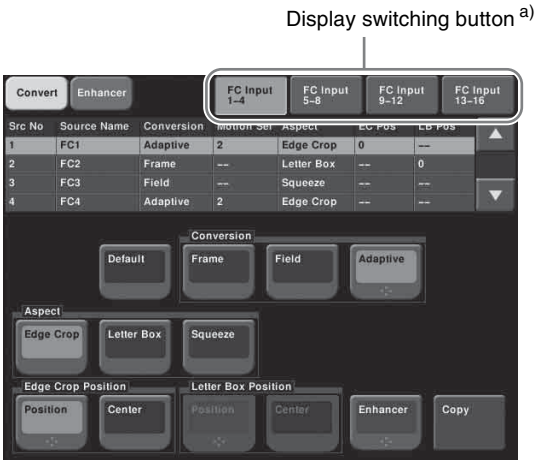
For four groups of FC1 to FC4, FC5 to FC8, FC9 to FC12, and FC13 to FC16, the same setting is applied in units of groups.

Notes

The two groups of FC9 to 12 and FC13 to FC16 can be used only on the MVS-8000X.

1 Display the Switcher >Input >FC Adjust menu.

The following figure illustrates the case when FC Input 1-4 are set to up-conversion, and FC Input 5-8 are set to cross-conversion.



a) This button does not appear when the frame delay function is enabled.

2 Press [FC Input 1-4], [FC Input 5-8], [FC Input 9-12], or [FC Input 13-16] as required.

The list corresponding to the pressed button appears.

3 Using any of the following methods, select what the setting applies to.

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

Knob	Parameter	Adjustment	Setting values
1	Source No	Input selection	1 and upwards a)

a) The setting values vary with the button pressed in step **2**.

Making detailed settings for up-conversion

1 In the Switcher >Input >FC Adjust menu, select the input to which the setting applies.

2 In the <Conversion> group, select one of the following.

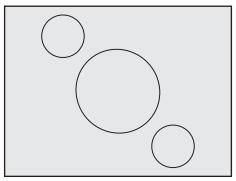
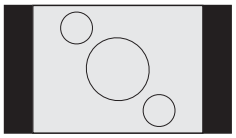
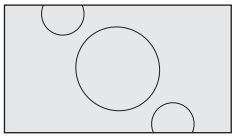
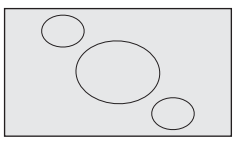
Frame: Conversion in frame units
Field: Conversion in field units
Adaptive: Automatically switching between the above two modes
When Adaptive is selected, adjust the following parameter.

Knob	Parameter	Adjustment	Setting values
2	Motion Select	Motion detection sensitivity	1 to 3 [a]

a) 1: Still priority mode, 2: Standard mode, 3: Motion priority mode

3 In the <Aspect> group, select one of the following.

Edge Crop: Add black bars on the left and right sides of a 4:3 aspect ratio image to convert it to a 16:9 image.
Letter Box: Crop the top and bottom of a 4:3 aspect ratio image to convert it to a 16:9 image.
Squeeze: Stretch a 4:3 image horizontally to covert it to a 16:9 image.
(For details of the image transformations, see the following figure.)

Original image (4:3)	Up-converted image (16:9)
	Edge Crop 
	Letter Box 
	Squeeze 

Setting the image position in edge crop up-conversion mode

1 In the <Edge Crop Position> group of the Switcher >Input >FC Adjust menu, press [Position], turning it on.

2 Adjust the following parameter.

Knob	Parameter	Adjustment	Setting format	Setting values
2	EC Position	Image position [a]	1080	–120 to +120
			720	–80 to +80

a) For down-conversion, the value is from –30 to +30 inclusive.

To return the edge crop image to the center

In the <Edge Crop Position> group, press [Center].

Setting the image position in letter box up-conversion mode

1 In the <Letter Box Position> group of the Switcher >Input >FC Adjust menu, press [Position], turning it on.

2 Adjust the following parameter.

Knob	Parameter	Adjustment	Setting format	Setting values
2	LB Position	Image position	1080i/59.94	–31 to +32
			1080i/50	–36 to + 36
			720P/59.94, 720P/50	–30 to +30

To return the letterbox image to the center

In the <Letter Box Position> group, press [Center].

Making enhancer settings

1 In the Switcher >Input >FC Adjust menu, press [Enhancer], turning it on.

2 Set the following parameters.

Parameter group [1/2]

Knob	Parameter	Adjustment	Setting values
2	Detail Gain	Adjust the edge enhancement sharpness	0 to 127
3	Limiter	Adjust the maximum signal level to be added to the original signal	0 to 63

Parameter group [1/2]

Knob	Parameter	Adjustment	Setting values
4	Crisp	Set the amplitude value for which a low-amplitude signal is not emphasized	0 to 15
5	Level Depend	Set the luminance range for edge enhancement	0 to 15

Parameter group [2/2]

Knob	Parameter	Adjustment	Setting values
2	Frequency	Set the central frequency for edge enhancement	0 to 3
3	H/V Ratio	Set the horizontal/ vertical ratio for edge enhancement	0 to 7

Making detailed settings for down-conversion

1 In the Switcher >Input >FC Adjust menu, select the input to which the setting applies.

2 In the <Aspect> group, select one of the following.

Edge Crop: Crop the left and right sides of a 16:9 image to convert it to a 4:3 image.

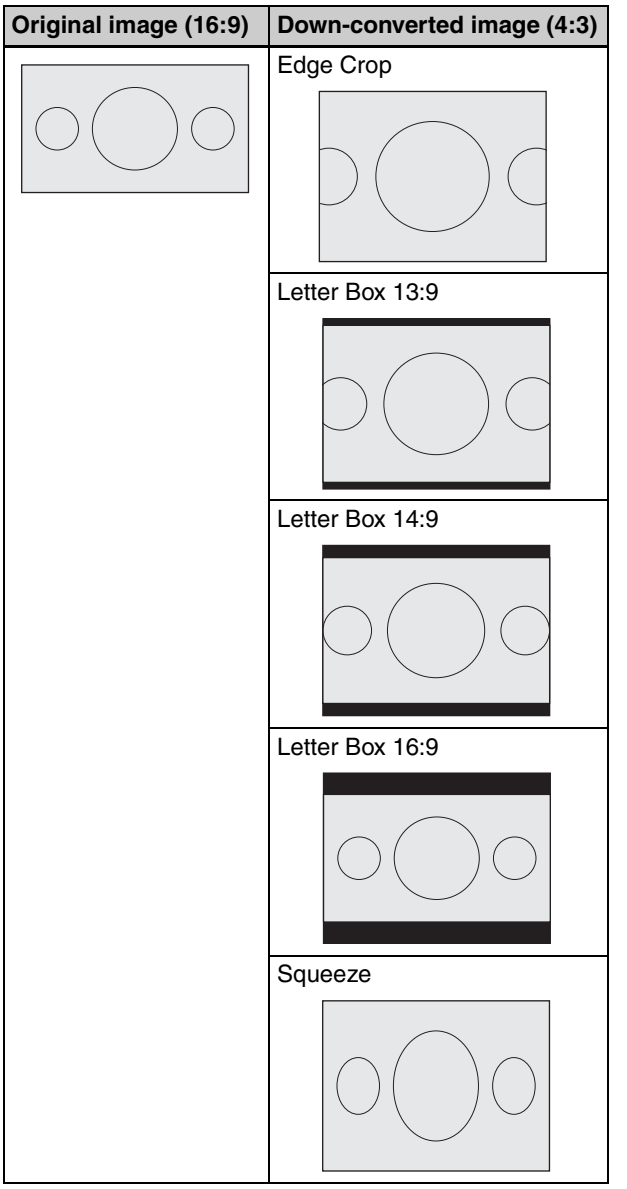
Letter Box 13:9: Crop the left and right sides of a 16:9 image to make a 13:9 image and add black bars at the top and bottom of the 13:9 image to make a 4:3 image.

Letter Box 14:9: Crop the left and right sides of a 16:9 image to make a 14:9 image and add black bars on the top and bottom of the 14:9 image to make a 4:3 image.

Letter Box 16:9: Add black bars on the top and bottom of a 16:9 image to convert it to a 4:3 image.

Squeeze: Compress a 16:9 image horizontally to convert it to a 4:3 image.

(For details of the image transformations, see the following figure.)



For down-conversion, the image position setting in edge crop mode is the same as for up-conversion. The value is from –30 to +30 inclusive.

For details, see "Setting the image position in edge crop up-conversion mode" (page 205).

For down-conversion, the enhancer settings are the same as for up-conversion.

For details, see "Making enhancer settings" (page 205).

Making cross-conversion settings

To make the cross-conversion settings, carry out steps **1** and **2** described in *"Making detailed settings for up-conversion" (page 205)*. No other settings are required.

Copying format converter input data

1 In the Switcher >Input >FC Adjust menu, press [Copy].

The Copy/Swap >Copy >Format Converter menu appears.
The status area shows lists of the copy source on the left, and the copy destination on the right.

2 Select [Input] in the <Data Select> group.

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

- Press directly on the list.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

Knob	Parameter	Adjustment	Setting values
1	Left No	Select the copy source data	1 and upwards
2	Right No	Select the copy destination data	1 and upwards
3	Num	Select the number of items	1 and upwards

4 Press [Copy].

Signal Output Settings (Output Menu)

For setup relating to signal outputs, use the Switcher >Output menu.

To display the Output menu

In the Engineering Setup menu, select VF3 ‘Switcher’ and HF3 ‘Output.’
The status area shows the output signal numbers and names, and output signal phase for the signals output from Output 1 to 48.
The following functions are available here.

Notes

For a format converter dedicated output, Video Clip, V Blank, Through, Safe Title, and 4:3 Crop settings are not possible.

- **Output Assign:** Assign the signals output from the Output1 to 48 ports.
- **Video Clip:** Adjust the clip levels (White Clip, Dark Clip, and Chroma Clip) for the output signals from each of the Output1 to 48 ports.
- **V Blank:** Adjust the vertical blanking width for the output signals from each of the Output1 to 48 ports. The setting is the number of scan lines from the reference blanking position of field 1 for the particular format which should be masked.
- **Through:** Enable or disable through mode. Through mode can be enabled for AUX1 to 48 outputs, M/E and PGM/PST program outputs, and clean output.
- **Safe Title:** Enable or disable safe title, and carry out settings for box 1 and 2, cross and grid.
- **4:3 Crop:** Set the actual video image to be cropped to a 4:3 aspect ratio when an HD system has a screen aspect ratio of 4:3.
- **FC Adjust:** Set the format converter outputs.
- **Multi Viewer:** Make settings for the two-channel multi viewer.

Assigning Output Signals

To assign a signal to output from an output 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 either 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)
M/E-4 Output 1 to 6 a)
PGM/PST 1 to 6 a)
M/E-1 to 4 Proc Video
P/P Proc Video
M/E-1 to 4 Proc Key
P/P Proc Key
DME Monitor Video
DME Monitor Key
Color Corrector 1 and 2
Undefined
Color Bkgd 2

[Aux Bus]: It is not possible to make duplicate assignments.
Preset
Edit Preview
AUX 1 to 48

a) M/E output signals selected in the M/E Output Assign menu.

3 Using any of the following methods, select the output port number and signal to be assigned.

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

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

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

The selected signal appears in reverse video.

4 Press [Set] to confirm the assignment.

Setting the Output Signal

In the following adjustment/setting operations, use any of the following methods to select the output signal before making the setting.
- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

Knob	Parameter	Adjustment	Setting values
1	Output No	Output port number selection	1 to 48

The selected output signal appears in reverse video.

Adjusting the video clip

To adjust the clip value for each of the output signals from the Output 1 to 48 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
2	White Clip	Luminance signal white clip value	90.00 to 109.02
3	Dark Clip	Luminance signal dark clip value	–6.85 to +10.00
4	Chroma Clip	Chrominance signal clip value	90.00 to 113.17

To set the values to the default values, press [Default].

Making vertical blanking interval adjustment and through mode settings

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

The V Blank/Through menu appears.
The status area shows the output 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/1080PsF: 7 to 20
720P: 7 to 25
1080P: 15 to 41

To return the values to their defaults, press [Default].

4 To enable the through mode, press [Through Mode], setting it to Enable.
The through mode can be applied to the following outputs.

- Aux 1 to 48 outputs
- Program outputs of the M/E and PGM/PST rows
- Clean outputs of the M/E and PGM/PST rows

Making safe title settings

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

The Safe Title menu appears.
The status area shows the output ports and the assigned signals, with the box 1, box 2, cross, and grid states.

2 To enable the safe title on/off setting made in the Misc menu, press [Safe Title], turning it on.

3 Carry out either of the following operations.

To display a box: Press [Box1] or [Box2], turning it on.
In this case, carry out the following steps **4** and **5**.
To display a cross: Press [Cross], turning it on.
To display a grid: Press [Grid], turning it on.
In this case, carry out the following steps **4** and **5**.

4 When you selected [Box1] or [Box2] in step **3**, adjust the following parameters.

Knob	Parameter	Adjustment	Setting values
2	Box Size	Box size	50.00 to 100.00
3	Luminance	Display brightness	0.00 to 100.00 a)

a) Adjustable for Box2

When in step **3** you selected [Grid], in the <Grid Size> group, select one of the following.
80.00%: Set the grid size to 80% of the screen frame
85.00%: Set the grid size to 85% of the screen frame
90.00%: Set the grid size to 90% of the screen frame
100.00%: Set the grid size to the full-screen size (100% of the screen frame)

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

When in step **3** you selected [Grid], in the <Grid Adjust> group, select the screen aspect ratio (16:9/4:3).

Cropping the image to a 4:3 aspect ratio in an HD system

In an HD system, to crop an image having a screen aspect ratio of 4:3 to an aspect ratio of 4:3, use the following procedure.

1 In the Switcher >Output menu, press [4:3 Crop].

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

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

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

Notes

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

Setting the format converter outputs

To set the format converter

Display the Switcher >Output >FC Adjust menu. The subsequent operations are the same as for the format converter input settings.

For details of the operations, see "Selecting the Format Converter Conversion" (page 204).

To copy format converter output data

1 In the Switcher >Output >FC Adjust menu, press [Copy].

The Copy/Swap >Copy >Format Converter menu appears.

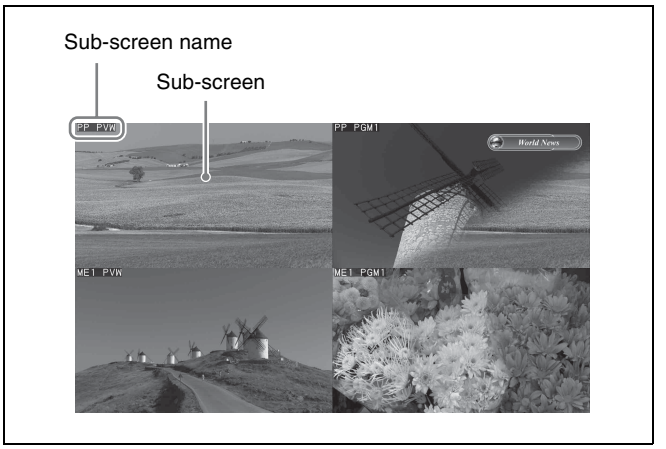
2 In the <Data Select> group, press [Output].

3 Use the same operations as in steps **3** and **4** of *"Copying format converter input data" (page 207)* to copy the data.

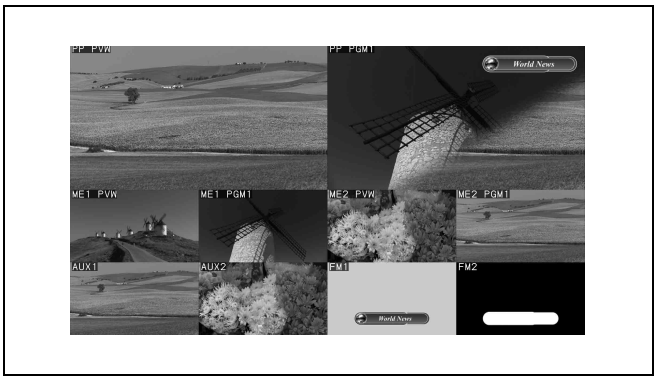
Making settings for the multi viewer

The multi viewer is a function for splitting the screen into some windows and simultaneously displaying multiple images in those windows.
The screen can be split into 4 or 10 windows, which can be individually set for each of 2-channel multi viewers.

Example of 4-split screen:



Example of 10-split screen:



In the following description, a split window is referred to as a "sub-screen."

1 In the Switcher >Output menu, press [Multi Viewer].

The Multi Viewer menu appears.

2 In the <Multi Viewer> group, press [1] or [2] to select the setting target.

The status area shows a list of outputs assigned to the sub-screens.
In the <Split Mode> group, select the number of split windows.
Split 4: Split the screen into 4 windows.
Split 10: Split the screen into 10 windows.

3 To border the sub-screens, press [Border Enable] to turn it on.

To specify whether to show or hide the sub-screen names

1 In the Multi Viewer menu, use any of the following methods to select the target sub-screens.

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

Knob	Parameter	Adjustment	Setting values
1	Window No	Sub-screen selection	1 to 10

2 Press [Name Enable] to select either of the following.

Enable: Show the subs-screen name.
Disable: Hide the sub-screen name.
To make the setting for all of 10 sub-screens in a single operation, turn [All Name Enable] on or off.

3 To set the name display position, adjust the following parameters.

Notes

If you change any of the following parameter values, the name display position will change on all sub-screens. You cannot adjust the name display position for each sub-screen.

Knob	Parameter	Adjustment	Setting values
2	Name Position H	Horizontal position	0 to 100
3	Name Position V	Vertical position	0 to 100

To assign outputs to the sub-screens

1 In the Multi Viewer menu, press [Output Assign].

The Output Assign menu appears.

2 Use any of the following methods to select the target sub-screens in the list on the left.

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

Knob	Parameter	Adjustment	Setting values
1	Window No	Sub-screen selection	1 to 10

3 Use any of the following methods to select the target outputs in the list on the left.

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

Knob	Parameter	Adjustment	Setting values
2	Output No	Output selection	1 to 10

4 Press [Set].

Settings Relating to Video Switching (Transition Menu)

For settings relating to video switching, use the Switcher >Transition menu.

To display the Transition menu

In the Engineering Setup menu, select VF3 'Switcher' and HF4 'Transition.'
The status area shows the transition preview, key transition, bus toggle, and split fader settings for each M/E and PGM/PST bank.
The following functions are available here.

- **Transition Preview:** Specify the operation mode for transition preview for each of the M/E and PGM/PST banks.
- **Key Transition:** Specify the operation mode for independent key transitions.
- **Bus Toggle:** Switch the bus toggle for each of the M/E and PGM/PST banks on or off.
- **Split Fader:** When the bus toggle is off, the split fader settings are enabled. For each of the M/E and PGM/PST banks, select enable or disable.
- **Fade To Black:** Enable or disable fade-to-black for each final program output.
- **Preset Color Mix:** Set the stroke mode for a preset color mix, the key status for a transition including a key, and the mode in which the transition type after a transition ends returns to the previous setting.
- **Transition Curve:** Set the relationship when carrying out a transition, between the fader lever position and the advancement state of the transition.

Selecting the Bank to Make the Settings

In the Transition menu, using any of the following methods, select the bank to which the settings apply, then make the settings.

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

Knob	Parameter	Adjustment	Setting values
1	Bank	M/E or P/P selection to which settings apply	1 to 5

The selected bank appears in reverse video.

Setting the transition preview mode

To select the transition preview mode, in the <Transition Preview> group of the Transition menu, select either of the following.

One Time: The transition preview ends after a single transition.

Normal: Switching the [TRANS PVW] button on or off switches between the transition preview mode and the normal mode.

Selecting the transition mode of the independent key transition control block

To select the key transition mode, select either of the following in the <Key Transition> group of the Transition menu.

Same: The transition settings for the On and Off directions are the same.

Independ: The transition settings for the On and Off directions can be set separately.

Selecting the background transition flip-flop mode

In the Transition menu, press [Bus Toggle], to switch between on and off.

On: Flip-flop mode

Off: Bus fixed mode

For details, see "Fader Lever Operation in Bus Fixed Mode" in Chapter 3 (Volume 1).

Setting the split fader to be enabled or disabled

In the Transition menu, press [Split Fader] to switch between Enable and Disable. This setting is only valid when using a simple transition module with Bus Toggle set to Off.

Enable: When the fader lever is split, the split fader effect is enabled.

Disable: Even when the fader lever is split, the normal fader lever effect is obtained.

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.

Notes

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

Setting a preset color mix

1 In the Switcher >Transition menu, press [Preset Color Mix].

The Preset Color Mix menu appears.
The status area shows the stroke mode setting for each M/E bank, the setting for whether or not the key status is maintained, and the one-time mode setting.

2 In the <Stroke Mode> group, select whether to carry out a transition in one stroke or two strokes.

Normal: Carry out a preset color mix with two transition operations.
Single: Carry out a preset color mix with a single transition operation.

Notes

In bus fixed mode *(see page 211)*, the setting is fixed to "Single."

3 In the <Non Drop Key> group, select the key setting for a transition including a key.

To carry out the transition with the key state maintained, press [Key1] to [Key8], turning them on.

4 If each time a transition ends the transition type is to return to the previous setting, press [One Time Enable].

Settings relating to fader lever operations

To select the way in which the fader lever position and the transition progress are related, use the following procedure.

1 In the Switcher >Transition menu, press [Transition Curve].

The Transition Curve menu appears.

2 In the <Fader Curve> group, select the fader lever operation mode.

Normal: The transition progress is linear, according to the fader lever position. (Factory default setting)
Adv Tally Mode: When the fader lever is moved from the end of its travel, the tally is output slightly before the transition starts.

Settings Relating to Keys, Wipes, Frame Memory and Color Correction (Key/Wipe/FM/CCR Menu)

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

To display the Key/Wipe/FM/CCR menu

In the Engineering Setup menu, select VF3 'Switcher' and HF5 'Key/Wipe/FM/CCR.'
The status area shows the key memory settings, mask and border processing order, key priority, cross-point hold, pattern limit transition, and wipe edge settings for each of the M/E and PGM/PST banks.
The following functions are available here.

- **Key Memory:** Set the key memory operation mode for each of the M/E and PGM/PST banks.
- **Video Proc Memory:** Enable or disable video process memory.
- **Show Key:** Enable or disable show key for edit preview, M/E and Pvw/K-Pvw of P/P.
- **Key Auto Drop:** For each switcher bank (M/E-1 to M/E-4, PGM/PST), specify a key to be turned off automatically when you press a cross-point button for the bus to be output as the background.
- **Mask/Border Process:** Set the processing order of masks and borders for each M/E or PGM/PST bank.
- **Key Priority:** Set the key priority operation mode for each of the M/E and PGM/PST banks. In DSK mode, the key priority is fixed.
- **Xpt Hold mode:** Set the operation mode for the cross-point hold button provided on the key bus for each of the M/E and PGM/PST banks.
- **Pattern Limit Transition:** Set the operation mode when the pattern limit is released for each of the M/E and PGM/PST banks.
- **Wipe Edge Default:** Adjust the wipe edge softness for each of the M/E and PGM/PST banks.
- **CCR Internal Signal Enable:** Select whether signals generated internally to the switcher can be selected as input material to the color corrector.
- **FM Auto Store:** Switch on or off the function to automatically attach a name and save in frame memory.

Switching Video Process Memory On or Off

In the Switcher >Key/Wipe/FM/CCR menu, press [Video Proc Memory], turning it on.

Settings for the Show Key Function

1 In the Switcher >Key/Wipe/FM/CCR menu, press [Show Key].

The Show Key menu appears.

2 In the <Show Key Enable> group, press the signal for which "show key" is enabled, turning it on.

3 To set the time for which "show key" is held, press [Hold Time].

4 Adjust the following parameter.

Knob	Parameter	Adjustment	Setting values
1	Hold Time	Show key hold time	0 to 999 (frames)

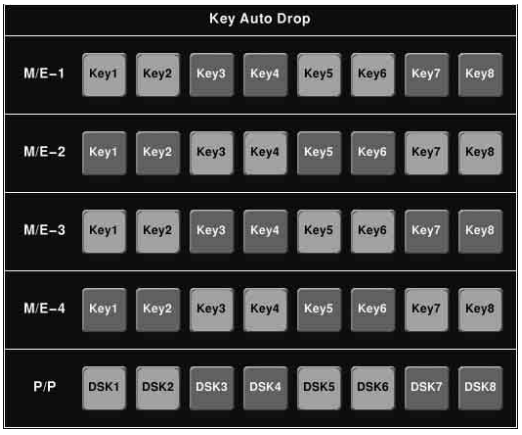
Settings for Key Auto Drop Function

The "key auto drop" function automatically switches off a particular key when you press a cross-point button in a bus that outputs the background on the particular switcher bank (PGM/PST, or M/E-1 to M/E-4).
When the background output bus is in flip-flop mode, this is always the A bus. In bus-fixed mode, it is either the A bus or the B bus depending on the fader lever position.

