SONY

Multi Format Switcher System

MVS-6520 System
MVS-6530 System
MVS-3000A System
MVS-3000 System

(With ICP-series Control Panel)

MVS-6520	MVS-6530	MVS-3000A	MVS-3000
ICP-6520	ICP-6530	ICP-3000	ICP-3016
ICP-6511	MKS-6550	MKS-6570	

User's Guide English

Software Version 1.10 and Later

1st Edition (Revised 1)

NOTICE TO USERS

Functions Newly Supported in Version 1.10

The functions newly supported in the MVS-6520/6530 system version 1.10 are as follows.

Functions relating to operability

Classification	Functions supported	Menu No.	See page
Transitions	AUX mix transition On/Off menu operation	3232	*p. 151*
	AUX mix transition macro event support	7142.2 7142.3	*p. 281*, *p. 287*
	AUX mix transition Bus CCR interlock	2311 7333.12 7335.3	*p. 151*, *p. 355*, *p. 357*
Multi Viewer	16-split window setting	7333.9	*p. 353*

Functions relating to the system

Classification	Functions supported	Menu No.	See page
Panels	ICP-3000 control panel connection	–	*p. 28*
	ICP-3016 control panel connection	–	*p. 28*
System Manager	Operation from System Manager	3211	*p. 150*

Functions relating to setup

Classification	Functions supported	Menu No.	See page
System	Control panel type setting	7316	*p. 317*
Serial tally	Source address default setting	7367.1	*p. 377*

The functions newly supported in the MVS-3000 system version 1.10 are as follows.

Functions relating to operability

Classification	Functions supported	Menu No.	See page
Transitions	AUX mix transitions	3232 7333.12	*p. 78*, *p. 151*, *p. 355*
Multi Viewer	16-split window setting	7333.9	*p. 353*

Functions relating to the system

Classification	Functions supported	Menu No.	See page
Panels	ICP-3016 control panel connection	–	*p. 28*
	ICP-6520 control panel connection	–	*p. 27*
	ICP-6530 control panel connection	–	*p. 27*
	ICP-3000 control panel and ICP-6511 menu panel connection	–	*p. 28*, *p. 42*
DME	MVE-8000A/9000 multi format DME processor connection	41XX 42XX 734X	*p. 157*, *p. 363*
DCU	MKS-8700/2700 device control unit connection	735X	*p. 366*
System Manager	Operation from System Manager	3211	*p. 150*

Functions relating to setup

Classification	Functions supported	Menu No.	See page
System	Control panel type setting	7316	*p. 317*
Serial tally	Source address default setting	7367.1	*p. 377*

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Appendix

Chapter 1 Overview

Introduction

This manual is the User's Guide for the MVS-6520/6530/3000A/3000 system Multi Format Switcher.
This manual describes the operation of the MVS-6520/6530/3000A/3000 multi format switcher processors when connected to ICP-series control panels.

Device and system nomenclature

Principal components and naming

The formal product names of the principal components of these systems, and the terms used in this manual are as follows.

Formal product name	Term used in this manual
MVS-6520 Multi Format Switcher Processor	• MVS-6520 • Switcher • Switcher processor • 2M/E processor
MVS-6530 Multi Format Switcher Processor	• MVS-6530 • Switcher • Switcher processor • 3M/E processor
MVS-3000A Multi Format Switcher Processor	• MVS-3000A • Switcher • Switcher processor • 2M/E processor
MVS-3000 Multi Format Switcher Processor	• MVS-3000 • Switcher • Switcher processor • 2M/E processor
ICP-6520 Control Panel	• ICP-6520 • Control panel
ICP-6530 Control Panel	• ICP-6530 • Control panel
ICP-3000 Control Panel	• ICP-3000 • Control panel
ICP-3016 Control Panel	• ICP-3016 • Control panel
ICP-6511 Menu Panel	• ICP-6511 • Menu panel
MKS-6570 Digital Multi Effect Board	• MKS-6570 • DME • DME board
MVE-8000A Multi Format DME Processor	• MVE-8000A • DME • DME processor
MVE-9000 Multi Format DME Processor	• MVE-9000 • DME • DME processor
DCU-8000 Device Control Unit (MKS-8700)	• MKS-8700 • DCU
DCU-2000 Device Control Unit (MKS-2700)	• MKS-2700 • DCU

An MVS system using the MVS-6520, MVS-6530, or MVS-3000A Multi Format Switcher Processor is referred to as the "MVS-6520/6530/3000A system," and an MVS system using the MVS-3000 Multi Format Switcher Processor is referred to as the "MVS-3000 system."
In this document, the MVS-6520/6530/3000A system and MVS-3000 system are collectively referred to as the "MVS system."
Also, the ICP-6520, ICP-6530, ICP-3000, and ICP-3016 control panels are collectively referred to as the "ICP-series control panel."

System nomenclature

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

System configuration and features	System nomenclature
System with settings that support HDTV format	HD system
System with settings that support SDTV format	SD system

Illustrations and screenshots

The illustrations and screenshots used in this document to describe functions and procedures are for an MVS-6520/3000A switcher processor connected to an ICP-6520 control panel, unless otherwise noted. The operation buttons and screen display may vary depending on the system configuration.

Features

The MVS-6520/6530/3000A/3000 system Multi Format Switcher boasts extensible high performance and multifunctionality. The following are some of the principal features of these systems.

System configuration flexibility

Multiformat support

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

Extensible system configuration

The MVS-