For details of bus-fixed mode, see "Executing a Transition" in Chapter 3 (Volume 1).

1 In the Switcher >Key/Wipe/FM/CCR menu, press [Key Auto Drop].

The Key Auto Drop menu appears.



2 In the <Key Auto Drop> group, press the name of the keyer for which you want the key to be deleted automatically, turning it on.

Automatically Naming and Saving to Frame Memory

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

Selecting the Bank to Make the Settings

In the following procedures, select the bank to which the settings apply using any of the following methods, then make the settings.
- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

Knob	Parameter	Adjustment	Setting values
1	Bank	M/E or P/P selection to which settings apply	1 to 5

The selected bank appears in reverse video.

Selecting the key memory mode

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

For more details, see "Key Memory" in Chapter 4 (Volume 1).

Selecting the processing order of masks and borders

In the <Mask/Border Process> group of the Switcher >Key/Wipe/FM/CCR menu, select one of the following.
Mask >Border: Apply the Mask effect, then apply the Border effect.
Border >Mask: Apply the Border effect, then apply the Mask effect.

Selecting the key priority operation mode

In the <Key Priority> group of the Switcher >Key/Wipe/FM/CCR menu, select one of the following.
Normal: The key priority sequence can be varied freely.
Fix: Fixed at currently set priority sequence.

Setting the operation mode of the key bus [XPT HOLD] button

In the <Xpt Hold Mode> group of the Switcher >Key/Wipe/FM/CCR menu, select any of the following. This setting is applied for the attributes of snapshots as well as the operation mode of [XPT HOLD] button.

Key Disable: The [XPT HOLD] button of the key bus functions not only as a cross-point hold button but also as a key disable button. When the [XPT HOLD] button is on, recalling a snapshot or keyframe effect does not reflect the key settings, including the cross-point selection information.

Key Disable with Status: Same as [Key Disable], and further disables the reflection of the key on/off status.

Xpt Hold: The [XPT HOLD] button of the key bus functions as a cross-point hold button. When the [XPT HOLD] is on, recalling a snapshot or keyframe effect does not reflect the cross-point selection information.

To change the cross-point hold attribute of a snapshot

If you select "Key Disable" above, this also applies key disable to the cross-point hold attribute.
If you select "Key Disable With Status," the key disable function is applied, including the key on/off status.

Setting the operation mode when the pattern limit is released

In the <Pattern Limit Transition> group of the Switcher >Key/Wipe/FM/CCR menu, select either of the following operation modes.

Auto: When the pattern limit is released, the remainder of the transition is carried out automatically at a special-purpose transition rate.

Manual: After the pattern limit is released, the transition waits for the next operation, then executes. Until you move the fader lever or press [AUTO TRANS], the transition is not executed.

Setting the default wipe edge softness

1 In the Switcher >Key/Wipe/FM/CCR menu, press [Wipe Edge Default], turning it on.

2 Set the following parameter.

Knob	Parameter	Adjustment	Setting values
3	Soft	Default value of wipe edge softness	–50.00 to +50.00

Setting the mode in which all signals can be selected for input to the color corrector

Press [CCR Intrnl Signl Enbl] in the Switcher > Key/Wipe/FM/CCR menu, turning it on.
You can select signals generated internally to the switcher as material for input to the color corrector.

Notes

When you select an M/E reentry signal as material for input to the color corrector, 1H delay occurs to the output signal of M/E.

Settings Relating to Function Links (Link Menu)

Carry out setup relating to links by displaying the Switcher >Link menu.

To display the Link menu

In the Engineering Setup menu, select VF3 'Switcher' and HF6 'Link.'
The status area shows the current link information.
The following functions are available here.

- **Internal Bus Link:** Make a setting of the bus link function that links together two buses internal to the switcher.
- **GPI Link:** Make settings for linking any cross-point buttons or [CUT] and [AUTO TRANS] buttons in the cross-point control block and GPI output ports.
- **M/E Link:** Make settings to link together two M/E banks.
- **Key Trans Link:** Make settings to link key transitions.

Setting a Cross-Point Button Link

To link together two buses internal to the switcher, use the following procedure.

1 In the Switcher >Link menu, press [Internal Bus Link].

The Internal Bus Link menu appears.
The status area shows the link source and link destination buses, and link table information.

2 Using any of the following methods, select what setting applies to.

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

Knob	Parameter	Adjustment	Setting values
1	Link No	Link number	1 to 64

3 Press [Link Bus Select].

The Link Bus Select menu appears.
The status area lists the current setting status of the selected link and the buses that can be selected.

4 In the <Bus Select> group, select [Master Bus] (link source bus).

5 Using any of the following methods, select the bus to be the link source, and press [Bus Set].

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

Knob	Parameter	Adjustment	Setting values
2	No	Bus selection	1 and upwards [a]

a) Only when [Master Bus] is selected, M/E-1 to M/E-4 Trans PGM, and P/P Trans PGM are available.
Only when [Linked Bus] is selected, AUX 1 to AUX 48 as Key are available.

Notes

With one of M/E-1 to M/E-4 Trans PGM and P/P Trans PGM selected for [Master Bus], the link setting become effective as soon as you start moving the fader lever.

6 In the <Bus Select> group, select [Linked Bus] (link destination bus).

7 Referring to step **5**, select the bus to be the link destination, and press [Bus Set].

8 Turn the knob to select the link table, and press [Link Table Set].

Knob	Parameter	Adjustment	Setting values
3	Link Table No	Link table selection	1 to 8

For more information about link tables, see the following item.

The selected link table number is confirmed, and this is reflected in the status area.

To delete a link

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

Making Link Table Settings

1 In the Switcher >Link >Internal Bus Link menu, press [Link Table Select].

The Link Table Select menu appears.

2 Using any of the following methods, select the link source and link destination signals.

- Press directly on the list in the status area.

- Press the arrow keys to scroll the reverse video cursor.
- Turn the knobs.

Knob	Parameter	Adjustment	Setting values
4	Main No	Video/key signal for link source	1 to 300
5	No	Video/key signal for link destination	1 to 300

3 To confirm the selection, press [Link Src Set].

This links the link destination signal to the signal selected as Main No.

To initialize the set source address

In the Switcher >Link >Link Table Select menu, press [Init Link Table].
A confirmation message appears; press [Yes].
The source addresses are reassigned, and this is reflected in the status area.

To change the link number and link table number

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

Knob	Parameter	Adjustment	Setting values
1	GPI Port	GPI output port selection	1 to 8

3 Press [GPI Link Adjust].

The GPI Link Adjust menu appears.
The status area shows the current setting state of the selected link, and a list of the selectable video names or button names, together with the GPI link Enable/Disable setting for each bus.

4 Using any of the following methods, select what the setting applies to. For each GPI port there can be up to eight links.

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

Knob	Parameter	Adjustment	Setting values
1	GPI Port	GPI output port selection	1 to 8
2	Link No	Link number selection	1 to 8
3	Video/ Button No	Selection of video or button name to be linked	1 and upwards [a]

a) These include main pair numbers 1 to 300, and “Cut” and “Auto Trans” on each bank.

5 In the <Video/Button> group, press [Select].

The selected video or button name is reflected in the status area.

To clear a video/button name link

Make the selection to which the setting applies, then in the <Video/Button> group press [Clear].

6 To select for each bus whether the GPI link setting is enabled or disabled, use any of the following methods to select the bus to which the setting applies.

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

Knob	Parameter	Adjustment	Setting values
4	Bus	Bus selection	1 and upwards

7 In the <Bus> group, select any of the following.

Enable: Enable the GPI link setting for the selected bus.
Disable: Disable the GPI link setting for the selected bus.
All Enable: Enable the GPI link setting for all buses.

Setting the delay value

1 In the Switcher >Link >GPI Link Adjust menu, turn the knobs to select the output port for which you want to set the delay value, and the corresponding delay value.

Knob	Parameter	Adjustment	Setting values
1	GPI Port	GPI output port for the setting	1 to 8
5	Delay	Delay value for the output port	0 to 300 (fields)

2 Press [Delay Set].

This confirms the delay value, which is reflected in the status area.

Setting the Re-entry Button Operation Mode

When you select a re-entry button in the cross-point control block of an M/E block (downstream M/E block), the output of the upstream M/E block is read in. You can set the system so that when a GPI link is set for the cross-point selected on the A [a)] bus of the upstream M/E block this triggers the GPI output.
In the Switcher >Link >GPI Link menu, set [Re-Entry Enable] to On or Off.
When this is On, the GPI is executed upstream.

a) When the bus toggle is set to Off, the applicable bus depends on the position of the fader lever.

Notes

- For re-entry, “upstream” applies to a single stage only.
- This setting is common to all GPI output ports.
- GPI output execution on the upstream M/E block is only possible on buses for which GPI Link is set to “Enable” in the GPI Link Adjust menu.
- GPI output occurs when you press a re-entry button, the re-entry button is selected by a macro execution, or you press the re-entry button on the AUX bus remote panel.

Making a Setting for Linking Two M/E Banks

You can link any two M/E banks for some operations by using the Switcher >Link >M/E Link menu.
The operations for which you can link two M/E banks are as follows.

- Transition execution (auto transition, cut, and fader lever operation)
- Next transition selection
- Transition type selection

1 In the Switcher >Link menu, press [M/E Link].

The M/E Link menu appears.
The status area displays a link list showing link source banks (M/E and PGM/PST) and link destination banks, and a selection list.

2 Using any of the following methods, select the link number you want to set.

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

Knob	Parameter	Adjustment	Setting values
1	Link No	Link number selection	1 to 8

3 In the <M/E Select> group, select [Master M/E] (link source).

4 Using any of the following methods, select the M/E or PGM/PST bank you want to be the link source, then press [M/E Set].

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

Knob	Parameter	Adjustment	Setting values
2	No	Bank selection	1 to 5 [a)]

a) 1: M/E-1
2: M/E-2
3: M/E-3
4: M/E-4
5: PGM/PST

5 In the <M/E Select> group, select [Linked M/E] (link destination).

6 In the same way as in step **4**, select the M/E or PGM/PST bank you want to be the link destination, then press [M/E Set].

To link the banks not only for transition execution but also for the other operations

Press [Transition Only] and turn it off.

To release the link setting

Use the same operation as in step **2** to select the link number for which you want to release the link setting, then press [Clear].

Making a Link Setting for Key Transition

You can make a link setting for key transition by using the Switcher >Link >Key Transition Link menu.
The operations for which you can link two banks are the following independent key transition operations.

- Auto transition
- Turning the key on or off
- Fader lever operation (on the downstream key control block)

1 In the Switcher >Link menu, press [Key Trans Link].

The Key Transition Link menu appears.
The status area displays a link list showing link sources and link destinations, and a key selection list.

2 Using any of the following methods, select the link number you want to set.

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

Knob	Parameter	Adjustment	Setting values
1	Link No	Link number selection	1 to 32

3 In the <Key Select> group, select [Master Key] (link source).

4 Using any of the following, select the key you want to be the link source, then press [Key Set].

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

Knob	Parameter	Adjustment	Setting values
2	No	Key number selection	1 and upwards [a)]

a) The keys and their numbers selectable as link source/link destination are as follows.
M/E-x Keyx?DSKx
(In M/E-x, the x is the M/E bank number (1 to 4); in DSKx the x is the DSK number (1 to 8); in Keyx the x is the key number (1 to 8)).

5 In the <Key Select> group, select [Linked Key] (link destination).

6 In the same way as in step **4**, select the key you want to be the link destination, then press [Key Set].

To release the link setting

Use the same operation as in step **2** to select the link number for which you want to release the link setting, then press [Clear].

Interfacing With External Devices (Device Interface Menu)

To carry out setup relating to connections with external devices, display the Switcher >Device Interface menu.

To display the Device Interface menu

In the Engineering Setup menu, select VF3 'Switcher' and HF7 'Device Interface.'
The following functions are available here.

- **Remote Assign:** Set the use of the four 9-pin ports.
- **GPI Input:** Set the GPI input ports and trigger polarities, and make the action settings.
- **GPI Output:** Set the GPI output ports and trigger polarities, and make the action settings.
- **Aux Control:** Set whether operations on the AUX buses from the four 9-pin ports are inhibited.
- **DME Type Setting:** When the DME is an MVE-9000 or MVE-8000A, carry out interface settings, and for an SDI interface set the AUX bus outputs and reentry inputs.
- **DME SDI Interface:** Make AUX bus output and re-entry input settings.
- **Editor I/F:** Set the key off mode for control from an editor.

Making 9-Pin Port Device Interface Settings

The description in this section takes the REMOTE1 port as an example. For other REMOTE ports, carry out the same process as required.

1 In the Switcher >Device Interface menu, press [Remote Assign].

The Remote Assign menu appears.

2 Select the device interface you want to set for the REMOTE1 port from the <Remote1> group.

Editor A: assign Editor A to the REMOTE1 port.
Editor B: assign Editor B to the REMOTE1 port.
AUX: assign AUX to the REMOTE1 port.
The device interfaces which can be selected for REMOTE2 are the same as for REMOTE1. For REMOTE3 you can also select DME1, and for REMOTE4 you can also select DME2.

Notes

When REMOTE3 and REMOTE4 are respectively assigned to DME1 and DME2, you can switch the AUX bus from the DME (DME-3000/7000) connected to these ports.
At this time, connect the DME input video signals and key signals as follows.

- DME1 video input: AUX1 output
- DME1 key input: AUX2 output
- DME2 video input: AUX4 output
- DME2 key input: AUX5 output

Note that for a DME external video signal, you can select any of AUX1 to AUX14 on the DME. Connect to the selected AUX bus.

Making Switcher Processor GPI Input Settings

1 In the Switcher >Device Interface menu, press [GPI Input].

The GPI Input menu appears.

2 Using any of the following methods, select the settings.

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

Knob	Parameter	Adjustment	Setting values
1	Port	Port selection	1 to 8
2	No	Selection of number for action to be assigned	1 to 8

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

(Rising Edge): Apply the trigger on a rising edge of an input pulse.
(Falling Edge): Apply the trigger on a falling edge of an input pulse.
(Any Edge): Apply the trigger on a change in the polarity of the input signal.
(Level): Carry out the specified operation when the input is low or high.
No Operation: Apply no trigger on an input pulse.

4 In the <Target> group, select the action block.

M/E-1, M/E-2, M/E-3, M/E-4, P/P: Set the action for one of the banks.
Common/Setup: Set an action for something other than the above, or a setup action.

5 Using any of the following methods, select the action to be set.

- Press directly on the list in the status area.

- Press the arrow keys to scroll the reverse video cursor.
- Turn the knobs.

Knob	Parameter	Adjustment	Setting values
3	Action	Action selection	1 and upwards a)
4	Reg No	Register number	1 to 4 b) 1 to 99 c)

a) As for the setting values, see "Selectable actions for various trigger types" *(page 220)*.
b) When knob 3 selection is "Key Snapshot"
c) When knob 3 selection is "Snapshot" or "Effect"

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

The selected setting appears in the status area.

Selectable actions for various trigger types

- **When the trigger type is other than "Level"**
  (In M/E-x, the x is the M/E bank number (1 to 4); in DSKx the x is the DSK number (1 to 8); in Keyx the x is the key number (1 to 8)).
  - When Target is M/E-x: Cut, Auto Trans, Keyx Cut, Keyx Auto Trans, SS ? Recall, Keyx SS ? Recall, Effect ? Recall, Effct ? Recall & Run, KF Run, KF Stop, KF Rewind, KF Rev Run, No Action
  - When Target is P/P: Cut, Auto Trans, DSKx Cut, DSKx Auto Trans, FTB Cut, FTB Auto Trans, SS ? Recall, DSKx SS ? Recall, Effect ? Recall, Effect ? Recall & Run, KF Run, KF Stop, KF Rewind, KF Rev Run, No Action
  - When Target is Common/Setup: FM Src1 Field Freeze, FM Src1 Frame Freeze, FM Src2 Field Freeze, FM Src2 Frame Freeze
    FM Src1 Freeze Off, FM Src2 Freeze Off, FM Src1 Clip Record, FM Src1 Clip Stop, FM Src2 Clip Record, FM Src2 Clip Stop, FM1 to FM8 Clip Cueup, FM1 to FM8 Clip Play, FM1 to FM8 Clip Stop, User1 to 8 SS ? Recall, User1 to 8 EFF ? Recall, User1 to 8 EFF ? Recall & Run, User1 to 8 KF Run, User1 to 8 KF Stop, User1 to 8 KF Rewind, User1 to 8 KF Reverse Run, No Action
- **When the trigger type is "Level"**
  (In M/E-x, the x is the M/E bank number (1 to 4)).
  - When Target is M/E-x or P/P: Aspect, Bkgd A Side Flags, Bkgd B Side Flags, No Action
  - When Target is Common/Setup: Format, Aspect, Level Enable, No Action

Notes

- "Level Enable" is a function that determines whether GPI inputs are enabled ("Enable") or disabled ("Disable") for the "Aspect" and "Format" actions that can be used when the trigger type is Level. When Level Enable is used, if the input is "Disable" then it is not possible to switch "Aspect" or "Format" by GPI input. If a GPI to switch "Aspect" or "Format" occurs when powering the system off, the action triggered by the GPI may start immediately before the power goes off and the power may go off before the action is completed. This may corrupt the setup settings. It is therefore recommended to use Level Enable to avoid such a situation.
- If "Format" is selected for "Action" when the format converter is used on the switcher, you can set the conversion format of the format converter for "FC Input 1-4," "FC Input 5-8," "FC Input 9-12" (MVS-8000X only), "FC Input 13-16" (MVS-8000X only), "FC Output 1-2," and "FC Output 3-4."

Carrying out level settings

To set the low level and high level, first set the trigger type to "Level," then use the following procedure.

1 In the Switcher >Device Interface menu, select the action to be set, and press [H/L Set].

The H/L Set menu appears.

2 Using any of the following methods, select the settings.

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

Knob	Parameter	Adjustment	Setting values
1	No	Selection of setting for action	1 and upwards

3 To apply the selection made in step **2** when the input is high, press [H Set]. To apply the selection made in step **2** when the input is low, press [L Set].

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

Notes

- When the action is "Format," these settings conflict with the current settings, but after making the settings, agreement is restored after a pulse change or power off/on.
- When the Action is "Bkgd A Side Flags" or "Bkgd B Side Flags," the levels are fixed, as follows.
  High level: Off
  Low level: On

To Set the Level for the Format Converter

1 Set "Action" to "Format" in step **5** of the procedure in *"Making Switcher Processor GPI Input Settings" (page 219)*.

The format converter list appears.

2 Select the format converter that you want to set from the list.

3 In the <FC Input/Output> group, press [H Set] or [L Set] to set the high level or low level, respectively.

Making Switcher Processor GPI Output Settings

1 In the Switcher >Device Interface menu, press [GPI Output].

The GPI Output menu appears.

2 Using any of the following methods, select the settings.

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

Knob	Parameter	Adjustment	Setting values
1	Port	Port selection	1 to 8

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

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

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

(Any Edge): 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-4 and P/P: Set an action for the M/E or PGM/PST bank.

Common: Set an action for error status.

6 Using any of the following methods, select the action to be set.

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

Knob	Parameter	Adjustment	Setting values
2	Action	Action selection	1 and upwards 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"
(In M/E-x, the x is the M/E bank number (1 to 4); in DSKx the x is the DSK number (1 to 8); in Keyx the x is the key number (1 to 8)).
- When Source is M/E-x: Cut, Auto Trans, Keyx Cut, Keyx Auto Trans, Keyx SS ? Recall, Effect ? Recall, Effect ? Recall & Run, KF Run, KF Stop, KF Rewind, No Action
- When Source is P/P: Cut, Auto Trans, DSKx Cut, DSKx Auto Trans, FTB Cut, FTB Auto Trans, DSKx SS ? Recall, Effect ? Recall, Effect ? Recall & Run, KF Run, KF Stop, KF Rewind, No Action
- When Source is Common: No Action

Action list when the trigger type is "Status"
(In M/E-x, the x is the M/E bank number (1 to 4); in DSKx the x is the DSK number (1 to 8); in Keyx the x is the key number (1 to 8)).
- When Source is M/E-x: Keyx On, No Action
- When Source is P/P: DSKx On, No Action
- When Source is Common: Error Make, Error Break, No Action

b) When knob 2 selection is "Key Snapshot"
c) When knob 2 selection is "Snapshot" or "Effect"

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

The selected setting appears in the status area.

Test firing the trigger

To test fire the trigger, press [Test Fire].
This outputs a trigger from the selected output port. This is not output when the trigger type is "Status."

Enabling or Disabling AUX Bus Control

1 In the Switcher >Device Interface menu, press [Aux Control].

The Aux Control menu appears.

2 Select the 9-pin port for the setting, from the <Control> group.

Remote1: Make the settings for the REMOTE1 port.

Remote2: Make the settings for the REMOTE2 port.
Remote3: Make the settings for the REMOTE3 port.
Remote4: Make the settings for the REMOTE4 port.

3 Using any of the following methods, select the AUX bus.

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

Knob	Parameter	Adjustment	Setting values
1	No	AUX bus selection	0 to 48 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.

Setting the Interface Between the DME and the Switcher

To set the interface between the DME and the switcher, proceed as follows.

1 In the Switcher >Device Interface menu, press [DME Type Setting].

The DME Type Setting menu appears.

2 In the <DME1 Type> group to set DME1 or in the <DME2 Type> group to set DME2, press either of the following, turning it on.

Dedicated: The DME has an dedicated interface.
SDI: The DME has an SDI interface.

Notes

If the system signal format is set to 1080P and the DME input/output signal format is set to Dual Link Mode, the SDI interface cannot be selected.

For details of the connection of DME units and the switcher, see "MVS-8000X-/7000X-C Installation Manual."

3 To select the number of keys that use DME on an M/E bank, make one of the following selections in the <DME Assignment for Proc Key> group.

Single DME unit: Mode in which a processed key operation is carried out only with the dedicated interface DME or the SDI interface DME.
Dual DME units: Mode in which two processed key operations with the dedicated interface DME and the SDI interface DME are both possible simultaneously on the same M/E. When this mode is selected, when combined by a processed key with the SDI interface DME, select the material for the second channel not on the DME external video bus, but on the AUX bus.

Setting the AUX Bus Output and Reentry Input

Select the signal input to the DME (AUX bus output) and the signal returned as the switcher primary input (reentry input) as follows.

1 In the Switcher >Device Interface menu, press [DME Type Setting].

The DME Type Setting menu appears.

2 Press [DME SDI Interface].

3 Using any of the following methods, select the DME channel to which operations apply.

- Press directly on the list on the left of the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

Knob	Parameter	Adjustment	Setting values
1	DME Ch No	DME channel selection	1 to 24

Notes

When using the MVE-8000A, it is not possible to select any of DME 1 Ext In to DME 8 Ext In.

4 In the <Select> group, select the AUX bus or reentry to be assigned to the DME channel.

Aux Bus: Set AUX bus.
Re-Entry: Set reentry.

5 Depending on the selection in step **4**, use any of the following methods to make the setting.

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

- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

When Aux Bus is selected

Knob	Parameter	Adjustment	Setting values
2	Src No	AUX bus number	0 to 48

When Re-Entry is selected

Knob	Parameter	Adjustment	Setting values
2	Src No	Reentry number	0 to upwards

6 Press [Set].

In the list on the right of the status area, the selected content is reflected in the specified DME channel.

Repeat steps **3** to **6** as required.

Selecting the Mode for Turning Off Keys Upon Receiving the Editor Command

Selects the mode for turning off keys when an “All Stop” command is received from the editor.

1 In the Switcher >Device Interface menu, press [Editor I/F].

The Editor I/F menu appears.

2 Select one of the following modes.

All: When an “All Stop” command is received, all keys for the selected regions are turned off.
Specified: When an “All Stop” command is received, among all the keys for the selected regions, only the keys specified by the editor are turned off.

Notes

When an “All Stop” command is received in the process of a transition, the keys selected for the next transition are also turned off.

DME Setup (DME)

Chapter 21

Settings Relating to Signal Inputs (Input Menu)

To make settings relating to DME input signals, display the DME >Input menu.

To display the Input menu

In the Engineering Setup menu, select VF4 'DME' and HF1 'Input.'
The status area shows the initial crop information and the DME system phase.

The following functions are available here.

- **Initial Crop:** Make the initial crop setting.
- **Matte Illeg. Color Limit:** Switch the illegal limiter for the signal generated by the DME internal matte generator on or off.
- **System Phase:** Adjust the operation timing of the whole system with respect to the reference signal.
- **TBC Center:** Set the TBC window center position.

When the signal format is 1080P, up to four DMEs can be operated (DME1 to DME4).
In the following description, the settings for DME1 are given by way of example, but the settings for DME2 to DME4 are carried out in a similar way.

Setting the Initial Crop

1 In the DME1 <Aspect> group of the DME >Input menu, select the screen aspect ratio (16:9 or 4:3).

2 In the DME1 <Crop> group, press [Initial Crop] and adjust the following parameters.

If you selected 4:3 in step 1

Knob	Parameter	Adjustment	Setting values
1	Top	Position of top side	–3.00 to +3.00
2	Left	Position of left side	–4.00 to +4.00
3	Right	Position of right side	–4.00 to +4.00
4	Bottom	Position of bottom side	–3.00 to +3.00

If you selected 16:9 in step 1

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

To return the parameter values to their default values Press [Unity] in the <Crop> group.

Setting an Illegal Color Limit for Matte Signals

To enable the illegal color limiter for the signals generated by the DME internal matte generator, press [Matte Illeg Col Limit] for DME1 in the DME >Input menu, turning it on.

Making DME System Phase Adjustment

To adjust the DME reference phase, use the following procedure.

1 In the DME >Input menu, press [System Phase].

2 Set the following parameters.

Knob	Parameter	Adjustment	Setting values
1	DME1 Phase	DME1 system phase adjustment	–32.00 to +96.00
2	DME2 Phase	DME2 system phase adjustment	–32.00 to +96.00

Setting the TBC Window Center Position

1 In the DME >Input menu, press [TBC Center].

The TBC Center menu appears.
The status area shows the TBC center position values for DME1, DME2, and external input signals.

Notes

The TBC center position values for external input signals are shown only when an MVE-9000 or MKS-7470X/7471X is used.

2 Using any of the following methods, select the input number for which you want to set the TBC center position.

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

Knob	Parameter	Adjustment	Setting values
1	No	Input number selection	1 to 8

3 In the <Video/Key> group (when MVE-9000 or MKS-7470X/7471X is used), press the desired button, and set the TBC center position to 0H, 0.5H, or 1H.

Settings Relating to Signal Outputs (Output Menu)

To make settings relating to DME output signals, display the DME >Output menu.
You can select the signals output from the four monitor output connectors.

To display the Output menu
In the Engineering Setup menu, select VF4 'DME' and HF3 'Output.'
The following functions are available here.

- **Clip Adjust:** Adjust the video clip levels of DME1 and DME2 outputs. (These settings are possible only when the DME is an MVE-9000 or SDI-interfaced MVE-8000A.)
- **Monitor Output:** Set the signals output from the four monitor output connectors.

Adjusting the DME1 and DME2 Output Video Clip Levels

When the MVE-8000A/MVE-9000 is connected through SDI interface, you can adjust both DME1 and DME2 output video clip levels.
Use the following procedure. (DME 1 is taken by way of example.)

1 In the <DME1(Ch1-Ch4)> group of the DME >Output menu, press [Clip Adjust], turning it on.

2 Set the following parameters.

Knob	Parameter	Adjustment	Setting values
1	White Clip	White clip adjustment	90.00 to 109.02
2	Dark Clip	Dark clip adjustment	–6.85 to +10.00
3	Chroma Clip	Chroma clip adjustment	90.00 to 113.17

To return the setting to the default value
In the DME >Output menu, press [Default].

Setting the Monitor Output

To set the signals output from the four monitor output connectors, use the following procedure.

1 In the DME >Output menu, press [Monitor Output].

The Monitor Output menu appears.

2 In the <Select> group, select the DME to which the setting applies.

DME1: Select DME1.
DME2: Select DME2.
When the signal format is 1080P, you can also select DME3 or DME4 similarly.

3 In the list on the left of the status area, press directly on the monitor output for which you want to make setting.

Notes

On the MVE-8000A, when the signal format is 1080P, you cannot select MONI OUT#2 and MONI OUT#4.

4 In the list on the right of the status area, press directly on the signal you want to output.

5 Press [Set].

The selection is reflected in the monitor output.

Interfacing With External Devices (Device Interface Menu)

To carry out setup relating to DME connections with external devices, display the DME >Device Interface menu.

To display the Device Interface menu

In the Engineering Setup menu, select VF4 'DME' and HF4 'Device Interface.'
The following functions are available here.

- **Editor Protocol:** Set the protocol to be used on the Editor port.
- **Editor Port Setting:** Make settings relating to the control of the four editor ports installed in the DME.
- **GPI Input:** Set the GPI input ports and trigger polarities, and make the action settings.
- **GPI Output:** Set the GPI output ports and trigger polarities, and make the action settings.

When the signal format is 1080P, up to four DMEs can be operated (DME1 to DME4).
In the following description, the settings for DME1 are given by way of example, but the settings for DME2 to DME4 are carried out in a similar way.

Notes

On the MVE-8000A, when GPI Input and GPI Output are set, the settings apply to Ch1/Ch2 for DME1/DME3, and Ch3/Ch4 for DME2/DME4.

Setting the editor protocol

In the <DME1 Editor Protocol> group of the DME >Device Interface menu, press the following buttons to make the setting.
DME: Control by DME protocol through the editor port.
VTR: Control by VTR protocol through the editor port.

Notes

This setting is disabled for the MKS-7470X/7471X.

Making editor port settings

In the <DME1 Editor Port Setting> group of the DME >Device Interface menu, press either of the following to select the way in which the editor ports are used.
Common: Control all of channels 1 to 4 through editor ports 1 to 4.
Independ: Control channels 1 to 4 individually through Editor ports 1 to 4.

Notes

This setting is disabled for the MKS-7470X/7471X.

Making DME GPI Input Settings

1 In the DME >Device Interface menu, press [DME1 GPI Input].

The DME1 GPI Input menu appears.

2 Using any of the following methods, select the settings.

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

Knob	Parameter	Adjustment	Setting values
1	Port	Input port selection	1 to 8
2	No	Selection of number for action to be assigned	1 to 8

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

(Rising Edge): Apply the trigger on a rising edge of an input pulse.
(Falling Edge): Apply the trigger on a falling edge of an input pulse.
(Any Edge): Apply the trigger on a change in the polarity of the input signal.
(Level): Carry out the specified operation when the input is low or high.
No Operation: Apply no trigger on an input pulse.

4 In the <Target> group, select what this applies to (channels 1 to 4, or Proc).

5 Using any of the following methods, select the action to be set.

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

Knob	Parameter	Adjustment	Setting values
3	Action	Action selection	1 and upwards [a]
4	Reg No	Register number	1 to 99 [b] 1 to 399 [c]

a) As for the setting values, see "Selectable actions for various trigger types" *(page 227)*.
b) When knob 3 selection is "Snapshot"
c) When knob 3 selection is "Effect"

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

The selected setting appears in the status area.

Selectable actions for various trigger types

- **When the trigger type is other than "Level"**
  When Target is Ch1, Ch2, Ch3, or Ch4: Freeze, SS ? Recall
  Effect ? Recall, Effect ? Recall & Run, KF Run, KF Stop, KF Rewind, KF Reverse Run, No Action
  When Target is Proc: No Action
- **When the trigger type is "Level"**
  When Target is Ch1, Ch2, Ch3, or Ch4: Aspect, No Action
  When Target is Proc: Format Aspect, Level Enable, No Action

Notes

- "Level Enable" is a function that determines whether GPI inputs are enabled ("Enable") or disabled ("Disable") for the "Aspect" and "Format" actions that can be used when the trigger type is Level. When Level Enable is used, if the input is "Disable" then it is not possible to switch "Aspect" or "Format" by GPI input. If a GPI to switch "Aspect" or "Format" occurs when powering the system off, the action triggered by the GPI may start immediately before the power goes off and the power may go off before the action is completed. This may corrupt the setup settings. It is therefore recommended to use Level Enable to avoid such a situation.
- When the DME is an MKS-7470X/7471X, "Format" is disabled.

Carrying out level settings

To set the low level and high level, first set the trigger type to "Level," then use the following procedure.

1 In the DME >Device Interface menu, select the action to be set, and press [H/L Set].

The H/L Set menu appears.

2 Using any of the following methods, select the settings.

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

Knob	Parameter	Adjustment	Setting values
1	No	Signal format/ screen aspect ratio selection	1 and upwards

3 To apply the selection made in step **2** when the input is high, press [H Set]. To apply the selection made in step **2** when the input is low, press [L Set].

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

Making DME GPI Output Settings

1 In the DME >Device Interface menu, press [DME1 GPI Output].

The DME1 GPI Output menu appears.
The output port selection is fixed at 1.

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

Status: 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 in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

Knob	Parameter	Adjustment	Setting values
2	Action	Action selection	1 to 3 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.

DCU Setup (DCU)

Chapter 22

Setup Relating to DCU

In DCU setup, carry out settings particular to the DCU. You can make the following settings.

- **Input Config:** Assign GPI inputs to Parallel input ports.
- **GPI Input Assign:** Make GPI input settings.
- **Output Config:** Assign GPI outputs to parallel output ports inserted in an option slot.
- **GPI Output Assign:** Make GPI output settings.
- **Serial Port Assign:** Set the protocol to match the devices connected to a 9-pin serial port. You can also select the control panel used to control each device.

Notes

For setup relating to DCU, it is necessary to make the same settings on multiple control panels (maximum three units) that are sharing the DCU. After carrying out the DCU setup on one control panel, make the same settings on the other control panels.

Settings Relating to Parallel Inputs (Input Config Menu)

To assign GPI inputs to DCU parallel input ports, display the DCU >Input Config menu.
The DCU parallel input ports are assigned with the following priority sequence.

1. When external boxes are set in the Router/Tally >Router >External Box Assign menu, the parallel inputs are assigned to the external box inputs in order.
2. When tally settings are carried out in the Router/Tally >Tally Enable menu, tally inputs are assigned automatically.

In this menu, you set only the input ports which are unused after making the above assignments.

To display the Input Config menu

In the Engineering Setup menu, select VF5 ‘DCU’ and HF1 ‘Input Config.’
The status area shows input port information.

Assigning a GPI Input Port

1 In the DCU >Input Config menu, select what the setting applies to (DCU1 or DCU2) from the <DCU Select> group.

2 In the <Parallel Input Assign> group, press [GPI Input].

3 Using any of the following methods, assign the number of the GPI input to the input port.

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

Knob	Parameter	Adjustment	Setting values
1	Parallel Input	Input port	1 to 102 a)
3	GPI Input	GPI input	1 to 50

a) When the MKS-2700 is connected, select a value in the range 1 to 34.

4 To confirm the assignment in step **3**, press [GPI Input Set].

This assigns the GPI input, and this is reflected in the status area.

Releasing the Assignment of a GPI Input Port

1 In the DCU >Input Config menu, select what the setting applies to (DCU1 or DCU2) from the <DCU Select> group.

2 In the <Parallel Input Assign> group, if [GPI Input] is on, press it to turn it off.

3 Turn the knobs to adjust the following parameters.

Knob	Parameter	Adjustment	Setting values
1	From No	First port number	1 to To No
2	To No	Last port number	From No to 102

4 In the <Parallel Input Assign> group, press [No Assign].

GPI Input Setting (GPI Input Assign Menu)

To set the trigger type and so on for each GPI input, display the DCU >GPI Input Assign menu.

To display the GPI Input Assign menu

In the Engineering Setup menu, select VF5 'DCU' and HF2 'GPI Input Assign.'
The GPI input port setting status appears in the status area.

Making DCU GPI Input Settings

1 In the DCU >GPI Input Assign menu, using any of the following methods select what the setting applies to.

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

Knob	Parameter	Adjustment	Setting values
1	No	GPI input	1 to 50

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

(Rising Edge): Apply the trigger on a rising edge of an input pulse.
(Falling Edge): Apply the trigger on a falling edge of an input pulse.
(Any Edge): Apply the trigger on a change in the polarity of the input signal.
(Level): Carry out the specified operation when the input is low or high.
No Operation: Apply no trigger on an input pulse.

3 In the <Target Device> group, select the control panel to handle the GPI input.

SCU1: ID1 control panel (PNL1)
SCU2: ID2 control panel (PNL2)
SCU3: ID3 control panel (PNL3)
The action set in the following step **4** is executed for the switcher and DME controlled by the selected control panel.

4 Using any of the following methods, select the action you want to set.

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

Knob	Parameter	Adjustment	Setting values
2	Action	Action selection	1 and upwards a)
4	Aux Bus No	AUX bus selection	1 to 48 b)
5	Reg No	Register number	1 to 4 c) 1 to 99 d) 1 to 250 e) 1 to 399 f)
5	Src No	Source signal selection	1 and upwards b) g) h)

a) As for the setting values, see "Selectable actions for various trigger types" *(page 231)*
b) When knob 2 selection is "Aux ? O'ride Src ??"
c) When knob 2 selection is "Key Snapshot"
d) When knob 2 selection is "Snapshot" or "Shotbox"
e) When knob 2 selection is "Macro"
f) When knob 2 selection is "Effect"
g) The following values apply to the MVS-8000X.
For primary inputs: 1 to 144
For premium inputs: 145 to 164 ((PREM1) to (PREM20) indicated after the number)
For format converter dedicated inputs: 165 to 180 ((FC1) to (FC16) indicated after the number)
h) The values from 1 to 80 apply to the MVS-7000X.

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

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

Selectable actions for various trigger types

- **When the trigger type is other than "Level"**
(In M/E-x, the x is the M/E bank number (1 to 4); in DSKx the x is the DSK number (1 to 8); in Keyx the x is the key number (1 to 8)).
M/E-x Cut, M/E-x Auto Trans, P/P Cut, PP Auto Trans, M/E-x Keyx Cut, M/E-x Keyx Auto Trans, P/P DSKx Cut, P/P DSKx Auto Trans
FTB Auto Trans, FTB Cut, Master SS ? Recall, SS ? Recall, M/E-x Keyx SS ? Recall, P/P DSKx SS ? Recall, Master Effect ? Recall, Effect ? Recall, Effect ? Recall & Run, KF Run, KF Stop, KF Rewind,
FM Src1 Field Freeze, FM Src1 Frame Freeze, FM Src1 Freeze Off, FM Src2 Field Freeze, FM Src2 Frame Freeze, FM Src2 Freeze Off, FM Src1 Clip Record, FM Src1 Clip Stop, FM Src2 Clip Record, FM Src2 Clip Stop, FM1 to FM8 Clip Cueup, FM1 to FM8 Clip Play, FM1 to FM8 Clip Stop,
Shotbox ? Recall, Macro Take, Macro ? Recall, No Action
- **When the trigger type is only "Rising Edge" or "Falling Edge"**
Aux? O'ride Src??
- **When the trigger type is "Level"**
(In M/E-x, the x is the M/E bank number (1 to 4)).
System Format, System Aspect, M/E-x Aspect, P/P Aspect, DME Ch1 Aspect, DME Ch2 Aspect, DME Ch3 Aspect, DME Ch4 Aspect, DME Ch5 Aspect, DME Ch6 Aspect, DME Ch7 Aspect, DME Ch8 Aspect, Level Enable, No Action

Notes

- "Level Enable" is a function that determines whether GPI inputs are enabled ("Enable") or disabled ("Disable") for the "Aspect" and "System Format" actions that can be used when the trigger type is Level. When Level Enable is used, if the input is "Disable" then it is not possible to switch "Aspect" or "System Format" by GPI input.
If a GPI to switch "Aspect" or "System Format" occurs when powering the system off, the action triggered by the GPI may start immediately before the power goes off and the power may go off before the action is completed. This may corrupt the setup settings. It is therefore recommended to use Level Enable to avoid such a situation.
- As for "Aux ? O'ride Src ??," when "Rising Edge" is selected, on a rising edge the set AUX bus input is used. On a falling edge, the original state of the cross-point is restored. If the GPI trigger is applied repeatedly at short intervals (0.5 second or less), the cross-point switching may not be carried out correctly. In this case, apply the GPI trigger again.
- If "System Format" is selected for "Action" when the format converter is used on the switcher, you can set the conversion format of the format converter for "FC Input 1-4," "FC Input 5-8," "FC Input 9-12" (MVS-8000X only), "FC Input 13-16" (MVS-8000X only), "FC Output 1-2," and "FC Output 3-4."

Carrying out level settings

To set the low level and high level, first set the trigger type to "Level," then use the following procedure.

1 In the DCU >GPI Input Assign menu, select the action to be set, and press [H/L Set].

The H/L Set menu appears.

2 Using any of the following methods, select the settings.

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

Knob	Parameter	Adjustment	Setting values
1	No	Signal format/ screen aspect ratio selection	1 and upwards

3 To apply the selection made in step **2** when the input is the GPI high level, press [H Set]. To apply the

selection made in step **2** when the input is low, press [L Set].

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

To Set the Level for the Format Converter

1 Set “System Format” for “Action” using the same operation in Step **4** of *“Making DCU GPI Input Settings” (page 230)*.

The format converter list appears.

2 Select the format converter that you want to set from the list.

3 In the <FC Input/Output> group, press [H Set] or [L Set] to set the high level or low level, respectively.

Parallel Output Settings (Output Config Menu)

For the DCU parallel output ports, after carrying out tally settings in the Router/Tally >Tally Enable menu, you can assign GPI outputs to output ports that are still unused. To assign DCU outputs to DCU parallel output ports, display the DCU >Output Config menu.

To display the Output Config menu

In the Engineering Setup menu, select VF5 ‘DCU’ and HF3 ‘Output Config.’
The status area shows output port information.

Assigning a GPI Output Port

1 In the DCU >Output Config menu, select what the setting applies to (DCU1 or DCU2) from the <DCU Select> group.

2 In the <Parallel Output Assign> group, press [GPI Output].

3 Using any of the following methods, select the output port and GPI output number.

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

Knob	Parameter	Adjustment	Setting values
1	Parallel Output Slot	Output port slot	2 to 6 a)
2	Parallel Output Port	Output port	1 to 54 b)
5	GPI Output	GPI output	1 to 50

a) When the MKS-2700 is connected, select 2.
b) When the MKS-2700 is connected, select a value in the range 1 to 36.

4 To confirm the selected setting, press [GPI Output Set].

This confirms the selection, which is reflected in the status area.

Releasing the Assignment of a GPI Output Port

1 In the DCU >Output Config menu, select what the setting applies to (DCU1 or DCU2) from the <DCU Select> group.

2 In the <Parallel Output Assign> group, if [GPI Output] is on, press it to turn it off.

3 Turn the knobs to select the slot and port to which the setting applies.

Knob	Parameter	Adjustment	Setting values
1	From Slot	First port slot	2 to 6
2	From Port	First port number	1 to 54
3	To Slot	Last port slot	2 to 6
4	To Port	Last port number	1 to 54

4 In the <Parallel Output Assign> group, press [No Assign].

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

Making DCU GPI Output Settings

1 In the DCU >GPI Output Assign menu, using any of the following methods select what the setting applies to.

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

Knob	Parameter	Adjustment	Setting values
1	No	GPI output	1 to 50

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

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

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

 **(Any Edge):** 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 in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knobs.

Knob	Parameter	Adjustment	Setting values
2	Action	Action selection	1 and upwards a)
5	Reg No	Snapshot register number	1 to 4 b)
5	GPI No	GPI number selection	1 to 32 c)

a) **Action list when the trigger type is other than "Status"**
(In M/E-x, the x is the M/E bank number (1 to 4); in Keyx the x is the key number (1 to 8); in DSKx the x is the DSK number (1 to 8)).
When Source Device is SCU: M/E-x Keyx SS ? Recall, P/P DSKx SS ? Recall, Editor GPI-?? (only when BZS-8050 license is valid), No Action
When Source Device is DCU: No Action
Action list when the trigger type is "Status"
(In M/E-x, the x is the M/E bank number (1 to 4); in Keyx the x is the key number (1 to 8); in DSKx the x is the DSK number (1 to 8)).
When Source Device is SCU: M/E-x Keyx SS ? Recall, P/P DSKx SS ? Recall, M/E-x Keyx On, P/P DSKx On, Error Make, Error Break, Keep Make, Keep Break, Device Recording, No Action
When Source Device is DCU: Error Make, Error Break, No Action
b) When knob 2 selection is "Key Snapshot"
c) When knob 2 selection is "GPI"

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

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

Test firing the trigger

In the DCU >GPI Output menu press [Test Fire].
This outputs a trigger from the selected output port. This is not output when the trigger type is "Status."

Serial Port Settings (Serial Port Assign Menu)

To set the protocol to match a device connected to a 9-pin serial port, display the DCU >Serial Port Assign menu.

To display the Serial Port Assign menu

In the Engineering Setup menu, select VF5 'DCU' and HF5 'Serial Port Assign.'
The serial port setting status appears in the status area.

Making Serial Port Settings

1 In the DCU >Serial Port Assign menu, select the target for the setting (DCU1 or DCU2) from the <DCU Select> group.

2 Using any of the following methods, select the serial port.

- Press directly on the list on the left of the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

Knob	Parameter	Adjustment	Setting values
1	Port No	Serial port	1 and upwards a)

a) The setting value range depends on the DCU port setting. (When the MKS-2700 is connected, select 2 for the slot and a value in the range 1 to 6 for the port.)

3 Using any of the following methods, select the protocol for the connected device.

- Press directly on the list on the right of the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

Knob	Parameter	Adjustment	Setting values
2	Device Type	Protocol selection	1 to 9 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)
5. DDR VDCP: disk recorder (video disk communication protocol)
6. Simple VDCP: disk recorder with low-performance communications (video disk communications protocol)
7. Extended VTR (Abekas A53 protocol)
8. Mixer ESAM-II
9. AS ES-BUS: device supporting the AS ES bus protocol

Notes

Mixer ESAM-II cannot be operated from this system. It can only be operated from an editing keyboard.

4 Press [Device Type Set].

The selected protocol is reflected on the left of the status area.

5 To enter the name of the serial port, press [Set] in the <Name> group.

A keyboard window appears. You can enter a name of not more than 16 characters.
If no name is set for the serial port, it is displayed as "DCUd_PORTs-p."
d: 1 or 2 (DCU No.)
s: 2 to 6 (Slot No.)
p: 1 to 6 (Port No.)

6 Press [Enter].

To return the set name to the default name
Press [Clear] in the <Name> group.

7 From the <SCU Select> group, select the control panel (SCU1, SCU2 or SCU3) assigned to operations on the external device connected to the serial port.

Deleting the serial port assignment

1 In the DCU >Serial Port Assign menu, select the target for the setting (DCU1 or DCU2) from the <DCU Select> group.

2 Using any of the following methods, specify the serial port.

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

Knob	Parameter	Adjustment	Setting values
1	Port No	Serial port	1 and upwards a)

a) The range of setting values depends on the DCU port setting. (When the MKS-2700 is connected, select 2 for the slot and a value in the range 1 to 6 for the port.)

3 Press [Clear].

Making Detailed Settings on the External Device Connected to the Serial Port

After setting the external device for each serial port, it is necessary to make further detailed settings for operation of the external device.

Making detailed settings for a P-Bus device

1 In the DCU >Serial Port Assign menu, select the setting target (DCU1 or DCU2) from the <DCU Select> group.

2 Using any of the following methods, select the serial port connected to the P-Bus device for which you want to make the settings.

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

Knob	Parameter	Adjustment	Setting values
1	Port No	Serial port number	1 and upwards a)

a) The range of setting values depends on the DCU port setting. (When the MKS-2700 is connected, select 2 for the slot and a value in the range 1 to 6 for the port.)

3 Press [Port Setting].

The DCU >Serial Port Assign >P-Bus Setting menu appears.
At the top of the status area, the relevant serial port, slot number, protocol, serial port name, and SCU number appear. In the lower part of the status area, the device name and response speed settings appear.

4 Using any of the following methods, select the ID for which you want to make a device name setting.

- Press directly on the device name list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

Knob	Parameter	Adjustment	Setting values
1	ID	ID selection	0 to 23

5 In the <Name> group, press [Set] to display a numeric keypad window.

6 Input the desired name, and press [Enter].

The input device name appears in the device name list.

To return the device name for the selected ID to the default name
Press [Clear] in the <Name> group.

7 Using any of the following methods, specify the command to which the response speed setting applies.

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

Knob	Parameter	Adjustment	Setting values
2	No	Command number selection	1 to 18

8 Turn the knob to set the response speed (in field units) of the device.

Knob	Parameter	Adjustment	Setting values
3	Delay	Response speed setting	0 to 60

9 Press [Delay Set].

10 Repeat steps **4** to **9** as required to make the settings for other commands.

Making detailed settings for a VTR

1 In the <DCU Select> group of the DCU >Serial Port Assign menu, select the target for the setting (DCU1 or DCU2).

2 Using any of the following methods, select the serial port connected to the VTR for which you want to make the settings.

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

Knob	Parameter	Adjustment	Setting values
1	Port No	Serial port	1 and upwards a)

a) The range of setting values depends on the DCU port setting. (When the MKS-2700 is connected, select 2 for the slot and a value in the range 1 to 6 for the port.)

3 Press [Port Setting].

The DCU >Serial Port Assign >VTR Setting menu appears.
At the top of the status area, the relevant serial port, slot number, protocol, serial port name, SCU number, and timecode source appear. In the lower part of the status area, the VTR constants appear.

4 In the <TC Source> group, select the timecode source (reference signal for determining the tape position) from the following.

LTC (Longitudinal Time Code): Use LTC. When interpolation data is returned from a VTR, use that interpolation data.
LTC: VITC (Vertical Interval Time Code): Normally use LTC, but when the tape is moving at speeds at which LTC cannot be read, use VITC. When interpolation data is returned from a VTR, use that interpolation data.
VITC: Use VITC.
CTL (Control): CTL pulses or timer counter pulses are used. Use this only for a tape on which no timecode is recorded.
The displayed tape position is based on the reference signal specified here.

5 Using any of the following methods, specify the VTR constants.

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

Knob	Parameter	Adjustment	Setting values
1	Item	Item selection	1 to 16

6 Press [Set].

A numeric keypad window for hexadecimal input appears.

7 Set the VTR constants using values in the range 00 to FF.

Block	Byte	Setting item
BLOCK 1	1	HI-BYTE (DEVICE TYPE)
	2	LO-BYTE (DEVICE TYPE)
	3	HI-BYTE (FRAME) (PREROLL TIME)
	4	LO-BYTE (FRAME) (PREROLL TIME)
	5	EDIT DELAY (FRAME)
	6	EE DELAY (FRAME)
	7	OVER RUN (FRAME)
	8	TRAJECTORY

Block	Byte	Setting item
BLOCK 2	1	TC READ DELAY (FRAME)
	2	START DELAY (FRAME)
	3	AFTER SYNC DELAY–
	4	AFTER SYNC DELAY+
	5	MODE1
	6	MODE2
	7	MAX PRRL SPEED
	8	QUICK PVW PRRL TIME (FRAME)

8 Press [Enter].

9 Repeat steps **5** to **8** as required to set the constants for other VTRs.

Making detailed settings for a disk recorder (Sony disk 9-pin protocol)

1 In the <DCU Select> group of the DCU >Serial Port Assign menu, select the target for the setting (DCU1 or DCU2).

2 Using any of the following methods, select the serial port connected to the disk recorder for which you want to make the settings.

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

Knob	Parameter	Adjustment	Setting values
1	Port No	Serial port	1 and upwards a)

a) The range of setting values depends on the DCU port setting. (When the MKS-2700 is connected, select 2 for the slot and a value in the range 1 to 6 for the port.)

3 Press [Port Setting].

The DCU >Serial Port Assign >DDR SD9P Setting menu appears.
At the top of the status area, the relevant serial port, slot number, protocol, serial port name, SCU number, and disk recorder type appear. In the lower part of the status area, the response speed settings appear.

4 Using any of the following methods, specify the item to which the response speed setting applies.

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

Knob	Parameter	Adjustment	Setting values
1	Item No	Item selection	1 to 4 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: delay time from the cued-up state to begin playback
4. Play After Open Next Delay: delay time from the Open Next state to begin playback

5 Turn the knob to set the disk recorder response speed.

Knob	Parameter	Adjustment	Setting values
2	Setting	Response speed setting	0 to 255

6 Press [Set].

7 Repeat steps **4** to **6** as required to make the settings for other items.

Making detailed settings for a disk recorder (video disk communications protocol)

1 In the <DCU Select> group of the DCU >Serial Port Assign menu, select the target for the setting (DCU1 or DCU2).

2 Using any of the following methods, select the serial port connected to the disk recorder for which you want to make settings.

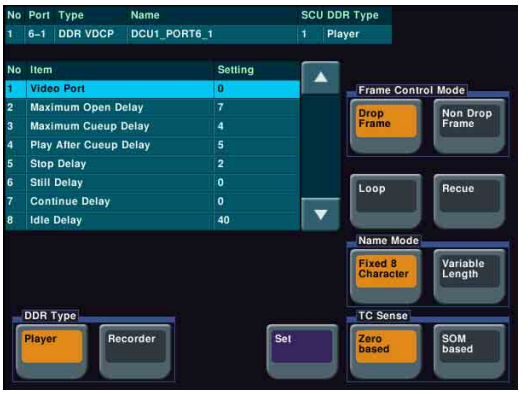
- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

Knob	Parameter	Adjustment	Setting values
1	Port No	Serial port	1 and upwards a)

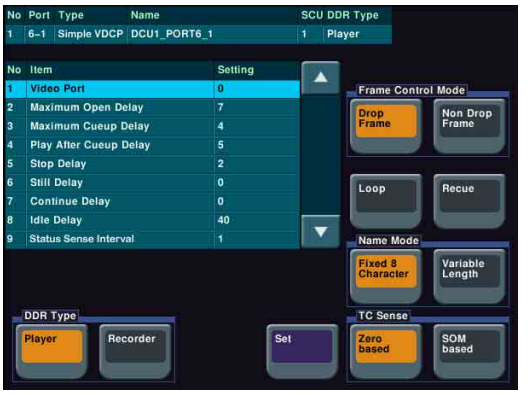
a) The range of setting values depends on the DCU port setting. (When the MKS-2700 is connected, select 2 for the slot and a value in the range 1 to 6 for the port.)

3 Press [Port Setting].

When “DDR VDCP” is selected as the protocol, the DCU >Serial Port Assign >DDR VDCP Setting menu appears.



When "Simple VDCP" is selected as the protocol, the Simple VDCP Setting menu appears.



4 In the <DDR Type> group, select the type of disk recorder.

Player: Functioning as a player.
Recorder: Functioning as a recorder.

5 In the <Name Mode> group, select the file name character count mode.

Fixed 8 Character: Use 8-character file names.
Variable Length: Use variable-length file names. (The file name is limited to 23 characters.)

6 In the <TC Sense> group, select the type of timecode sensing.

Zero based: Mode in which timecode is detected taking the first frame of the recalled file as 00:00:00:00
SOM based: Mode in which timecode saved in the recalled file is detected

Notes

The details of the above operation modes depend on the connected device. For more information, consult the documentation for the connected device.

7 When using a disk recorder that does not support the timecode drop frame bit, in the <Frame Control Mode> group, select the drop frame mode or non-drop frame mode.

Drop Frame: Drop frame mode.
Non Drop Frame: Non-drop frame mode.

Notes

This setting is only valid when the system field frequency is one of the following values.
29.97, 30, 59.94, 60

8 Using any of the following methods, specify the item to which the video port number or response speed setting applies.

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

Knob	Parameter	Adjustment	Setting values
1	Item No	Item selection	**DDR VDCP Setting menu:** 1 to 8 a) **Simple VDCP Setting menu:** 1 to 9 a)

a) 1. Video Port: Number of the video port associated with the serial port to which the setting applies
For a player, the output port setting
For a recorder, the input port setting
2. Maximum Open Delay: maximum time required to open a file
3. Maximum Cueup Delay: maximum time required to cue up a file
4. Play After Cueup Delay: delay time from the cued-up state to begin playback
5. Stop Delay: delay time from issuing the stop command until actually stopping
6. Still Delay: delay time from issuing the still command until actually stopping
7. Continue Delay: delay time from issuing the continue command until actually stopping
8. Idle Delay: delay time from unloading a file until entering the idle state
(The idle state is a state wherein a file has been unloaded but a new file has not been loaded yet, that is, a state wherein no file is loaded.)
9. Status Sense Interval: time until the next Status Sense command is issued (Simple VDCP Setting menu only)

9 Turn the knob to set the disk recorder video port number or response speed.

When setting the video port number

Knob	Parameter	Adjustment	Setting values
2	Setting	Video port number	0 to 127 a)

a) 0: No assignment

When setting the response speed

Knob	Parameter	Adjustment	Setting values
2	Setting	Response speed	0 to 255

10 Press [Set].

11 If required, repeat steps **4** to **10**, to set other items.

To enable or disable the loop and recue functions

Press the [Loop] and [Recue] buttons, respectively.
Loop: Replay the recalled file in a continuous loop.
Recue: After playing the recalled file, recue to the beginning and then stop.

Making detailed settings for an Extended VTR

1 In the DCU >Serial Port Assign menu, select the setting target (DCU1 or DCU2) from the <DCU Select> group.

2 Using any of the following methods, select the serial port connected to the Extended VTR for which you want to make the settings.

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

Knob	Parameter	Adjustment	Setting values
1	Port No	Serial port number	1 and upwards [a)]

a) The range of setting values depends on the DCU port setting. (When the MKS-2700 is connected, select 2 for the slot and a value in the range 1 to 6 for the port.)

3 Press [Port Setting].

The DCU >Serial Port Assign >Extended VTR Setting menu appears.
At the top of the status area, the relevant serial port, slot number, protocol, serial port name, and SCU number appear. In the lower part of the status area, the response speed settings appear.

4 Using any of the following methods, specify the command to which the response speed setting applies.

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

Knob	Parameter	Adjustment	Setting values
1	Item No	Item selection	1 to 4 [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. Stop Delay: delay time from issuing the stop command until actually stopping

5 Turn the knob to set the response speed of the Extended VTR.

Knob	Parameter	Adjustment	Setting values
2	Setting	Response speed setting	0 to 255

6 Press [Set].

7 Repeat steps **4** to **6** as required to make the settings for other items.

Chapter 23 Setup Relating to Router Interface and Tally (Router/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.
The following functions are available here.

- **Matrix Size:** Assign the switcher matrix of each switcher processor to S-Bus space, and select the matrix size and positioning level, source address settings, and so on.
- **External Box:** To obtain the signal selection status of external devices with a parallel input, assign a matrix as an external selector in the S-Bus space. Make the matrix size, assignment level, source address, and other settings.
- **Alias Name Gp:** Set the group number for an S-Bus description name to be displayed in the source name displays for a cross-point operation.

Assigning Switcher Inputs and Outputs to S-Bus Space

1 In the <Device> group of the Router/Tally >Router menu, select the device to which the settings apply.

SWR1: Settings apply to switcher 1.
SWR2: Settings apply to switcher 2.

Notes

When there are two switchers on the same network, the SWR2 (second switcher) settings are required. If there is only one switcher, the settings are not required.

2 In the <Matrix Size> group, select the matrix size.

320 × 348 (Standard): Assign to S-Bus space with the switcher input/output at 320×348 size.
272 × 274: Assign to S-Bus space with the switcher input/output at 272×274 size.
182 × 256: Assign to S-Bus space with the switcher input/output at 182×256 size.
136 × 138: Assign to S-Bus space with the switcher input/output at 136×138 size.
128 × 128: Assign to S-Bus space with the switcher input/output at 128×128 size.

3 Turn the knobs to set the parameters for the following items.

Source: Specify the start address of the matrix source.
Destination: Specify the start address of the matrix destination.
Level: Specify the level in the S-Bus space.

Knob	Parameter	Adjustment	Setting values
1	Source	Source start address	1 and upwards a)
2	Destination	Destination start address	1 and upwards b)
3	Level	Level	1 to 8

a) The maximum setting values for each matrix size:
705 for [320x348 (Standard)], 753 for [272x274], 843 for [182x256], 889 for [136x138], 897 for [128x128]
b) The maximum setting values for each matrix size:
677 for [320x348 (Standard)], 751 for [272x274], 769 for [182x256], 887 for [136x138], 897 for [128x128]

Making an External Box Setting

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 (one of 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

Coupling external boxes

By coupling a number of external boxes, the number of inputs can be increased.
Here the example of coupling External Box1 and External Box2 is described.

1 In the Router/Tally >Router >External Box Assign menu, select [External Box1] from the <Device> group.

2 In the <Matrix Size> group, select [8×1].

3 Turn the knobs to make adjustments.

Knob	Parameter	Adjustment	Setting values
1	Source	Source start address	1 to 1017
2	Destination	Destination start address	1 to 1024
3	Level	Level	1 to 8

4 In the <Device> group, select [External Box2].

5 In the <Matrix Size> group, select [32×1].

6 Turn the knobs to make adjustments.
At this point make the settings of Destination and Level the same as in step **3**.

This automatically couples External Box1 and External Box2, forming an external box with 40 (8+32) inputs.

Setting the group number of an S-Bus description name

1 In the <Alias Name Gp> group of the Router/Tally >Router menu, press [Gp No].

2 Turn the knob to set the following parameter.

Knob	Parameter	Adjustment	Setting values
1	Gp No	Group number of S-Bus description name	0 to 7 a)

a) When setting values 1 to 7 are selected: If the name is not set, the description name for "0" appears.
If the description name for "0" is not registered either, the Type and No values appear.

3 In the <Alias Name Gp> group, press [Set].

This confirms the setting, which is reflected in the status area.

Notes

Transmit the description name selected here from the router.

Tally Group Settings (Group Tally Menu)

With the S-Bus protocol, tally control is possible for groups 1 to 8, but in this system you can use either groups 1 to 4 or groups 5 to 8.
You can also select whether or not to transfer the tally information over the S-Bus.
To select the tally groups, use the Router/Tally >Group Tally menu.

To display the Group Tally menu

In the Engineering Setup menu, select VF6 'Router/Tally' and HF2 'Group Tally.'
The following functions are available here.

- **Tally Group:** Select the group tally (Gp1 to 4 or Gp5 to 8) which can be used. (For the parallel tally, all groups can be used regardless of this setting.)
- **SBus Tally Enable:** Specify S-Bus tally enabled or disabled.

Setting the tally groups

1 To select a consecutive sequence of groups from each of groups 1 to 4 and groups 5 to 8, set [All Group Enable] to On in the Group Tally menu.

2 In the <Tally Group> group, select the desired groups.

Wiring Settings (Wiring Menu)

When configuring a system in which the switcher inputs and outputs are connected to a router, setting this connection configuration (referred to as "wiring") in the S-Bus space, or inputting the information which specifies the physical wiring, is necessary.
To make the wiring settings, use the Router/Tally >Wiring menu. The settings are common to the parallel and serial tallies.

To display the Wiring menu

In the Engineering Setup menu, select VF6 'Router/Tally' and HF3 'Wiring.'
The status area shows the wiring settings.

Making New Wiring Settings

1 In the Router/Tally >Wiring menu, press [New].

The New menu appears.

2 With a knob or menu operation, set the destination.

When switcher inputs and outputs are connected to the router in a group, you can specify the start and end destination addresses.

Destination From: Specify the start destination address for the wiring configuration.

Destination To: When the wiring configuration is multiple, specify the end destination address. For a single wiring connection, this setting is not required.

Destination Level: Specify the destination level of the wiring configuration.

Knob	Parameter	Adjustment	Setting values
1	Destination (From)	Destination start address	1 to 1024
2	Destination (To)	Destination end address	From start address to 1024
3	Destination (Level)	Destination level	1 to 8

3 Set the source.

Source From: Specify the source start address for the wiring configuration.

Source Level: Specify the source level for the wiring configuration.

Knob	Parameter	Adjustment	Setting values
4	Source (From)	Source start address	1 to 1024
5	Source (Level)	Source level	1 to 8

4 Press [Execute].

This makes the wiring setting according to the specifications in steps **2** and **3**.

Changing the Wiring Settings

1 In the Router/Tally >Wiring menu, press [Modify].

The Modify menu appears.

2 Referring to steps **2** and **3** in the preceding section "Making new wiring settings," change the parameters as required. In this case, however, it is not possible to specify multiple destinations in a single operation, and a single "Destination Address" must be specified.

3 Press [Execute].

Deleting Wiring Settings

1 In the Router/Tally >Wiring menu, using either of the following methods, select the wiring whose settings you want to delete.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.

2 Press [Delete].

Sorting Wiring Settings

In the Router/Tally >Wiring menu, press [Sort].
The sorting of wiring settings are executed in the following order.

Destination level order (ascending)→Destination address order (ascending)→Source level order (ascending)

Tally Generation Settings (Tally Enable Menu)

For settings relating to tally generation, use the Router/Tally >Tally Enable menu.
Specify the destination to be the reference for tally generation, and make various settings.
The settings are common to the parallel and serial tallies.

To display the Tally Enable menu

In the Engineering Setup menu, select VF6 'Router/Tally' and HF4 'Tally Enable.'
The status area shows the tally generation settings.
The following functions are available here.

- **Tally Type:** Specify the tally type.
- **Destination:** Specify the address and level.
- **Tally Enable:** Specify the timing at which a tally is enabled.
  - **Enable:** Always enabled.
  - **Disable:** Always disabled.
  - **Tally Input:** Follow the tally input status.

Making New Tally Generation Settings

1 In the Router/Tally >Tally Enable menu, press [New].

The New menu appears.

2 Turn the knobs to set the following parameters.

Knob	Parameter	Adjustment	Setting values
1	Destination Address	Destination address	1 to 1024
2	Destination Level	Destination level	1 to 8
3	Tally Type	Tally type	1 to 16 a)

a) 1:R1, 2:G1, 3:R2, 4:G2, 5:R3, 6:G3, 7:R4, 8:G4, 9:R5, 10:G5, 11:R6, 12:G6, 13:R7, 14:G7, 15:R8, and 16:G8. (R is an abbreviation of "Red Tally," and G of "Green Tally.")

3 In the <Tally Enable> group, specify the tally generation mode.

Enable: Always generate a tally.
Disable: Never generate a tally.
Tally Input: Generate a tally from the tally input state.

4 When you selected Tally Input as the tally generation mode in step **3**, select either of the following in the <Tally Input> group.

DCU1: Generate tally with reference to signal input to DCU1 port. Set the port number with the knob.
DCU2: Generate tally with reference to signal input to DCU2 port. Set the port number with the knob.

5 Turn the knob to select the tally input port number.

Knob	Parameter	Adjustment	Setting values
5	Input No	Tally input port number	1 to 102

6 Press [Execute].

This sets the settings made in steps **2** to **5** as the settings for tally generation.

Modifying Tally Generation

1 In the Router/Tally >Tally Enable menu, press [Modify].

The Modify menu appears.

2 With reference to steps **2** to **5** in the preceding section "Making new tally generation settings," change the parameters as required.

3 Press [Execute].

Deleting Tally Generation Settings

1 Using either of the following methods in the Router/Tally >Tally Enable menu, select the tally generation entry you want to delete.

- Press directly on the list in the status area.
- Press the arrow keys to scroll the reverse video cursor.

2 Press [Delete].

Tally Copy Settings (Tally Copy Menu)

You can copy the tally information pertaining to a particular source to a different source.
For settings relating to the tally copy function, use the Router/Tally >Tally Copy menu. The settings are common to the parallel and serial tallies.

To display the Tally Copy menu

In the Engineering Setup menu, select VF6 'Router/Tally' and HF5 'Tally Copy.'
The status area shows the tally copy status.

Making New Tally Copy Settings

1 In the Router/Tally >Tally Copy menu, select [New].

The New menu appears.

2 Turn the knob to select the copy-from source.
When setting more than one tally copy, you can specify the copy-from source start and end addresses.

Knob	Parameter	Adjustment	Setting values
1	Copy From (From)	Copy-from source start address	1 to 1024
2	Copy From (To)	Copy-from source end address	1 to 1024

3 Specify the copy-to source address.

Knob	Parameter	Adjustment	Setting values
3	Copy To (From)	Copy-to source (start) address	1 to 1024
4	Copy To (To)	Copy-to source (end) address	1 to 1024

4 Press [Execute].

This makes the tally copy setting according to the specifications in steps **2** and **3**.

Modifying Tally Copy Settings

1 In the Router/Tally >Tally Copy menu, press [Modify].

The Modify menu appears.

2 Use the knobs to select the copy source and copy destination.

Knob	Parameter	Adjustment	Setting values
1	Copy From	Copy-from source	1 to 1024
2	Copy To	Copy-to source	1 to 1024

3 Press [Execute].

Deleting Tally Copy Settings

1 In the Router/Tally >Tally Copy menu, using any of the following methods, select the tally copy whose settings you want to delete.

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

Knob	Parameter	Adjustment	Setting values
1	Copy No	Tally copy setting selection for deletion	1 and upwards

2 Press [Delete].

Parallel Tally Settings (Parallel Tally Menu)

For settings relating to parallel tally, use the Router/Tally >Parallel Tally menu.
Make the parallel port settings for output of tally information pertaining to sources and destinations.
For each of the tally output terminal numbers, specify the tally type, and source address or destination level and address.

To display the Parallel Tally menu

In the Engineering Setup menu, select VF6 'Router/Tally' and HF6 'Parallel Tally.'
The status area shows the parallel tally settings.

Making or Modifying Parallel Tally Settings

1 In the <Device> group of the Router/Tally >Parallel Tally menu, select DCU1 or DCU2.

2 Using any of the following methods, select the slot number and port number.

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

Knob	Parameter	Adjustment	Setting values
1	Slot No	Parallel tally slot number	2 to 6 a)
2	Port No	Parallel tally port number	1 to 54 b)

a) When the MKS-2700 is connected, select 2 for the slot and a value in the range 1 to 36 for the port.
b) When the MKS-2700 is connected, select a value in the range 1 to 36.

3 Press [Set].

The Set menu appears.

4 In the <Source/Destination> group, select the tally type.

Src: Return a tally to all sources output to the destination.
Dest: Return a tally to the destination outputting the source to which a source tally is returned.

5 Set the destination address and level.

The level setting is only required when in step **4** you selected Destination.

Knob	Parameter	Adjustment	Setting values
1	Address	Destination address	1 to 1024
2	Level	Destination level	1 to 8

6 When setting the tally type, set the following parameter.

Knob	Parameter	Adjustment	Setting values
3	Type	Tally type	1 to 16 a)

a) 1:R1, 2:G1, 3:R2, 4:G2, 5:R3, 6:G3, 7:R4, 8:G4, 9:R5, 10:G5, 11:R6, 12:G6, 13:R7, 14:G7, 15:R8, and 16:G8. (R is an abbreviation of "Red Tally," and G of "Green Tally.")

7 Press [Execute].

This makes the parallel tally settings, in accordance with the settings in steps **1** to **6**.

Deleting Parallel Tally Settings

1 In the Router/Tally >Parallel Tally menu, using any of the following methods, select the parallel tally whose settings you want to delete.

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

Knob	Parameter	Adjustment	Setting values
1	Slot No	Parallel tally slot number	2 to 6
2	Port No	Parallel tally port number	1 to 54

2 Press [Clear].

Serial Tally Settings (Serial Tally Menu)

To make serial tally settings, display the Router/Tally >Serial Tally menu.
Make the serial tally settings, including tally type and source address for each serial tally port.

To display the Serial Tally menu

In the Engineering Setup menu, select VF6 'Router/Tally' and HF7 'Serial Tally.'
The serial tally settings appear in the status area.

Setting or Changing the Serial Tally Settings

1 In the <Serial Tally Port> group of the Router/Tally >Serial Tally menu, select the port to which the setting applies.

2 In the <Tally Group> group, select the tally group.

3 In the <Tally Type> group, press the tally types to select. (You can select up to four.)

Notes

The selectable tally types depend on the settings in step **2**.

4 In the <Tally Data Size> group, press one of the following to select the data size.

128 Bit: 128 bits
256 Bit: 256 bits

Making the Serial Tally Source Address Settings

To set the serial tally source address for each port, use the following procedure.

1 In the Router/Tally >Serial Tally menu, press [Source Assign].

The Source Assign menu appears.
In the status area, the tally types and source address set for the serial tally port appear.

2 In the <Serial Tally Port> group, select the port to which the setting applies.

3 Using any of the following methods, select the port bit number.

- Press directly on the list on the left of the status area.
- Press the arrow keys to scroll the reverse video cursor.
- Turn the knob.

Knob	Parameter	Adjustment	Setting values
1	Bit No	Bit selection	1 and upwards

4 Turn the knob to select the source address.

Knob	Parameter	Adjustment	Setting values
2	Source Addr	Source address selection	1 to 1024

5 Press [Source Address Set].

Clearing a Source Address Setting

To clear a source address setting for a particular bit

In the Router/Tally >Serial Tally >Source Assign menu, select the serial tally port and bit number *(see steps **2** and **3** in the previous item),* then press [Clear].
This clears the source address setting for the selected bit.

To clear all source address settings

In the Router/Tally >Serial Tally >Source Assign menu, select the serial tally port, then press [All Clear].
A confirmation message appears.

- If you select “Yes,” this clears all source address settings for the selected serial tally port.
- If you select “No,” the clear operation is canceled.

Source Patch

The source patch is a function whereby signal pairs recorded in applicable data are automatically converted to use key snapshots, snapshots, and keyframes in different switcher systems as is.

Sequence of Source Patch Operations

In the following description, two different switcher systems are referred to as Switcher A and Switcher B.

In Switcher A, assign a name (user source name) to each signal pair.

↓

Export the user source name file to a memory card.

↓

In Switcher B, import the user source names from the memory card.

↓

Create a signal pairs conversion correspondence table (patch table).

↓

In Switcher B, recall the snapshot, key snapshot, or keyframe file created in Switcher A. (Signal pairs are replaced according to the patch table)

Exporting a User Source Name File to the Memory Card

In Switcher A, use the following procedure.

1 In the User Setup menu, select VF1 [Source Patch] and HF1 [User Source Name].

The User Source Name menu appears.

2 Use either of the following methods to select the target pair in the list on the left.

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

Knob	Parameter	Adjustment	Setting values
1	V/K Pair No	Signal pair selection	1 to upwards

3 Press [Usr Src Name] outside the list.

The keyboard window appears.

4 Enter a name of not more than 16 characters, and press [Enter].

The name you have entered is reflected in the Usr Src Name area.

5 Repeat steps **2** to **4**, to set all of the necessary names.

6 Press [File >Exp Usr Src Name].

The Export Usr Src Name menu appears.

7 Select Memory Card as the destination, and press [→Export].

The user source name file is exported to the memory card.

To apply the signal pairs in the patch table to this menu

Press [Apply Patch Tbl].

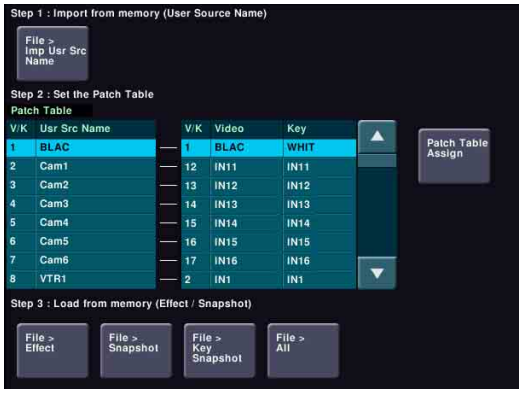
For more information about the patch table, see the following item.

Creating a Patch Table (Conversion Table)

Load the memory card created in Switcher A to Switcher B, and use the following procedure in Switcher B.

1 In the User Setup menu, select VF1 [Source Patch] and HF2 [Patch Table].

The Patch Table menu appears.



2 Press [File >Imp Usr Src Name].

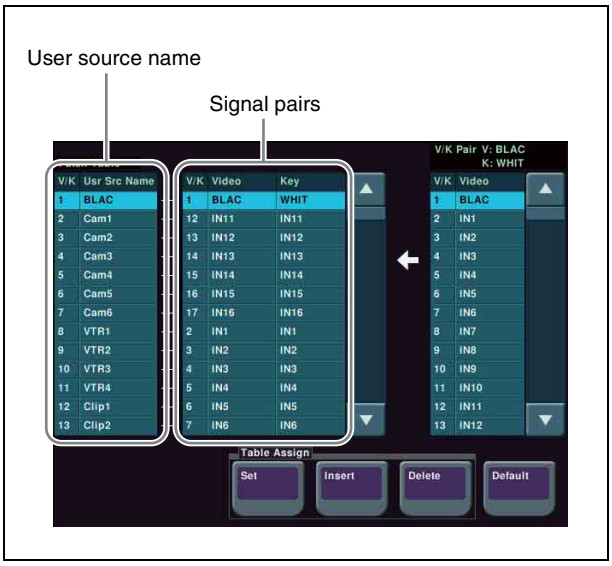
The Import Usr Src Name menu appears.

3 Select Memory Card as the import source, and press [→Import].

The user source name file is loaded from the memory card.

4 Press [Patch Table Assign].

The Patch Table Assign menu appears.
The user source names in Switcher A imported by step **3** are listed on the left and the pairs of videos and keys set in Switcher B are listed on the right.



5 Using either of the following methods, select the target user source name from the list on the left.

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

Knob	Parameter	Adjustment	Setting values
1	User Source	User source name selection	1 to upwards

6 Using either of the following methods, select the video signal that you want to assign from the list on the right.

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

Knob	Parameter	Adjustment	Setting values
2	V/K Pair No	Signal pair selection	1 to upwards

7 In the <Table Assign> group, press [Set].

The video/key signal name selected in the list on the right is reflected in the list on the left.

8 Repeat steps **5** to **7** to create a patch table.

It is also possible to execute the following editing operations using the buttons in the <Table Assign> group.

- Press [Insert] to insert a signal name above the signal name selected in the list on the left.
- Press [Delete] to delete the signal name selected in the list on the left.

Replacing Signal Pairs Using the Patch Table

The source patch is effective for key snapshots, snapshots, and keyframes.
The following describes the operation for a snapshot as an example.
Copy a snapshot file created in switcher A to the memory card in advance.

1 In the Patch Table menu, press [File >Snapshot].

The File menu appears.

2 In the list on the right, select the file you want to recall to the register.

3 Press [Src Patch Link] to turn it on.

4 Press [→Load].

The snapshot of which signal pairs have been replaced according to the patch table is recalled to Switcher B.

DIAGNOSIS

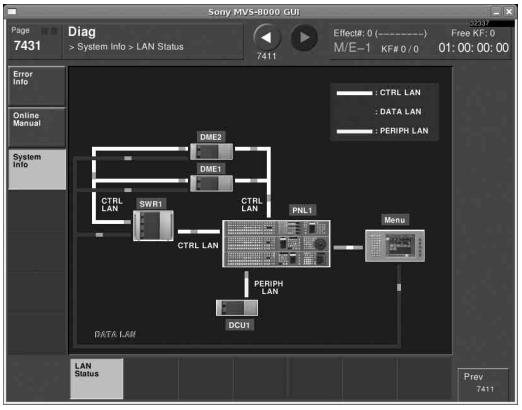
Chapter 25

Checking the Communications Status

In the Diagnosis menu, you can check the communications status of the control LAN and data LAN within the system.

Communications Status Display

To display the communications status, in the Diagnosis menu select VF3 ‘System Info’ and HF1 ‘LAN Status’. The following communications status screen appears.



Devices constituting the system only appear if they are connected.
You can check connection information in the Engineering Setup >System >System Config menu *(see page 140)*.
Even if a DCU is connected, if there is a communications error, it does not appear.
The LAN communications status is shown as follows.

- Control LAN (CTRL LAN)
  - **When connected:** White
  - **When not connected:** Red and white flashing
- Data LAN (DATA LAN)
  - **When connected:** Blue
  - **When not connected:** Red and blue flashing
- Peripheral LAN (PERIPH LAN)
  - **When connected:** Amber
  - **When not connected:** Not shown

If the connection between the menu panel and another panel is broken, it does not appear.

Appendix (Volume 2)

Simple Connection of the MKS-8080/8082 AUX Bus Remote Panel

Procedure for Simple Connection

To connect the MKS-8080/8082 AUX Bus Remote Panel to the center control panel using an S-Bus data link requires a BKPF-R70A Routing Switcher Controller Board or similar primary station and various settings for connection.
However, using a simple connection, the need for an S-Bus data link primary station is avoided, and direct connection to the MKS-8080/8082 is possible.
A simple connection is possible if the following conditions are met:

- There are no devices other than the center control panel and MKS-8080/8082 connected on the S-Bus data link.
- There are no more than 16 MKS-8080/8082 units connected on the S-Bus data link.

To carry out simple connection of the MKS-8080/8082 AUX Bus Remote Panel, use the following procedure.
For settings on the MKS-8080/8082, see the section "Making the Setting With Buttons (Setup Function)" in the Operation Manual for the MKS-8080/8082.

1 Carry out initialization of the MKS-8080/8082 settings.
This can be done on the MKS-8080/8082 separately.

2 Set the MKS-8080/8082 station number in the range 2 to 17.
This can be done on the MKS-8080/8082 separately.

3 Set the S-Bus data link primary station to the center control panel by setting the STATION ID switches on the front of the board in the SCU SLOT 1 to 001 (switch 1 only to the OPEN position).

System control unit	Board	STATION ID switches
MKS-8010A	FP-141	S108
MKS-8010B	CA-76	S9108

4 In the Engineering Setup >System >Initialize menu, select PNL, and carry out a reset.

This carries out a restart, and when the restart is completed connection to the MKS-8080/8082 is possible.

5 In the Engineering Setup >Router/Tally >Router menu, set the position of the MVS-8000X system in S-Bus space.

Select the setting from SWR1 and SWR2, and set each of Source, Destination, and Level to 1.

Setting Status of the MKS-8080/8082 in Simple Connection

As a result of making the simple connection, the MKS-8080/8082 operates in AUX bus mode, and the settings are the following factory defaults.
With regard to the meaning of the following settings, see the section "Menu Operations" in the Operation Manual for the MKS-8080/8082.

C: SET SWITCHER ID (for AUX mode)

This is set to 001, which is the station number of the center control panel.

D: SET AUX DESTINATION/SOURCE (for AUX mode)

The source is set to IN001 and following, and destination is set to OUT001 and following.

H: SET PHANTOM TABLE (for Router mode)

This is 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 router 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-8000X inputs and outputs can be selected.

Y: SET DISPLAY MODES
The DISPLAY MODES/PANEL FUNCTION setting is set to NORMAL.
The TALLY GROUP setting is set to be the same as the setting in Engineering Setup >Router/Tally >Tally Group on the MVS-8000X.

Z: SET PANEL STATUS
The various settings are the same as the factory default settings.

Macro File Editing Rules

When editing a macro file, follow the rules described below.

Macro File Syntax

The macro file syntax is as follows.

File format
The file is in CSV (comma-separated value) format.

Newline code
CR (ASCII code 0D), LF (ASCII code 0A), or CRLF may be used.

Statement syntax
There are four types of statement, each terminated by a newline code.

File header: This must always appear as the first line of the file. It comprises 28 characters, as follows.
Example: PNL (space)
0001PNL_rrrr.PMRnnnnnnnn
rrrr: macro register number (0001 to 0099)
nnnnnnnn: In a file created on the switcher, this is a register name automatically set by the switcher. When creating a new file, it is recommended to set this to be the same as the file name *(see page 254)*.
The name is limited to eight characters.
The following characters may not be used.
space, \, /, :, ;, , (comma), . (dot), <, >, *, ?, “ ”

Comment: Begins with “#”. The content of the line following the “#” up to the next newline has no effect on macro execution, and can be used as a comment.

Notes

You can only use comments in files saved to the hard disk or a memory card. When you load a macro file into a register, the comments are discarded.

Event statement: Begins with “Event?”, and defines the macro event.

For details, see next item, “Syntax of Event and Continue Statements.”

Continue statement: Begins with “Continue?”, and defines the macro event.

For details, see next item, “Syntax of Event and Continue Statements.”

Some events cannot be used *(see page 255)*.

Syntax of Event and Continue Statements

An event can be written with an Event statement only, or with an Event statement followed by any number of Continue statements. The Event statements and Continue statements have the following syntax.

Word separator character

Use “,” (comma).

Ignored

Spaces and tabs are ignored. There is no distinction between lowercase and uppercase. If two or more separator characters appear consecutively, later ones are ignored. Separator characters at the beginning of a line are also ignored.

Content of line

Must begin with “Event?” or “Continue?”, followed by symbols and parameters.

Event?,[symbol], [parameter], [parameter], ...
Continue?,[symbol], [parameter], [parameter], ...

symbol: ASCII character string showing the type of event *(see page 255)*.

parameter: Shows details of an event. Consists of parameter names and arguments, and these must appear in pairs. The number and type of parameters depends on the event *(see page 256)*.
If the same parameter appears twice or more, the last occurrence is valid.

How to use Continue statements

When a single parameter has more than one argument, use a Continue statement. The following example is of a snapshot event.

An event to recall a snapshot in region M/E-1 is written as:

Event?,Snapshot,Region?,ME1,Register?,1,Attribute?,Off,Time?,Current

In the Event statement, only one region can be specified. To specify both regions M/E-1 and DME1, use a Continue statement, thus:

Event?,Snapshot,Region?,ME1,Register?,1,Attribute?,Off,Time?,Current
Continue?,Snapshot,Region?,DME1,Register?,1,Attribute?,Off,Time?,Current

To specify more than one argument for a region parameter, follow the Event statement by a Continue statement on the next line.

File Name

Set the file name as follows.

Example: nnnnnnnn.PNL_rrrr.PMR

nnnnnnnn: In a file created on the switcher, this is a register name automatically set by the switcher.
The name is limited to eight characters.
The following characters may not be used.
space, \, /, :, ;, , (comma), . (dot), <, >, *, ?, “ ”

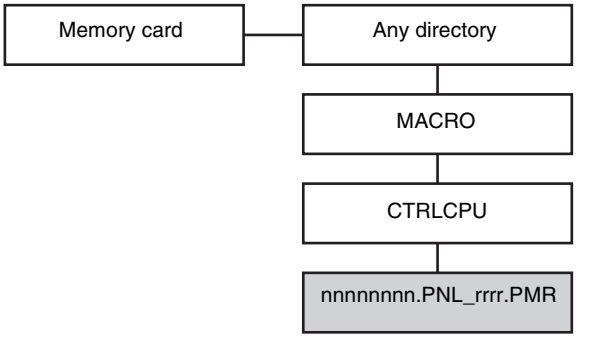
rrrr: macro register number (0001 - 0099)

Saving and Recalling a File

For a newly created file, if you create a directory on the memory card *(see figure below)*, and move the file to the prescribed location, you can then recall it in the File >All, External File menu.

Notes

When amending a file saved on the switcher, be sure to save it in the original directory.



Path example: Memory Card\Sample\MACRO\CTRLCPU\nnnnnnnn.PNL_rrrr.PMR

Errors

If any of the following problems occur, it is not possible to recall the file. Attempting to recall the file will produce an error message *(see page 272)*.

- If there is a syntax error.
- If a required parameter is not present.

Correspondence Between Events and Symbols

For details of events, see "Events" (page 90).

Event	Symbol	Using Continue
Cross-point selection in the auxiliary bus control block	AuxXpt	No
Cross-point selection in the auxiliary bus control block in router control mode	RouterXpt	Yes
Cross-point selection in the cross-point control block	MEXpt	Yes
Auto transition and take in the transition execution section	MEAutoTransition	Yes
Cut in the transition execution section	MECut	No
Transition type selection	TransitionType	No
Next transition setting	NextTransition	No
Pattern limit on/off	PatternLimit	No
Fade-to-black execution	FadeToBlack	No
Auto transition and take in the independent key transition execution section	KeyAutoTransition	Yes
Key insertion and deletion in the independent key transition execution section	KeyCut	Yes
Independent key transition type selection	KeyTransitionType	No
VTR/DDR/clip start point setting	StartTc	Yes
VTR/DDR/clip playback	Play	Yes
VTR/DDR/clip stop	Stop	Yes
VTR/DDR/clip cue-up	Cue	Yes
VTR/DDR/clip fast forward	FF	Yes
VTR/DDR/clip rewind	Rewind	Yes
Disk recorder/Extended VTR file recall	DiskFileLoad	No
Recall snapshot	Snapshot	Yes
Recall key snapshot	KeySnapshot	Yes
Recall wipe snapshot	WipeSnapshot	Yes
Recall DME wipe snapshot	DMEWipeSnapshot	Yes
Recall shotbox	Shotbox	No
Recall master snapshot	MasterSnapshot	No
Recall master timeline	MasterTimelineRecall	No
Recall effect	TimelineRecall	Yes
Execute effect	TimelineRun	Yes
Rewind keyframe	TimelineRewind	Yes
Fast forward effect	TimelineFF	Yes
Effect execution direction selection (normal)	TimelineDirectionNormal	Yes
Effect execution direction selection (reverse)	TimelineDirectionReverse	Yes
Effect execution direction selection (normal/reverse on)	TimelineNormalReverseOn	Yes
Effect execution direction selection (normal/reverse off)	TimelineNormalReverseOff	Yes
Pause [a)]	Pause	No
Recall of function assigned to memory recall button/user preference button	UtilityButton	No
Recall of function assigned to the key 2 row cross-point buttons	Key Bus Utility Button	No
Frame memory clip loop on/off	FMLoop	Yes
Menu macro recall and execution	MenuMacroRun	No
Recall of frame memory clip	ClipRecall	No

Event	Symbol	Using Continue
Record with device	DeviceRecord	Yes

a) For details of pause events, see *"Macro Execution" (page 92).*

Symbols and Parameters

n: indicates a numeral 0 to 9.

x: indicates an alphanumeric character.

Symbol	Parameter name	Arguments	Description
MEXpt	ME?	ME1 to ME4, PP	Control blocks on the applicable bank
	MEBus?	A, B, Key1 to Key8, Key1Source to Key8Source, Utility1, Utility2, DMEExternalVideo	Applicable bus
	Xpt?	1 to 300	Main table cross-point button number set in the Xpt Assign menu
	VideoKey?	Video, Key	Signal type selected on the applicable bus (video signal or key signal)
AuxXpt	AuxBus?	EditPreview, AUX1 to AUX48, FrameMemory1, FrameMemory2, DME1Video to DME8Video, DME1Key to DME8Key, DME1Video2nd to DME8Video2nd (a), DME1Key2nd to DME8Key2nd (b), DMEUtility1, DMEUtility2, CCR1, CCR2	Applicable AUX bus (a): DMEnVideo2nd= Bus for selecting back video signal of DMEn channel (n=1 to 8), (b): DMEnKey2nd= Bus for selecting back key signal of DMEn channel (n=1 to 8)
	Xpt?	1 to 300	Cross-point button number in the main table set in the Xpt Assign menu
	VideoKey?	Video, Key	Type of signal (video signal or key signal) to be selected on the applicable bus
MEAutoTransition	ME?	ME1 to ME4, PP	Control blocks on the applicable bank
	Time?	Current (a), 0 to 999	Transition rate (number of frames) (a): Mode in which the current value set on the transition control block is used
	ABusXpt?	Current (a), 1 to 300	A bus or B bus cross-point button number. Use the button number of the main table set in the Xpt Assign menu. (a): Mode in which the cross-point number set for the current A bus or B bus is used
	BBusXpt?	Current (a), 1 to 300	
MECut	ME?	ME1 to ME4, PP	Control blocks on the applicable bank
KeyAutoTransition	ME?	ME1 to ME4, PP	Control blocks on the applicable bank
	Key?	Key1 to Key8	Key of the applicable independent key transition control block
	Time?	Current (a), 0 to 999	Transition rate (number of frames) (a): Mode in which the current value set on the independent key transition control block is used
	Direction?	ToOn (a), ToOff (b), Any (c)	Transition execution mode (a): Key is inserted (b): Key is deleted (c): Transition is always executed

Symbol	Parameter name	Arguments	Description
KeyCut	ME?	ME1 to ME4, PP	Control blocks on the applicable bank
	Key?	Key1 to Key8	Key of the applicable independent key transition control block
	Direction?	ToOn (a), ToOff (b), Any (c)	Transition execution mode (a): Key is inserted (b): Key is deleted (c): Transition is always executed
Play	Device?	1 to 12, FrameMemory1Clip to FrameMemory8Clip	Applicable device
	Mode?	Normal (a), Recue (b), Loop (c)	Playback mode (a): Normal mode As for Frame Memory 1 Clip to Frame Memory 8 Clip, settings are ignored and operation mode is fixed to “Normal.” (b): Recue mode (c): Loop mode
Cue	Device?	1 to 12, FrameMemory1Clip to FrameMemory8Clip	Applicable device
	Timecode?	Current (a), hh:mm:ss:ff	Start point timecode hh=hours (00 to 23) As for Frame Memory 1 Clip to Frame Memory 8 Clip, hh is fixed to “01.” mm=minutes (00 to 59) ss=seconds (00 to 59) ff=frames (00 to 29) (a): Mode in which the currently set timecode is used
Stop	Device?	1 to 12, FrameMemory1Clip to FrameMemory8Clip	Applicable device
FF	Device?	1 to 12, FrameMemory1Clip to FrameMemory8Clip	Applicable device
Rewind	Device?	1 to 12, FrameMemory1Clip to FrameMemory8Clip	Applicable device
DiskFileLoad	Device?	1 to 12	Applicable device
	FileName?	File Name	Name of file being set (max. 23 characters)
Snapshot	Region?	ME1 to ME4, PP, User1 to User8, DME1 to DME8, Router	Applicable region
	Register?	1 to 99	Applicable register number
	Attribute?	Off, Dissolve, AutoTransition, Dissolve&AutoTransition	Applicable snapshot attributes
	Time?	Current (a), 0 to 999	Duration of effect dissolve (number of frames) (a): Mode in which the currently set value is used
KeySnapshot	ME?	ME1 to ME4, PP	Control blocks on the applicable bank
	Key?	Key1 to Key8	Applicable key
	Register?	1 to 4	Applicable register number

Symbol	Parameter name	Arguments	Description
WipeSnapshot	ME?	ME1 to ME4, PP	Control blocks on the applicable bank
	Register?	1 to 10	Applicable register number
DMEWipeSnapshot	ME?	ME1 to ME4, PP	Control blocks on the applicable bank
	Register?	1 to 10	Applicable register number
TimelineRecall	Region?	ME1 to ME4, PP, User1 to User8, DME1 to DME8, PBus, Device1 to Device12, GPI	Applicable region
	Register?	1 to 399	Applicable register number
TimelineRun	Region?	ME1 to ME4, PP, User1 to User8, DME1 to DME8, PBus, Device1 to Device12, GPI, Current (a)	Applicable region (a): Mode in which operation takes place in the region currently specified in the numeric keypad control block
TimelineRewind	Region?	ME1 to ME4, PP, User1 to User8, DME1 to DME8, PBus, Device1 to Device12, GPI, Current (a)	Applicable region (a): Mode in which operation takes place in the region currently specified in the numeric keypad control block
TimelineFF	Region?	ME1 to ME4, PP, User1 to User8, DME1 to DME8, PBus, Device1 to Device12, GPI, Current (a)	Applicable region (a): Mode in which operation takes place in the region currently specified in the numeric keypad control block
Shotbox	Register?	1 to 99	Applicable register number
Pause	Time?	0 to 999	Time for which macro is paused (number of frames)
StartTc	Device?	1 to 12, FrameMemory1Clip to FrameMemory8Clip	Applicable device
MasterSnapshot	Register?	1 to 99	Applicable register number
MasterTimelineRecall	Register?	1 to 99	Applicable register number
RouterXpt	DestinationButton?	1 to 128	Router cross-point button
	Source?	1 to 1024	Router source number
	Level?	1 to 8	Router level selection
PatternLimit	ME?	ME1 to ME4, PP	Control blocks on the applicable bank
	Status?	ToOn (a), ToOff (b), Any (c)	Pattern limit status (a): Pattern limit applies (b): Pattern limit does not apply (c): The pattern limit status always changes
TransitionType	ME?	ME1 to ME4, PP	Control blocks on the applicable bank
	TransitionType?	Mix, NAM, SuperMix, PresetColorMix, Wipe, DMEWipe, FM1&2Clip, FM3&4Clip, FM5&6Clip, FM7&8Clip	Transition type
KeyTransitionType	ME?	ME1 to ME4, PP	Control blocks on the applicable bank
	Key?	Key1 to Key8	Key of the applicable independent key transition control block
	Direction?	On (a), Off (b), Any (c)	Independent key transition execution mode (a): Key is inserted (b): Key is deleted (c): Transition is always executed
	KeyTransitionType?	Mix, Wipe, DMEWipe, Cut	Transition type of the independent key transition control block

Symbol	Parameter name	Arguments	Description
NextTransition	ME?	ME1 to ME4, PP	Control blocks on the applicable bank
	All?	On, Off	Applicable next transition
	KeyPriority?	On, Off	Applicable next transition
	BKGD?	On, Off	Applicable next transition
	Key1? to Key8?	On, Off	Applicable next transition
FadeToBlack	Time?	Current (a), 1 to 999	Transition rate (number of frames) (a): Mode in which the current value set on the fade to black control block is used
TimelineDirectionNormal	Region?	ME1 to ME4, PP, User1 to User8, DME1 to DME8, PBus, Device1 to Device12, GPI, Current (a)	Applicable region (a): Mode in which operation takes place in the region currently specified in the numeric keypad control block
TimelineDirectionReverse	Region?	ME1 to ME4, PP, User1 to User8, DME1 to DME8, PBus, Device1 to Device12, GPI, Current (a)	Applicable region (a): Mode in which operation takes place in the region currently specified in the numeric keypad control block
TimelineNormalReverseOn	Region?	ME1 to ME4, PP, User1 to User8, DME1 to DME8, PBus, Device1 to Device12, GPI, Current (a)	Applicable region (a): Mode in which operation takes place in the region currently specified in the numeric keypad control block
TimelineNormalReverseOff	Region?	ME1 to ME4, PP, User1 to User8, DME1 to DME8, PBus, Device1 to Device12, GPI, Current (a)	Applicable region (a): Mode in which operation takes place in the region currently specified in the numeric keypad control block
UtilityButton	UtilityModule?	UserPrefs, UtilityBox	Applicable control block
	Button?	1 to 96	Applicable button
	UtilityStatus?	On, Off, Current (a)	Status of function assigned to button (a): Operates according to currently assigned function
FMLoop	Device?	FrameMemory1Clip to FrameMemory8Clip	Applicable clip
	FMLoopMode?	On (a), Off (b)	Frame memory clip loop on/off (a): Loop is enabled (b): Loop is disabled
MenuMacroRun	Register?	1 to 99	Applicable register number
KeyBusUtilityButton	ME?	ME1 to ME4, PP	Control blocks on the applicable bank
	BANK?	Bank1 to Bank5	Applicable bank
	KeyBusUtilityButton?	1 to 32	Applicable button
	UtilityStatus?	On, Off, Current (a)	Status of function assigned to button (a): Operates according to currently assigned function
ClipRecall	Device?	FrameMemory1Clip to FrameMemory8Clip	Applicable clip
	ClipType?	Pair, Single	File type of clip (pair/single)
	Clip?	Clip Name	Name of clip (up to four characters)
Device Record	Device?	1 to 12	Applicable device

Example of File Contents

Line	Content	Description
1	PNL 0001PNL_0000.PMRMACROREG	File header

Line	Content	Description
2	#,Sample,	Comment
3	Event?,Snapshot,Region?,ME1,Register?,1,Attribute?,Off,Time?,Current	Simultaneously recall snapshots from register number 1 in the M/E-1 and DME1 regions.
4	Continue?,Snapshot,Region?,DME1,Register?,1,Attribute?,Off,Time?,Current	
5	Event?,MEXpt,ME?,ME2,MEBus?,A,Xpt?,121,VideoKey?,Video	Select button number 121 on the M/E-2 A bus.

About the Macro Attachment List Display

The Button column in the macro attachment list displayed in the status area of the Macro >Attachment menu screen shows character strings which identify macro attachment assigned buttons. Each of these character strings is in fact a combination of characters shown in the Button(1), Button(2), and Button(3) columns in the following tables. For example, if Block and Button(1) to Button(3) are combined as:
Block: P/P XPT
Button(1): UTIL1 Bus
Button(2): V
Button(3): XPT2
The Button column in the macro attachment list in the Macro >Attachment menu screen shows "UTIL1 Bus V XPT2," which means "utility 1 bus, video signal, cross-point number 2."

M/E and PGM/PST Banks

The following table shows only the macro attachment assignable buttons in the PGM/PST bank.
For the M/E-1 (M/E-2 to M/E-4) bank, "P/P" in the Block Select and Block columns changes to "M/E-1" ("M/E-2" to "M/E-4") and "DSK" in the Button(1) and Button(2) columns changes to "KEY." The contents of the Button(3) column do not change.

Block Select:P/P, Block:P/P XPT

Button (1)	Button (2)	Button (3)
A Bus B Bus DSK1 Bus : DSK8 Bus	(nothing) Shift	XPT 1 : XPT 128 M/E 1 M/E 2 M/E 3 P/P
DSK1 Src Bus : DSK8 Src Bus	V K V Shift K Shift	
Sub A Bus Sub B Bus Sub DSK1 Bus : Sub DSK8 Bus Main&Sub A Bus Main&Sub B Bus Main&Sub DSK1 Bus : Main&Sub DSK8 Bus	(nothing) Shift	
Sub DSK1 Src Bus : Sub DSK8 Src Bus Main&Sub DSK1 Src Bus : Main&Sub DSK8 Src Bus	V K V Shift K Shift	
UTIL1 Bus UTIL2 Bus EXT DME Bus DMEUtility1 DMEUtility2 Sub UTIL1 Bus Sub UTIL2 Bus Sub EXT DME Bus Main&Sub UTIL1 Bus Main&Sub UTIL2 Bus Main&Sub EXT DME Bus	V K V Shift K Shift	
Dual A Bus Dual B Bus Sub Dual A Bus Sub Dual B Bus Main&Sub Dual A Bus Main&Sub Dual B Bus	V Shift	
Utility/Shotbox Sub Utility/Shotbox Main&Sub Utility/Shotbox	Bank 1-1 : Bank 1-32 Bank 2-1 : Bank 2-32 Bank 3-1 : Bank 3-32 Bank 4-1 : Bank 4-32 Bank 5-1 : Bank 5-32	(nothing)

Block Select:P/P, Block:P/P Trans

Button (1)	Button (2)	Button (3)
(blank) DSK1 : DSK8 Sub Sub DSK1 : Sub DSK8 Main&Sub Main&Sub DSK1 : Main&Sub DSK8	MIX a) NAM a) SUPER MIX a) PST COLOR MIX a) WIPE a) DME a) TAKE b) DSK_ON c) AUTO TRANS d) CUT d) ALL a) d) KEY PRIOR a) d) BKGD a) d) DSK1 a) d) : DSK4 a) d) NORM a) d) NORM/REV a) d) REV a) d) PTN LIMIT a) c) LIMIT SET a) c) KF a) c) PTN LIMIT b) Fader PRIOR SET a) c) TRANS PVW a) c) K-SS c) e) K-SS STORE c) e) K-MOD ENBL c) e) K-TR ENBL c) e) DSK1 c) e) : DSK4 c) e)	(nothing)

a) These buttons can be assigned with their functions in the setup menu. They can be assigned with any of the following functions: transition type selection (MIX, NAM, SUPER MIX, PST COLOR MIX, WIPE, DME, FM1&2, FM3&4, FM5&6, FM7&8), next transition selection (BKGD, DSK1 to DSK8, PRIOR, ALL), wipe direction selection (NORM, NORM/REV, REV), PLAY, CUEUP, STOP, and PTN LIMIT.
b) For the simple type transition control block.
c) For the standard type transition control block.
d) For the standard type or compact type transition control block.
e) These buttons can be assigned with their functions in the setup menu. Thy can be assigned with any of: MIX, WIPE, and DME.

Block Select:P/P, Block:P/P Key Trans

Button (1)	Button (2)	Button (3)
DSK1 : DSK8 Sub DSK1 : Sub DSK8 Main&Sub DSK1 : Main&Sub DSK8	MIX WIPE DME CUT TAKE DSK_ON	(nothing)

Auxiliary Bus Control Block

Block Select:Aux, Block:AUX-1, AUX-2

Button (1)	Button (2)	Button (3)
EDIT PVW AUX 1 : AUX 48 FM1 FM2	V K V Shift K Shift V 2nd Row K 2nd Row V 2nd Row Shift K 2nd Row Shift	XPT 1 : XPT 128 M/E 1 M/E 2 M/E 3 P/P
DME1V : DME8V DME1K : DME8K	(nothing) Shift 2nd Row 2nd Row Shift	
DMEUtility1 DMEUtility2	V K V Shift K Shift V 2nd Row K 2nd Row V 2nd Row Shift K 2nd Row Shift	
DME1V2nd : DME8V2nd DME1K2nd : DME8K2nd	(nothing) Shift 2nd Row 2nd Row Shift	
CCR1 CCR2 P/P UTIL1 P/P UTIL2 M/E-1 UTIL1 M/E-1 UTIL2 M/E-2 UTIL1 M/E-2 UTIL2 M/E-3 UTIL1 M/E-3 UTIL2 M/E-4 UTIL1 M/E-4 UTIL2	V K V Shift K Shift V 2nd Row K 2nd Row V 2nd Row Shift K 2nd Row Shift	
DSK1 : DSK8 M/E-1 KEY1 : M/E-1 KEY8 M/E-2 KEY1 : M/E-2 KEY8 M/E-3 KEY1 : M/E-3 KEY8 M/E-4 KEY1 : M/E-4 KEY8	(nothing) Shift 2nd Row 2nd Row Shift	

Button (1)	Button (2)	Button (3)
DSK1 Src : DSK8 Src M/E-1 KEY1 Src : M/E-1 KEY8 Src M/E-2 KEY1 Src : M/E-2 KEY8 Src M/E-3 KEY1 Src : M/E-3 KEY8 Src M/E-4 KEY1 Src : M/E-4 KEY8 Src P/P EXT DME M/E-1 EXT DME M/E-2 EXT DME M/E-3 EXT DME M/E-4 EXT DME	V K V Shift K Shift V 2nd Row K 2nd Row V 2nd Row Shift K 2nd Row Shift	XPT 1 : XPT 128 M/E 1 M/E 2 M/E 3 P/P

Other Blocks

Block Select: Others, Block:Keyframe

Button (1)	Button (2)	Button (3)
RUN REWIND FF NORM REV NORM/REV	(nothing)	(nothing)

Block Select: Others, Block:Multi Function Flexi Pad [a)]

Button (1)	Button (2)	Button (3)
DSK1 : DSK8 M/E-1 KEY1 : M/E-1 KEY8 M/E-2 KEY1 : M/E-2 KEY8 M/E-3 KEY1 : M/E-3 KEY8 M/E-4 KEY1 : M/E-4 KEY8 Sub DSK1 : Sub DSK8 M/E-1 Sub KEY1 : M/E-1 Sub KEY8 M/E-2 Sub KEY1 : M/E-2 Sub KEY8 M/E-3 Sub KEY1 : M/E-3 Sub KEY8 M/E-4 Sub KEY1 : M/E-4 Sub KEY8	AUTO TRANS KEY_ON	(nothing)
EFF	RUN REWIND NORM REV NORM/REV	

a) The Multifunction Flexi Pad control block appears as “10KeyPad.”

Block Select: Others, Block:Joystick, Trackball

Button (1)	Button (2)	Button (3)
DEV	CLR WORK BUFR (CUEUP) Y (PLAY) TRGT (STOP) AXIS LOC (START TC)	(nothing)

Block Select: Others, Block:Device Control

Button (1)	Button (2)	Button (3)
(nothing)	CUEUP PLAY STOP START TC	(nothing)

Block Select: Others, Block:Utility Box 1, Utility Box 2, Menu

Button (1)	Button (2)	Button (3)
Utility 1 : Utility 96	(nothing)	(nothing)

Block Select: Others, Block:DSK/FTB

Button (1)	Button (2)	Button (3)
Key1 Key2	AUTO TRANS KEY_ON FTB	(nothing)

Block Select: Others, Block:FTB

Button (1)	Button (2)	Button (3)
(blank)	FTB	(nothing)

Block Select: Others, Block:DSK Fader 1 to DSK Fader 4

Button (1)	Button (2)	Button (3)
P/P M/E1 M/E2 M/E3 M/E3	KEY1 : KEY8	MIX WIPE DME CUT TAKE KEY_ON

Menu Operations Not Recorded in a Menu Macro

The menu operations not recorded in a menu macro comprise some operations common to all menus and some operations inhibited in individual menus.

Operations not recorded in menu macros, common to all menus

- Recalling a menu
- Delegation operations: region selection, channel delegation, operations assigning a parameter to a knob, and so forth
- Parameter setting operations using the knobs, trackball, or joystick (value input operations from the numeric keypad are recorded)

Operations not recorded in menu macros, in individual menus

Menu number	Menu including operations not recorded
0011 to 0023	All menus under Home
2544	FrameMemory >File >Move
2545	FrameMemory >File >Delete
2546	FrameMemory >File >Rename
2551	FrameMemory >File >Folder
2561	FrameMemory >External Device >Format
2562	FrameMemory >External Device >Backup/Restore
5333	Device >DDR/VTR >File List
5412 to 5437	All menus under Macro
7111 to 7172	All menus under File
7311 to 7317.1	All menus under Engineering Setup >System
7327	Engineering Setup >Panel >Maintenance

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

This section lists the data saved in the Engineering Setup >System >Start Up menu, by each of [Setup Define] and [Initial Status Define].

Data Saved by [Setup Define]

Included in Panel Setup

Menu number	Menu path	Saved data
0022	Home >Favorites >Group Edit	All data relating to Group Edit menu
0023	Home >Favorites >Button Edit	All data relating to Button Edit menu
7321	Engineering Setup >Panel >Config	All data relating to Config menu
7321.1	Engineering Setup >Panel >Config >DSK Fader Assign	All data relating to DSK Fader Assign menu
7321.2	Engineering Setup >Panel >Config >Link/Program Button >Key Trans Link	All data relating to Key Trans Link menu
7321.3	Engineering Setup >Panel >Config >Link/Program Button >External Bus Link	All data relating to External Bus Link menu
7321.7	Engineering Setup >Panel >Config >10 Key Region Assign	All data relating to 10 Key Region Assign menu
7321.8	Engineering Setup >Panel >Config >Link/Program Button	All data relating to Link/Program Button menu
7321.11	Engineering Setup >Panel >Config >MP2 Main/Sub Assign	All data relating to MP2 Main/Sub Assign menu
7321.15	Engineering Setup >Panel >Config >Compact Key Module Assign	All data relating to Compact Key Module Assign menu
7321.26	Engineering Setup >Panel >Config >M/E Operation Inhibit	All data relating to M/E Operation Inhibit menu
7321.31	Engineering Setup >Panel >Config >JS/TB User Setting	All data relating to JS/TB User Setting menu
7322	Engineering Setup >Panel >Xpt Assign	Data relating to Table assignments for each bus [Audio Follow] setting
7322.1	Engineering Setup >Panel >Xpt Assign >Table Button Assign	All data relating to Table Button Assign menu
7322.5	Engineering Setup >Panel >Xpt Assign >Main,V/K Pair Assign	<Xpt Shift Mode> And <Display Shift Mode> Group Data
7322.10	Engineering Setup >Panel >Side Flags Button Assign	All data relating to Side Flags Button Assign menu
7322.11	Engineering Setup >Panel >Xpt Assign >Mixer Xpt Assign	All data relating to Mixer Xpt Assign menu
7323	Engineering Setup >Panel >Aux Assign	Data relating to bus assignment to AUX delegation buttons
7323.1	Engineering Setup >Panel >Aux Assign >RTR Mode Setting	All data relating to RTR Mode Setting menu
7324	Engineering Setup >Panel >Prefs/Utility	All data relating to function assignment to user preference buttons

Menu number	Menu path	Saved data
7324.1	Engineering Setup >Panel >Prefs/Utility >Utility Module Assign	All data relating to function assignment to utility/ shotbox control block
7324.2	Engineering Setup >Panel >Prefs/Utility >Key 2/4 Bus Button Assign	All data relating to utility/shotbox assignment to cross-point buttons in the key 2 row
7325	Engineering Setup >Panel >Device Interface	All data relating to Device Interface menu
7325.1	Engineering Setup >Panel >Device Interface >GPI Input	All data relating to GPI Input menu
7325.3	Engineering Setup >Panel >Device Interface >GPI Output	All data relating to GPI Output menu
7325.4	Engineering Setup >Panel >Device Interface >DCU Serial Port/MPE Assign	All data relating to DCU Serial Port/MPE Assign menu
7326	Engineering Setup >Panel >Operation	All data relating to Operation menu
7326.2	Engineering Setup >Panel >Operation >Effect Mode	All data relating to Effect Mode menu (excluding [Default KF Duration] setting values)
7326.3	Engineering Setup >Panel >Operation >Flexi Pad Mode	All data relating to Flexi Pad Mode menu
7326.4	Engineering Setup >Panel >Operation >Custom Button	All data relating to Custom Button menu
7326.5	Engineering Setup >Panel >Operation >Sensitivity	All data relating to Sensitivity menu
7326.6	Engineering Setup >Panel >Operation >Macro	All data relating to Macro menu
7326.9	Engineering Setup >Panel >Operation >ButtonTally	All data relating to ButtonTally menu
7326.12	Engineering Setup >Panel >Operation >Key Row Operation	All data relating to Key Row Operation menu
7327	Engineering Setup >Panel >Maintenance	• Setting data for the following buttons: - [Screen Saver] - [LCD Brightness] - [LED Brightness] - [Switch Brightness] - [Touch Beep] • Setting data for Initial Menu
7351 to 7355	Engineering Setup >DCU	All data relating to DCU
7361 to 7367	Engineering Setup >Router/Tally	All data relating to router interface and tally interface
7371 to 7373	Engineering Setup >MPE	All data relating to MPE
—	—	Data of Color Palette window

Included in Switcher Setup

Menu number	Menu path	Saved data
3221	Misc >Safe Title	All data relating to Safe Title menu
7322.5	Engineering Setup >Panel >Xpt Assign >Main,V/K Pair Assign	Cross-point assignment settings (excluding <Xpt Shift Mode> and <Display Shift Mode> groups)
7322.6	Engineering Setup >Panel >Xpt Assign >Src Name/ LCD Color	• Names of source signals • Color of source name display for each source signal
7326.2	Engineering Setup >Panel >Operation >Effect Mode	Setting of [Default KF Duration] for switcher keyframes
7331 7331.1 7331.2 7331.3	• Engineering Setup >Switcher >Config • Engineering Setup >Switcher >Config >M/E Output Assign • Engineering Setup >Switcher >Config >PGM Config • Engineering Setup >Switcher >Config >K-PVW Config	• All data relating to Config menu • All data relating to M/E Output Assign menu • All data relating to PGM Config menu • All data relating to K-PVW Config menu

Menu number	Menu path	Saved data
7331.4	Engineering Setup >Switcher >Config >User1-8 Config	All data relating to User1-8 Config menu
7331.5	Engineering Setup >Switcher >Config >Logical M/E Assign	All data relating to Logical M/E Assign menu
7331.6	Engineering Setup >Switcher >Config >DME Config	All data relating to DME Config menu
7331.7	Engineering Setup >Switcher >Config >Side Flags	All data relating to Side Flags menu
7331.8	Engineering Setup >Switcher >Config >Switch Timing	All data relating to Switch Timing menu
7331.9	Engineering Setup >Switcher >Config >3D Config	All data relating to 3D Config menu
7332	Engineering Setup >Switcher >Input	All data relating to Input menu
7332.1	Engineering Setup >Switcher >Input >Video Process	All data relating to Video Process menu
7332.2	Engineering Setup >Switcher >Input >FC Adjust	All data relating to FC Adjust menu
7332.3	Engineering Setup >Switcher >Input >FC Input Select	All data relating to FC Input Select menu
7333.1	Engineering Setup >Switcher >Output >Output Assign	All data relating to Output Assign menu
7333.2	Engineering Setup >Switcher >Output >Video Clip	All data relating to Video Clip menu
7333.3	Engineering Setup >Switcher >Output >V Blank/ Through	Setting of [V Blank Mask], and [Through Mode] setting data for each output
7333.4	Engineering Setup >Switcher >Output >Safe Title	All data relating to Safe Title menu
7333.5	Engineering Setup >Switcher >Output >4:3 Crop	All data relating to 4:3 Crop menu
7333.6	Engineering Setup >Switcher >Output >FC Adjust	All data relating to FC Adjust menu
7333.9	Engineering Setup >Switcher >Output >Multi Viewer	All data relating to Multi Viewer menu
7334	Engineering Setup >Switcher >Transition	All data relating to Transition menu
7334.1	Engineering Setup >Switcher >Transition >Preset Color Mix	All data relating to Preset Color Mix menu
7334.2	Engineering Setup >Switcher >Transition >Transition Curve	Setting data for <Fader Curve> group
7335	Engineering Setup >Switcher >Key/Wipe/FM/CCR	All data relating to Key/Wipe/FM/CCR menu
7335.1	Engineering Setup >Switcher >Key/Wipe/FM/CCR >Show Key	All data relating to Show Key menu
7335.2	Engineering Setup >Switcher >Key/Wipe/FM/CCR >Key Auto Drop	All data relating to Key Auto Drop menu
7336.1	Engineering Setup >Switcher >Link >Internal Bus Link	All data relating to Internal Bus Link menu
7336.4	Engineering Setup >Switcher >Link >GPI Link	All data relating to GPI Link menu
7336.6	Engineering Setup >Switcher >Link >M/E Link	All data relating to M/E Link menu
7336.7	Engineering Setup >Switcher >Link >Key Transition Link	All data relating to Key Transition Link menu
7337.1	Engineering Setup >Switcher >Device Interface >Remote Assign	All data relating to Remote Assign menu
7337.2	Engineering Setup >Switcher >Device Interface >GPI Input	All data relating to GPI Input menu
7337.4	Engineering Setup >Switcher >Device Interface >GPI Output	All data relating to GPI Output menu
7337.5	Engineering Setup >Switcher >Device Interface >AUX Control	All data relating to AUX Control menu
7337.7	Engineering Setup >Switcher >Device Interface >DME Type Setting	All data relating to DME Type Setting menu

Menu number	Menu path	Saved data
7337.8	Engineering Setup >Switcher >Device Interface >Editor I/F	All data relating to Editor I/F menu

Inclued in DME Setup

Menu number	Menu path	Saved data
7326.2	Engineering Setup >Panel >Operation >Effect Mode	• Settings relating to [Default KF Duration] for DME keyframes • Setting data for [Effect Auto Save] button
7341	Engineering Setup >DME >Input	All data relating to Input menu
7343.1	Engineering Setup >DME >Output >Monitor Output	All data relating to Monitor Output menu
7344	Engineering Setup >DME >Device Interface	All data relating to Device Interface menu
7344.1	Engineering Setup >DME >Device Interface >DME1 GPI Input	All data relating to DME1 GPI Input menu
7344.3	Engineering Setup >DME >Device Interface >DME1 GPI Output	All settings relating to DME1 GPI Output menu
7344.4	Engineering Setup >DME >Device Interface >DME2 GPI Input	All settings relating to DME2 GPI Input menu
7344.6	Engineering Setup >DME >Device Interface >DME2 GPI Output	All settings relating to DME2 GPI Output menu

Data Saved by [Initial Status Define]

Included in Panel

Menu number	Menu path	Saved data
—	—	Setting data and LCD displays for the following panel buttons • Key Control Block: Delegation buttons, [AUTO DELEG] • Numeric Keypad Control Block: Mode selection buttons, [TC], [RCALL], [STORE] • Menu Control Block: User preference buttons assigned for Plug-in Editor Enbl and System Manager Enbl functions • [SUB MENU SITE] • Utility/Shotbox Control Block: [BANK1] to [BANK4], memory recall button • Downstream Key Control Block: [DSK1] to [DSK4], [K-SS], key source name display/key snapshot buttons • Device Control Block: [RSZR], [ASP], [LOC] • Cross-Point Control Block: [KEY3], [KEY4], Delegation buttons for bus assigned to key 1 row, [DSPLY], [DEST], [KEY], [SHIFT], [UTIL], [MCRO ATTCH ENBL], [DUAL BKGD BUS], [UTIL/SBOX] • Keyframe Control Block: [EDIT ENBL] • Auxiliary Bus Control Block: Bus delegation buttons, [SHIFT], [DEST], [2ND], [KEY], [RTR], [LEVEL1] to [LEVEL4] • Transition Control Block (standard type): [SHIFT], [ADD], [KEY1] to [KEY8], [K-MOD ENBL], [K-TR ENBL], [K-SS], key source name display/key snapshot buttons • Flexi Pad Control Block: [WIPE], [DME], [SNAP SHOT], [EFF], [SHOT BOX], [MCRO], [TRANS RATE], [BANK0], [BANK1], memory recall buttons • Transition Control Block and Flexi Pad Control Block (simple type): [WIPE], [DME], [SNAP SHOT], [INH], memory recall section • Independent Key Transition Control Block (simple type): [K-SS], [K-SS3/4], [KEY1] to [KEY8], key source name display/key snapshot buttons • Downstream Key/Fade-to-Black Control Block: [DSK1], [DSK2], [K-SS], key source name display/key snapshot buttons, Edit PVW Shift ON/OFF • Multifunction Flexi Pad Control Block: [WIPE], [DME WIPE], [SNAP SHOT], [EFF], [SHOT BOX], [MCRO], [TRANS RATE], [KEY ADJ], [KEY SS], memory recall buttons
3211	Misc >Enable >Port Enable >System Manager	All data relating to System Manager menu
3212	Misc >Enable >Plug-In Editor	All data relating to Plug-In Editor menu
6351	Snapshot >Key Snapshot >Attribute	Settings of <Recall Mode> group

Included in Switcher (Same as data saved in Snapshots)

Notes

In Multi Program 2 mode, M/E Config settings are saved in a snapshot when [Recall M/E Config] is set to ON, but are not saved by [Initial Status Define].

Menu number	Menu path	Saved data
—	—	• For each M/E, setting data relating to the following: cross-points, transitions, Key1 to Key8 (including settings in the independent key transition control block), wipes, DME wipes, video processing • Color backgrounds 1/2 • Frame memory • AUX bus (including video processing settings)
3211	Misc >Enable >Port Enable	Setting data for <Switcher> group
3213	Misc >Enable >Side Flags	All data relating to Side Flags menu

Included in DME

Menu number	Menu path	Saved data
3211	Misc >Enable >Port Enable	<DME1> and <DME2> group data
4100	DME >Status	Three-dimensional transformation data
4111	DME >Edge >Border/Crop	All data relating to Border/Crop menu
4112	DME >Edge >Beveled Edge	All data relating to Beveled Edge menu
4121 to 4124	DME >Video Modify	All data relating to Video Modify menu
4131	DME >Freeze >Freeze	All data relating to Freeze menu
4141 (4141.1 to 4141.28)	DME >Non Linear	All data relating to Non Linear menu
4151	DME >Light/Trail >Lighting	All data relating to Lighting menu
4152	DME >Light/Trail >Trail	All data relating to Trail menu
4153	DME >Light/Trail >Motion Decay	All data relating to Motion Decay menu
4154	DME >Light/Trail >KF Strobe	All data relating to KF Strobe menu
4161	DME >Input/Output >Bkgd	All data relating to Bkgd menu
4162	DME >Input/Output >Video/Key	All data relating to Video/Key menu
4163	DME >Input/Output >Process	All data relating to Process menu
4164	DME >Input/Output >Graphic	All data relating to Graphic menu
4211, 4221	Global Effect >Ch1-Ch4 >Combine Priority Global Effect >Ch5-Ch8 >Combine Priority	All data relating to Combine Priority menu
4212, 4222	Global Effect >Ch1-Ch4 >Brick Global Effect >Ch5-Ch8 >Brick	All data relating to Brick menu
4213, 4223	Global Effect >Ch1-Ch4 >Shadow Global Effect >Ch5-Ch8 >Shadow	All data relating to Shadow menu
4113	DME >Edge >Key Border	All data relating to Key Border menu
4114	DME >Edge >Art Edge	All data relating to Art Edge menu
4115	DME >Edge >Flex Shadow	All data relating to Flex Shadow menu
4116	DME >Edge >Wipe Crop	All data relating to Wipe Crop menu
4117	DME >Edge >Color Mix	All data relating to Color Mix menu
4127	DME >Video Modify >Mask	All data relating to Mask menu
4155	DME >Light/Trail >Wind	All data relating to Wind menu

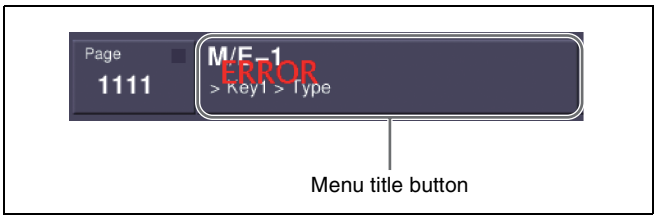
Menu number	Menu path	Saved data
4156	DME >Light/Trail >Spot Lighting	All data relating to Spot Lighting menu
4171	DME >Enhanced Video Modify >Sketch	All data relating to Sketch menu
4172	DME >Enhanced Video Modify >Metal	All data relating to Metal menu
4173	DME >Enhanced Video Modify >Dim & Fade	All data relating to Dim & Fade menu
4174	DME >Enhanced Video Modify >Glow	All data relating to Glow menu

Error Messages

Error messages appear in the following three formats.
- A list display in the Error Status menu (7411)/Error Log menu (7412)
- Message boxes
- List based on the Error Information menu (9900)

Error Messages Displayed in the Error Status/Error Log Menu

When an error occurs, the word “ERROR” appears in red on the menu title button.
When “ERROR” is displayed, pressing the menu title button displays the Error Status menu or Error Log menu.
When an error is current effective: the Error Status menu appears *(see page 272)*.
When an error has already been cleared: the Error Log menu appears *(see page 272)*.



You can select whether or not to indicate the occurrence of an error by the word “ERROR” shown on the menu title button, by setting [Error Popup] in the Error Status menu or Error Log menu.

To display the error status or error log regardless of whether there is currently an error

1 Carry out either of the following.

- Press the [DIAG] button of the top menu selection buttons.
- Press the menu page number button at the upper left of the menu screen, to display the top menu window, then enter 7411 or 7412, and press [Enter].

The Diagnostic menu appears.

2 Press VF1 ‘Error Info.’

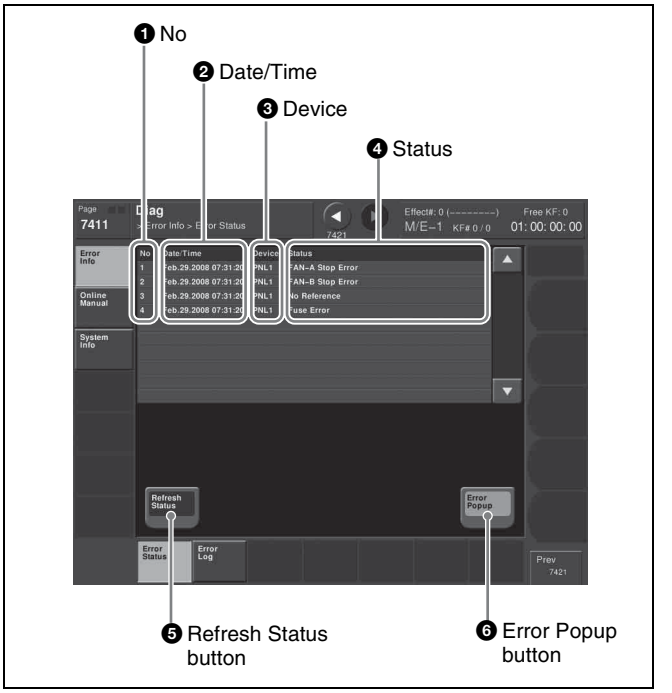
The error information menu appears.

3 Press either of the following buttons.

HF1 ‘Error Status’: display the Error Status menu
HF2 ‘Error Log’: display the Error Log menu

Error Status menu

The Error Status menu lists currently occurring error information, listed with the most recent information at the top.
When an error has been cleared, the error disappears from the list.



❶ No
This is a sequential number assigned to the error status.

❷ Date/Time
This shows the date and time the error occurred.

❸ Device
This shows the device on which the error occurred.

❹ Status
This shows the details of the error.

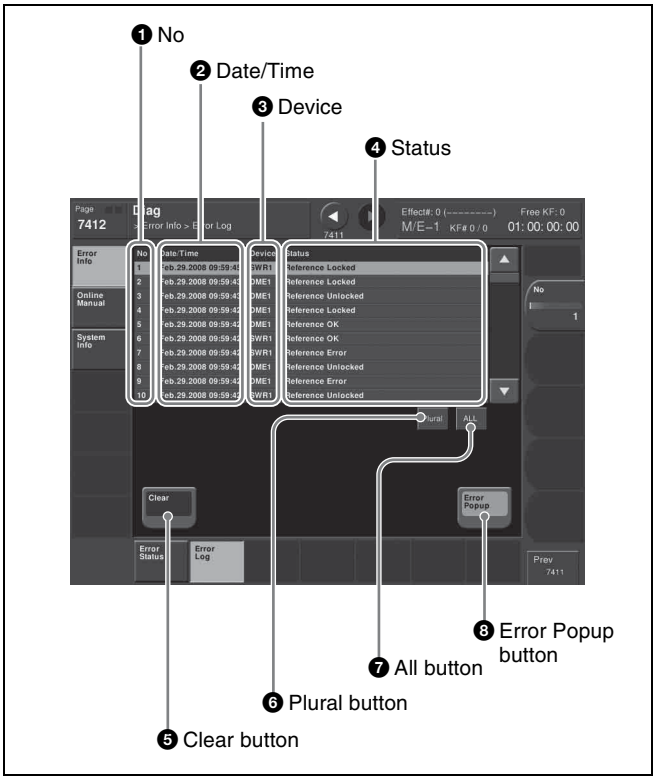
❺ Refresh Status button
This refreshes the list display.

❻ Error Popup button
This selects whether or not to display “ERROR” on the menu title button when an error occurs. This button is linked to the Error Popup button in the error log menu.
On: if a device error occurs, display “ERROR” on the menu title button.
Off: if a device error occurs, do not display “ERROR” on the menu title button.

Error Log menu

The Error Log menu lists changes in the error status from the time that the menu display in the menu operating

section is started up, listed with the most recent information at the top.
A maximum of 1024 error status changes appear, and when the number exceeds 1024, the oldest items disappear from the list.



❶ No
This is a sequential number assigned to the items in the error log.

❷ Date/Time
This shows the date and time the status change occurred.

❸ Device
This shows the device on which the status change occurred.

❹ Status
This shows the details of the status change.
If you press on the list, this switches the display to reverse video, and selects the item. You can also select items in the error log by turning the knob.

❺ Clear button
This deletes the selected error log item from the list.

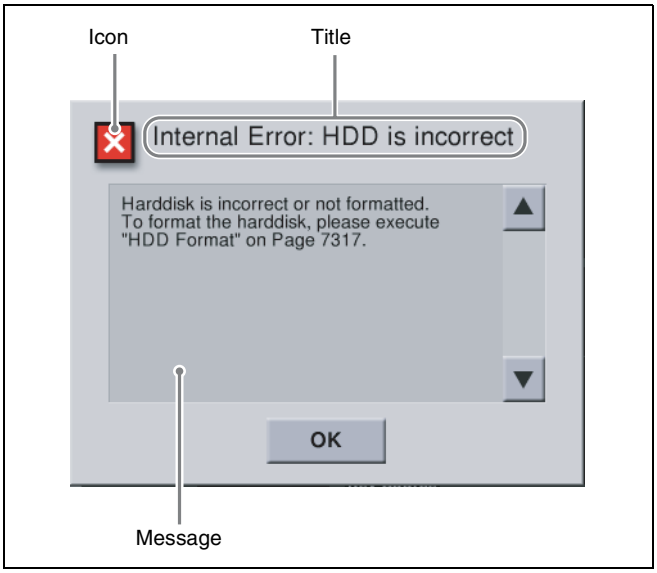
❻ Plural button
When this is on, you can select more than one error log. To cancel the selection, press once again to return to the normal display.

❼ All button
When this is on, all error log items are selected. To cancel the selection, press once again to return to the normal display.

❽ Error Popup button
This selects whether or not to display “ERROR” on the menu title button when an error occurs. This button is linked to the Error Popup button in the error status menu.
On: if a device error occurs, display “ERROR” on the menu title button.
Off: if a device error occurs, do not display “ERROR” on the menu title button.

Error Messages Appearing in a Message Box

Corresponding to the content of the message, an icon appears.



Icon	Message	Description
Activate License		
✕	The license key you entered is invalid. Please check and enter again.	7316.7: Engineering Setup >System >Install/Unit Config >License >License Management In the above menu, since the entered information was incorrect, the Activate License procedure failed. Check the license key, and enter again.
i	License key was successfully entered. The license will be activated after rebooting your system.	7316.7: Engineering Setup >System >Install/Unit Config >License >License Management In the above menu, the Activate License procedure completed successfully.
Append Key Frame		
✕	[Append Key Frame] cannot be executed. FMx is not assigned to a user region.	2515: Frame Memory >Still >Create Key Frame In the above menu, an attempt was made to execute [Append Key Frame], but it failed because the frame memory output (FMx) is not assigned to a user region. 7331.4: Make the assignment in the Engineering Setup >Switcher >Config >User1-8 Config menu, and try again.
✕	[Append Key Frame] cannot be executed. Key Frame Register is locked. (UserX)	2515: Frame Memory >Still >Create Key Frame In the above menu, an attempt was made to execute [Append Key Frame] using a locked register (UserX region). Unlock the register.
✕	[Append Key Frame] cannot be executed. Key Frame Register is busy. (UserX)	2515: Frame Memory >Still >Create Key Frame In the above menu, an attempt was made to execute [Append Key Frame] using a register (UserX region) into which files are being loaded. Try again after file loading has finished.
✕	[Append Key Frame] cannot be executed. Key Frame Register is being edited. (UserX)	2515: Frame Memory >Still >Create Key Frame In the above menu, an attempt was made to execute [Append Key Frame] using a register (UserX region) with which a keyframe creating or editing operation is proceeding. Try again after the keyframe operation has finished.
✕	[Append Key Frame] cannot be executed. Key Frame Register is full. (UserX)	2515: Frame Memory >Still >Create Key Frame In the above menu, an attempt was made to execute [Append Key Frame] using a register (UserX region) in which no keyframe remains.
✕	[Append Key Frame] cannot be executed. Key Frame Register is not active. (UserX)	2515: Frame Memory >Still >Create Key Frame In the above menu, an attempt was made to execute [Append Key Frame] using a register for which the appropriate region selection button in the numeric keypad control block is not selected. Try again after you select the region selection button [UserX] in the numeric keypad control block.
Backup		
i	Success!!	2562: Frame Memory >External Device >Ext HDD Backup/Restore In the above menu, saving files into the external hard disk completed successfully.
i	Success!! But the number of folder exceeds the limit(12) and the files expected for the folders were backed up in the default folder. Or the name was changed because it was the same file name.	2562: Frame Memory > External HDD > Backup/Restore In the above menu, file saving to an external hard disk was successful, but the limit on the number of folders was reached, and therefore files were backed up in the default folder. Alternatively, the file name was changed because a file of the same name already existed.
i	External HDD Backup/Restore is running (–2).	2564: Frame Memory >External Device >Backup to DDR/VTR When [Backup Start] was pressed in the above menu, a backup/restore operation was being executed with the external hard disk.
i	FM file auto extraction is running (–3).	2564:Frame Memory >External Device >Backup to DDR/VTR When [Backup Start] was pressed in the above menu, extraction of frame memory file data onto the VTR was being executed.
i	Clip is recording (–4).	2564:Frame Memory >External Device >Backup to DDR/VTR In the above menu, an external device is recording clips.

Icon	Message	Description
	FM DDR/VTR Backup/Restore is running (–5).	2564:Frame Memory >External Device >Backup to DDR/VTR When [Backup Start] was pressed in the above menu, a backup/restore operation was being executed with the VTR/DDR.
	No external HDD was found (–2).	2562: Frame Memory >External Device >Ext HDD Backup/Restore In the above menu, an attempt was made to execute [Backup] but the external hard disk could not be recognized. Check that the external hard disk is correctly connected.
	Format operation failed (–10). Format operation failed (–11).	2562: Frame Memory >External Device >Ext HDD Backup/Restore When [Backup] was pressed in the above menu, formatting of the hard disk failed.
	Cannot access the partition (–12).	2562: Frame Memory >External Device >Ext HDD Backup/Restore In the above menu, an attempt was made to execute [Backup] but the logical drives of the external hard disk could not be accessed. Check that the external hard disk is correctly formatted.
	Cannot access the directory (–20). Cannot access the directory (–21).	2562: Frame Memory >External Device >Ext HDD Backup/Restore In the above menu, an attempt was made to execute [Backup] but the directory of the external hard disk could not be accessed.
	The external HDD is busy (–22).	2562: Frame Memory >External Device >Ext HDD Backup/Restore In the above menu, an attempt was made to execute [Backup] to the external hard disk which was busy and could not be accessed. Try again after you check that the access lamp of the hard disk or the indicator of the menu is turned off.
	The external HDD is full (–32).	2562: Frame Memory >External Device >Ext HDD Backup/Restore In the above menu, an attempt was made to execute [Backup] to the external hard disk which does not have enough capacity.
	Backup operation failed (–33) Backup operation failed (–34). Backup operation failed (–36).	2562: Frame Memory >External Device >Ext HDD Backup/Restore In the above menu, an attempt was made to execute [Backup] but the file storing process was not completed correctly.
	Cannot be executed. Amount of FM files exceeds the capacity of usable frame memory.	2562: Frame Memory >External Device >Ext HDD Backup/Restore When [Backup] was pressed in the above menu, the number of files exceeded the storage capacity.
	Cannot be executed. The function requires two frames of frame memory.	2562: Frame Memory >External Device >Ext HDD Backup/Restore When [Backup] was pressed in the above menu, two files are required, but there was only one file remaining.
	No directory exists (–50).	2562: Frame Memory >External Device >Ext HDD Backup/Restore When [Backup] was pressed in the above menu, the specified directory does not exist.
	Rename operation failed (–52). Rename operation failed (–53).	2562: Frame Memory >External Device >Ext HDD Backup/Restore When [Backup] was pressed in the above menu, renaming the directory failed.
	Invalid FM OutCh (–6).	2565:Frame Memory >External Device >Restore from DDR/VTR In the above menu, when [Backup] is pressed, this message appears if the specified frame memory output channel cannot be used.
	Specified FM OutCh was locked (–7).	2565:Frame Memory >External Device >Restore from DDR/VTR In the above menu, when [Backup] is pressed, this message appears if the specified frame memory output channel is locked.
	Not enough free register area for Backup or Restore process (–10).	2565:Frame Memory >External Device >Restore from DDR/VTR In the above menu, when [Backup] is pressed, this message appears if there is not enough space to carry out the backup.
	Prepare failed, not any file was found on this board (–11).	2565:Frame Memory >External Device >Restore from DDR/VTR In the above menu, when [Backup] is pressed, this message appears if no image is present.
	Backup failed, not prepared yet (–12).	2565:Frame Memory >External Device >Restore from DDR/VTR In the above menu, when [Backup] is pressed, this message appears if not yet ready.

Icon	Message	Description
	Backup failed, Clip recall failed (–13).	2565:Frame Memory >External Device >Restore from DDR/VTR In the above menu, when [Backup] is pressed, this message appears if All One Clip ID Recall failed (internal processing error).
	Prepare failed, Clip create failed (–14).	2565:Frame Memory >External Device >Restore from DDR/VTR In the above menu, when [Backup] is pressed, this message appears if All One Clip creation failed (internal processing error).
	Prepare failed, insufficient Clip id (–15).	2565:Frame Memory >External Device >Restore from DDR/VTR In the above menu, when [Backup] is pressed, this message appears if there are not enough Clip IDs (internal processing error).
	Prepare failed, symbol files create failed (–16).	2565:Frame Memory >External Device >Restore from DDR/VTR In the above menu, when [Backup] is pressed, this message appears if marker frame file creation failed (internal processing error).
	Prepare failed, all one Clip recall failed (–17).	2565:Frame Memory >External Device >Restore from DDR/VTR In the above menu, when [Backup] is pressed, this message appears if All One Clip Recall failed (internal processing error).
	ERROR (–19). Bad register number.	2565:Frame Memory >External Device >Restore from DDR/VTR In the above menu, when [Backup] is pressed, this message appears if Register Number is invalid (internal processing error).
	Prepare failed, because there is clip playing (–22).	2565:Frame Memory >External Device >Restore from DDR/VTR In the above menu, when [Backup] is pressed, this message appears if processing failed during clip playback.

Change Password

	The password has been successfully changed.	7317.1: Engineering Setup >System >Maintenance >Setup Operation Lock In the above menu, the password was successfully changed.
	Failed. The password was not changed.	7317.1: Engineering Setup >System >Maintenance >Setup Operation Lock In the above menu, the password was not changed.

Create Key Frame

	[Create Key Frame] cannot be executed. FMx is not assigned to a user region.	2515: Frame Memory >Still >Create Key Frame In the above menu, an attempt was made to execute [Create Key Frame], but it failed because the frame memory output (FMx) is not assigned to a user region. 7331.4: Make the assignment in the Engineering Setup >Switcher >Config >User1-8 Config menu, and try again.
	[Create Key Frame] cannot be executed. Key Frame Register is locked. (UserX)	2515: Frame Memory >Still >Create Key Frame In the above menu, an attempt was made to execute [Create Key Frame] using a locked register (UserX region). Unlock the register.
	[Create Key Frame] cannot be executed. Key Frame Register is busy. (UserX)	2515: Frame Memory >Still >Create Key Frame In the above menu, an attempt was made to [Create Key Frame] using a register (UserX region) into which files are being loaded. Try again after file loading has finished.
	[Create Key Frame] cannot be executed. Key Frame Register is being edited. (UserX)	2515: Frame Memory >Still >Create Key Frame In the above menu, an attempt was made to execute [Create Key Frame] using a register (UserX region) with which a keyframe creating or editing operation is proceeding. Try again after the keyframe operation has finished.
	[Create Key Frame] cannot be executed. There is no free Key Frame. (UserX)	2515: Frame Memory >Still >Create Key Frame In the above menu, an attempt was made to execute [Create Key Frame] for a UserX region with insufficient usable keyframes.
	[Create Key Frame] cannot be executed. Key Frame Register is not active. (UserX)	2515: Frame Memory >Still >Create Key Frame In the above menu, an attempt was made to execute [Create Key Frame] using a register for which the appropriate region selection button in the numeric keypad control block is not selected. Try again after you select the region selection button [UserX] in the numeric keypad control block.

Icon	Message	Description
Deactivate License		
	The license will be deactivated after rebooting your system.	7316.7: Engineering Setup >System >Install/Unit Config >License >License Management In the above menu, the Deactivate License procedure completed successfully.
Disk Format		
	Success!!	7317: Engineering Setup >System >Maintenance In the above menu, removable disk formatting procedure completed successfully.
	Failure. Make sure of the memory card.	7317: Engineering Setup >System >Maintenance In the above menu, removable disk formatting procedure failed. Check that the memory card is correctly inserted.
Error		
	This operation is cancelled, because the register is locked. Please change the register status to be unlocked first.	6211.1: Effect >Master Timeline >Store >Edit 6311.1: Snapshot >Master Snapshot >Store >Edit 6411.1: Shotbox >Register >Store/Recall >Edit In the above menu, an attempt was made to assign to a register that is locked. Unlock the register before carrying out the assignment.
	The file was not able to be read.	7142.1: File >Shotbox, Macro >File Edit In the above menu, [Off Line Edit] was pressed but the selected file could not be read. Select the file again, and press [Off Line Edit] once more.
	It was not possible to make a file.	7142.3: File >Shotbox, Macro >File Edit >Off Line Edit In the above menu, when storing, the file could not be written. Try the store once more.
	Failed...	7162: File >All, External File >Import/Export In the above menu, importing a file failed. Check the format of the original file, and try again.
	The Source and the target are the same directory. Please change the source or the target directory.	7172: File >Configure >Unit ID Copy In the above menu, the same directory and ID were selected for source and target. Select a different directory and ID.
Extraction		
	FM file auto extraction is running (–9).	2542:Frame Memory >File >Auto Extraction In the above menu, when the [Extraction Start] button is pressed, this message appears if the CG wipe extraction function is already being executed.
	FM 1394 HDD Backup or Restore is processing. (–11).	2542:Frame Memory >File >Auto Extraction In the above menu, when the [Extraction Start] button is pressed, this message appears if the external hard disk is already active in a frame memory file data backup/restore operation.
	FM DDR/VTR Backup/Restore is running (–16).	2542:Frame Memory >File >Auto Extraction In the above menu, when the [Extraction Start] button is pressed, this message appears if a backup/restore operation using the VTR/DDR is in progress.
	ERROR (–1).	2542:Frame Memory >File >Auto Extraction In the above menu, when [Extraction Start] is pressed, this message appears if an internal processing error occurs.
	Create thumbnail failed (–2).	2542:Frame Memory >File >Auto Extraction In the above menu, when [Extraction Start] is pressed, this message appears if thumbnail creation failed (internal processing error).
	Red Symbol file not match (–3).	2542:Frame Memory >File >Auto Extraction In the above menu, when [Extraction Start] is pressed, this message appears if a red marker frame file is invalid.

Icon	Message	Description
	Blue Symbol file not match (–4).	2542:Frame Memory >File >Auto Extraction In the above menu, when [Extraction Start] is pressed, this message appears if a blue marker frame file is invalid.
	No data between two symbol files (–5).	2542:Frame Memory >File >Auto Extraction In the above menu, when [Extraction Start] is pressed, this message appears if there is no data between two marker frames.
	Cannot find symbol file (–8).	2542:Frame Memory >File >Auto Extraction In the above menu, when [Extraction Start] is pressed, this message appears if a marker frame file was not found.
	Clip frame error (–10).	2542:Frame Memory >File >Auto Extraction In the above menu, when [Extraction Start] is pressed, this message appears if a clip frame count is invalid (internal processing error).
	Clip not found (–12).	2542:Frame Memory >File >Auto Extraction In the above menu, when [Extraction Start] is pressed, this message appears if the specified clip does not exist.
	Clip is playing or being edited (–13).	2542:Frame Memory >File >Auto Extraction In the above menu, when [Extraction Start] is pressed, this message appears if the specified clip is being played back or edited.
	Clip register error (–14).	2542:Frame Memory >File >Auto Extraction In the above menu, when [Extraction Start] is pressed, this message appears if the specified register number data cannot be processed (internal processing error).
	Can't extract pair clip (–15).	2542:Frame Memory >File >Auto Extraction In the above menu, when [Extraction Start] is pressed, this message appears if an attempt is made to extract a pair clip.
	Clip id not enough (–50).	2542:Frame Memory >File >Auto Extraction In the above menu, when [Extraction Start] is pressed, this message appears if there are 100 clips or more.
	Still frame on FM 2nd board (–51).	2542:Frame Memory >File >Auto Extraction In the above menu, when [Extraction Start] is pressed, this message appears if a still image was extracted from an external clip.
	Clip frame number can't be ODD in 720P format (–9).	2542:Frame Memory >File >Auto Extraction In the above menu, when [Extraction Start] is pressed, this message appears if an odd number of clips are extracted (720P format only).

File Frame Memory

	Some requests are skipped. Following operation is not permitted. — Loading that will cause duplicate register name.	7151: File >Frame Memory 7162: File >All, External File >Import/Export In the above menu, an attempt was made to load a file of a name already existing in the register.

File Open Status

	ERROR (01)	533X: Device >DDR/VTR When an error is returned from the DDR/VTR, one of these messages appears, depending on the error number. Use Menu 7355: Engineering Setup >DCU >Serial Port Assign or Menu 7325.4: Engineering Setup >Panel >Device Interface >Serial Port/MPE Assign to check the device settings.
	ERROR (02)	
	ERROR (FF): No target device has been assigned	

Icon	Message	Description
GPI Input		
!	Please set Target.	7325.1/2: Engineering Setup >Panel >Device Interface >GPI Input 7344.1/2: Engineering Setup >DME >Device Interface >DME1 GPI Input 7344.5/6: Engineering Setup >DME >Device Interface >DME2 GPI Input 7352/7352.1: Engineering Setup >DCU >GPI Input Assign In the above menus, when making a setting, a parameter setting value was incorrect. Check the settings, and try again.
	Please set Trigger Type.	
	Please set Reg No.	
	Please set Aux Bus No.	
	Please set Src No.	
	Please set Pulse Width.	
	Please set Pulse Timing.	
GPI Output		
!	Please set Target.	7325.3/4: Engineering Setup >Panel >Device Interface >GPI Output 7337.2/3: Engineering Setup >Switcher >Device Interface >GPI Output 7337.4/5: Engineering Setup >Switcher >Device Interface >GPI Output 7344.3/4: Engineering Setup >DME >Device Interface >DME1 GPI Output 7344.7/8: Engineering Setup >DME >Device Interface >DME2 GPI Output 7354/7354.1: Engineering Setup >DCU >GPI Output Assign In the above menus, when making a setting, a parameter setting value was incorrect. Check the settings, and try again.
	Please set Trigger Type.	
	Please set Reg No.	
	Please set Aux Bus No.	
	Please set Src No.	
	Please set Pulse Width.	
	Please set Pulse Timing.	
HDD Format		
✕	Failure. HDD device is busy. In order to complete HDD format, System needs to be restarted and formatted again. System will be restarted, then please execute HDD format again.	7317: Engineering Setup >System >Maintenance In the above menu, the hard disk formatting procedure failed. If the hard disk is functioning correctly, or in some cases when there is damage to the disk, it may not be possible to format the disk correctly in a single attempt. In such cases, it is necessary to restart the system, and then carry out formatting again. Press [OK] to restart the system.
✕	No external HDD was found (–2).	2561: Frame Memory >External Device >Ext HDD Format In the above menu, when [5 Partition] or [15 Partition] is pressed, this message appears if the external hard disk cannot be found. Check that the external hard disk is connected correctly.
✕	Format operation failed (–11).	2561: Frame Memory >External Device >Ext HDD Format In the above menu, when [5 Partition] or [15 Partition] is pressed, this message appears if hard disk formatting failed.
✕	Cannot access the partition (–12).	2561: Frame Memory >External Device >Ext HDD Format In the above menu, when [5 Partition] or [15 Partition] is pressed, this message appears if the external hard disk logical drive could not be accessed. Check that external hard disk formatting has been carried out correctly.
✕	Cannot access the directory (–20).	2561: Frame Memory >External Device >Ext HDD Format In the above menu, when [5 Partition] or [15 Partition] is pressed, this message appears if an external hard disk directory could not be accessed.
✕	The external HDD is busy (–22).	2561: Frame Memory >External Device >Ext HDD Format In the above menu, when [5 Partition] or [15 Partition] is pressed, this message appears if the external hard disk is in use and cannot be accessed. Check that the hard disk access indicator is off, or that the menu indicator is off, then try again.
i	Success!!	2561: Frame Memory >External Device >Ext HDD Format In the above menu, the external hard disk formatting procedure completed successfully.

Icon	Message	Description
	Success!! System will be restarted.	7317: Engineering Setup >System >Maintenance In the above menu, the hard disk formatting procedure completed successfully. Press [OK] to restart the system.
	Success!! But some partitions cannot be created because the capacity of the HDD is not enough.	7317: Engineering Setup >System >Maintenance In the above menu, hard disk formatting was completed normally, but because of insufficient hard disk capacity, only the possible number of partitions were created.

Import

	Cannot create the clip file, because the number of selected files is insufficient.	7162:File >All, External File >Import/Export In the above menu, when importing a clip file, this message appears if insufficient files are selected to make up the clip.

Install

	No Task. Select a package on the list.	7316.10: Engineering Setup >System >Install/Unit Config >Install In the above menu, the package for installation was not selected. Select a package to be installed.
	An error occured during the install process. For more details, see Page9900.	7316.10: Engineering Setup >System >Install/Unit Config >Install In the above menu, the menu software installation package does not match the model on which it is to be installed.
	Not Found. The software package does not exist on the removable disk.	7316.10: Engineering Setup >System >Install/Unit Config >Install In the above menu, the software package to be installed was not found. Check that the memory card is correctly inserted, and try the installation once more.
	All processes have succeeded.	7316.10: Engineering Setup >System >Install/Unit Config >Install In the above menu, the installation procedure completed successfully.

Internal Error: Data HDD

	The user data partition of hard disk drive is damaged, and all data is lost. The hard disk drive needs to be reformatted. Please execute HDD format on Page 7317.	When starting up the menu system, an error was found on the hard disk. In Menu 7317: Engineering Setup >System >Maintenance, execute [HDD Format].

Internal Error: HDD is incorrect

	Hard disk is incorrect or not formatted. To format the hard disk, please execute “HDD Format” on Page 7317.	When starting up the menu system, an error was found on the hard disk. In Menu 7317: Engineering Setup >System >Maintenance, execute [HDD Format].

Internal Error: Recovery HDD

	The recovery data partition of hard disk is damaged, and all data is lost. The data needs to be recovered. Please execute Restore Data on Page 9999.	During menu startup, an error was found in the recovery data partition of the hard disk. Restore the recovery data using menu 9999. a)

Internal Error: Temporary HDD

	The system data partition of hard disk drive is damaged. The hard disk drive needs to be reformatted. Please execute HDD format on Page 7317. Please make sure to save all data in the user data partition of hard disk drive to any other device or media, before reformatted.	When starting up the menu system, an error was found on the hard disk. In Menu 7317: Engineering Setup >System >Maintenance, execute [HDD Format].

Icon	Message	Description
Invalid Name		
	Empty...	2512: Frame Memory >Still >Freeze/Store In the above menu, a Store was carried out without specifying a name. Alternatively: 71XX: File Menu 7171: File >Configure >Directory In the above menu, when renaming a file or creating a directory, the name was not entered. Enter the name correctly.
	The file exists already...	2512: Frame Memory >Still >Freeze/Store In the above menu, the file name specified for a store operation already exists in the switcher. Specify a different name.
Loading Texture Pattern		
	Target File: XXXXX Failed to load target bmp file./Illegal Name. This operation is canceled.	7316.9: Engineering Setup >System >Install/Unit Config >Texture Package In the above menu, an error occurred when loading a texture file. Delete texture files with an illegal size or illegal file name, then try again.
	Target File: XXXXX Failed to load target bmp file./Illegal Size. This operation is canceled.	
Make Package		
	Texture file: XXXXX Not Found. This texture file does not exist on the removable disk.	7316.9: Engineering Setup >System >Install/Unit Config >Texture Package In the above menu, when loading an already created texture package, a texture file within the texture package was not found.
	This operation is cancelled, because capacity is full. Please clear texture pattern.	7316.9: Engineering Setup >System >Install/Unit Config >Texture Package In the above menu, when making a texture package, there was insufficient space on a memory card.
Password		
	Password Incorrect	7317.1: Engineering Setup >System >Maintenance >Setup Operation Lock In the above menu, the wrong password was entered. Enter the correct password.
Record		
	Cannot be executed. Maximum number of clips are created.	2523: Frame Memory >Clip >Record In the above menu, an attempt was made to execute [Rec Start] but the number of recorded clips had already reached its upper limit.
Recovery Complete		
	System disk has been damaged, and then recovered. Shutdown and restart the system is recommended to exit from recovery mode.	Corruption has been detected in the flash memory for starting the menu CPU, but this has been recovered. Since the system is operating in recovery mode, shut down and restart as soon as practicable. [a)]
Refresh Status		
	No external HDD was found (–2).	2561: Frame Memory >External Device >Ext HDD Format 2562: Frame Memory >External Device >Ext HDD Backup/Restore In the above menus, an attempt was made to execute [Refresh Status] but the external hard disk could not be recognized. Check that the external hard disk is correctly connected.
	Cannot access the partition (–12).	2561: Frame Memory >External Device >Ext HDD Format 2562: Frame Memory >External Device >Ext HDD Backup/Restore In the above menus, an attempt was made to execute [Refresh Status] but the logical drives of the external hard disk could not be accessed. Check that the external hard disk is correctly formatted.

Icon	Message	Description
	Cannot access the directory (–20).	2561: Frame Memory >External Device >Ext HDD Format 2562: Frame Memory >External Device >Ext HDD Backup/Restore In the above menus, an attempt was made to execute [Refresh Status] but the directory of the external hard disk could not be accessed.
	Cannot access the directory (–21).	
	The external HDD is busy (–22).	2561: Frame Memory >External Device >Ext HDD Format 2562: Frame Memory >External Device >Ext HDD Backup/Restore In the above menus, an attempt was made to execute [Refresh Status] but the external hard disk was busy and could not be accessed. Try again after you check that the access lamp of the hard disk or the indicator of the menu is turned off.

Rename

	This operation is inhibited because of the illegal combination in the selected files.	7151.1 File >Frame Memory >Frame Memory >File Edit In the above menu, this message appears if you select files of different types and press [Rename]. Check that the selected files are all of the same type.
	Files currently used for playback cannot be renamed.	2546: Frame Memory >File >Rename In the above menu, this message appears if [Rename] is pressed, when the selected files include a movie (clip) currently being played back.
	No external HDD was found (–2).	2546:Frame Memory >External Device >Ext HDD Backup/Restore In the above menu, when [Rename] is pressed, this message appears if the external hard disk cannot be found. Check that the external hard disk is connected correctly.
	Cannot access the directory (–20).	2546:Frame Memory >External Device >Ext HDD Backup/Restore In the above menu, when [Rename] is pressed, this message appears if an external hard disk directory could not be accessed.
	The external HDD is busy (–22).	2546:Frame Memory >External Device >Ext HDD Backup/Restore In the above menu, when [Rename] is pressed, this message appears if the external hard disk is in use and cannot be accessed. Check that the hard disk access indicator is off, or that the menu indicator is off, then try again.

Restore

	Success!!	2562: Frame Memory >External Device >Ext HDD Backup/Restore In the above menu, recalling a file from the external hard disk was correctly done.
	Success!! But some files were not restored.	2562: Frame Memory >External Device >Ext HDD Backup/Restore In the above menu, restoring of files from the external hard disk was completed, but some files were not restored because of a different video format or file corruption.
	Success!! But the number of folder exceeds the limit (–12) and the files expected for the folders were restored in the default folder. Or the name was changed because it was the same file name.	2562: Frame Memory >External Device >Ext HDD Backup/Restore In the above menu, this message appears if file recall from the external hard disk was completed successfully, but the number of storable folders was exceeded and the default folder used for restoring, or the file name was changed because a file of the same name already existed.
	Success!! But the number of folder exceeds the max limit (12) and the files expected for the folders were restored in the default folder (–50)!	2565: Frame Memory >External Device >Restore from DDR/VTR In the above menu, restoring of files from the external device was completed, but the limit on the number of folders was reached, and therefore files were restored to the default folder.
	Success!! But some still files had been renamed because the same file name already existed (–51)!	2565: Frame Memory >External Device >Restore from DDR/VTR In the above menu, restoring of files from the external device was completed, but some files were renamed because of still image file name conflicts.
	Success!! But some Clip files had been renamed because the same Clip name already existed (–52)!	2565: Frame Memory >External Device >Restore from DDR/VTR In the above menu, restoring of files from the external device was completed, but some clips were renamed because of clip name conflicts.

Icon	Message	Description
	External HDD Backup/Restore is running (–2).	2565:Frame Memory >External Device >Restore from DDR/VTR In the above menu, when the [Restore Start] button is pressed, this message appears if the external hard disk is already active in a frame memory file data backup/restore operation.
	FM file auto extraction is running (–3).	2565:Frame Memory >External Device >Restore from DDR/VTR In the above menu, when the [Restore Start] button is pressed, this message appears if the function for frame memory file extraction to VTR function is running.
	Clip is recording (–4).	2565:Frame Memory >External Device >Restore from DDR/VTR In the above menu, this message appears if an external device is recording a clip.
	FM DDR/VTR Backup/Restore is running (–5).	2565:Frame Memory >External Device >Restore from DDR/VTR In the above menu, when the [Restore Start] button is pressed, this message appears if a backup/restore operation using the VTR/ DDR is in progress.

Restore

	No external HDD was found (–2).	2562: Frame Memory >External Device >Ext HDD Backup/Restore In the above menu, an attempt was made to execute [Restore] but the external hard disk could not be recognized. Check that the external hard disk is correctly connected.
	Format operation failed (–10). Format operation failed (–11).	2562: Frame Memory >External Device >Ext HDD Backup/Restore When [Restore] was pressed in the above menu, formatting of the hard disk failed.
	Cannot access the partition (–12).	2562: Frame Memory >External Device >Ext HDD Backup/Restore In the above menu, an attempt was made to execute [Restore] but the logical drives of the external hard disk could not be accessed. Check that the external hard disk is correctly formatted.
	Cannot access the directory (–20). Cannot access the directory (–21).	2562: Frame Memory >External Device >Ext HDD Backup/Restore In the above menu, an attempt was made to execute [Restore] but the directory of the external hard disk could not be accessed.
	The external HDD is busy (–22).	2562: Frame Memory >External Device >Ext HDD Backup/Restore In the above menu, an attempt was made to execute [Restore] but the external hard disk was busy and could not be accessed. Try again after you check that the access lamp of the hard disk or the indicator of the menu is turned off.
	No file was found (–40).	2562: Frame Memory >External Device >Ext HDD Backup/Restore In the above menu, an attempt was made to execute [Restore] but the file to be written into the external hard disk was not found.
	Restore operation failed (–42). Restore operation failed (–43). Restore operation failed (–46).	2562: Frame Memory >External Device >Ext HDD Backup/Restore In the above menu, an attempt was made to execute [Restore] but the recalling file from the external hard disk was not completed correctly.
	No directory exists (–50).	2562: Frame Memory >External Device >Ext HDD Backup/Restore When [Restore] was pressed in the above menu, the specified directory does not exist.
	Rename operation failed (–52). Rename operation failed (–53).	2562: Frame Memory >External Device >Ext HDD Backup/Restore When [Restore] was pressed in the above menu, directory renaming failed.
	Invalid FM OutCh (–6).	2565:Frame Memory >External Device >Restore from DDR/VTR In the above menu, when [Restore] is pressed, this message appears if the specified frame memory output channel cannot be used.
	Specified FM OutCh was locked (–7).	2565:Frame Memory >External Device >Restore from DDR/VTR In the above menu, when [Restore] is pressed, this message appears if the specified frame memory output channel is locked.
	Restore failed, some Clip files cannot be deleted on this board (–8).	2565:Frame Memory >External Device >Restore from DDR/VTR In the above menu, when [Restore] is pressed, this message appears if the restore failed because a clip file cannot be deleted.

Icon	Message	Description
	FM 2nd board not exist (–9).	2565:Frame Memory >External Device >Restore from DDR/VTR In the above menu, when [Restore] is pressed, this message appears if there is no second board.
	Not enough free register area for Backup or Restore process (–10).	2565:Frame Memory >External Device >Restore from DDR/VTR In the above menu, when [Restore] is pressed, this message appears if there is not enough space to carry out the backup.
	Prepare failed, not any file was found on this board (–11).	2565:Frame Memory >External Device >Restore from DDR/VTR In the above menu, when [Restore] is pressed, this message appears if no image is present.
	Prepare failed, insufficient Clip id (–15).	2565:Frame Memory >External Device >Restore from DDR/VTR In the above menu, when [Restore] is pressed, this message appears if there are not enough Clip IDs (internal processing error).
	Restore failed, Cannot find symbol files on this tape (–18).	2565:Frame Memory >External Device >Restore from DDR/VTR In the above menu, when [Restore] is pressed, this message appears if a marker frame file was not found.
	ERROR (–19). Bad register number.	2565:Frame Memory >External Device >Restore from DDR/VTR In the above menu, when [Restore] is pressed, this message appears if Register Number is invalid (internal processing error)
	Restore failed, file name already exist, try to rename but unsuccessful (–20).	2565:Frame Memory >External Device >Restore from DDR/VTR In the above menu, when [Restore] is pressed, this message appears if renaming failed.
	Cannot find the File Name Data, please load the File Name Data first (–21).	2565:Frame Memory >External Device >Restore from DDR/VTR In the above menu, when [Restore] is pressed, this message appears if the file list was not loaded.

Restore Data

	Restoring...	Appears while restoring recovery data using Menu 9999. [a)]
	Success!!	Appears when recovery data has been successfully restored using Menu 9999. [a)]
	Recovery binary on the USB storage device is not found.	Recovery data for restoring using Menu 9999 cannot be found on the memory card. Check that the recovery data has been correctly copied to the memory card, and restart the system to retry. [a)]
	Failure. Copying recovery data hasn't finished.	Restoring recovery data using Menu 9999 failed. Check that the recovery data has been correctly copied to the memory card, and restart the system to retry. [a)]

Set Time/Date

	Error: Wrong Format.	7317: Engineering Setup >System >Maintenance In the above menu, an incorrect date and time was specified. Specify the date and time correctly.

Trim

	The Start TC or Stop TC is not properly set.	2522:Frame Memory >Clip >Play In the above menu, when [Trim] is pressed, this message appears if neither Start TC not Stop TC is set.
		2522:Frame Memory >Clip >Play In the above menu, when [Trim] is pressed, this message appears if the interval between Start TC (or Clip Begin) and Stop TC (or Clip End) is the entire clip.
		2522:Frame Memory >Clip >Play In the above menu, when [Trim] is pressed, this message appears if the Start TC (or Clip Begin) value is greater than the Stop TC (or Clip End) value.
	This file is locked.	2522:Frame Memory >Clip >Play In the above menu, when [Trim] is pressed, this message appears if the file is locked.

Icon	Message	Description
	This file is using for playback.	2522:Frame Memory >Clip >Play In the above menu, when [Trim] is pressed, this message appears if the file is being played back.

Warning

	No Switcher information available. Please confirm “Network Configuration” on Page 7311.	When starting up the menu system, the switcher is not present in the system information. Check the Data LAN connections, and in Menu 7311: Engineering Setup >System >Network Config, retry [Auto Config].
	This operation will be cancelled, because the register is locked. Please change the register status to be unlocked first.	6211.1: Effect >Master Timeline >Store >Edit 6311.1: Snapshot >Master Snapshot >Store >Edit 6411.1: Shotbox >Register >Store >Edit In the above menus, an attempt was made to store in a locked register. Unlock the register before carrying out the store.

Warning (System Config)

	Illegal Network Config Information (Page 7311)	When starting up the menu system, if the system information read from the control panel is not correct, one of these messages, that corresponds to the situation appears. Following the message, use Menu 7311: Engineering Setup >System >Network Config or 7312: Engineering Setup >System >System Config to retry the operation.
	Illegal Panel Assign Information for Dual Simul Operation (Page 7312)	
	No Panel Assign Information (Page 7312)	
	No Switcher Assign Information (Page 7312)	
	No System Operation Mode Information (Page 7312)	
	No DME Channel Information	

a) MKS-8010A only

Error Messages Shown in the Error Information Menu

If a file transfer related error occurs, the Error Information menu appears to the following error messages.

Error message	Error description/measures
[Error] Packet Format	Load/save the data again. Still then the message is displayed, contact a Sony service representative.
[Error] No Request	
[Error] No Request File	
[Error] Illegal Host	
[Error] Not Supported	
[Error] USB Access	
[Error] Get File System Info	
[Error] Copy Result	
[Error] Remove Result	
[Error] Move Result	
[Error] Make Dir Result	
[Error] Path Info	
[Error] Dir Operation	
[Error] Command Result	
[Error] Transfer Result	
[Error] Source File Name	
[Error] Source File Open	
[Error] Source File Read	

Error message	Error description/measures
[Error] Destination File Name	Load/save the data again. Still then the message is displayed, contact a Sony service representative.
[Error] Destination File Open	
[Error] Destination File Read	
[Error] Destination File Write	
[Error] Illegal Format	
[Error] Edit Header	
[Error] Local File Access	
[Error] FTP Connect	
[Error] FTP Busy	
[Error] FTP Access	
[Error] FTP No Result	
[Error] FTP Put Command	
[Error] FTP Delete	
[Error] FTP Delete Command	
[Error] FTP Delete Result	
[Error] Control Table No Space	
[Error] Control Table Same Name	
[Error] No Queue	
[Error] Resize BMP	
[Error] Make Vector	
[Error] Uncompress	
[Error] Compress	
[Error] Server Not Respond	No reactions are returned from the processor. Check your Data-LAN connections and the power source of the processor.
[Error] No Space	There is not sufficient space in the memory card or hard disk.

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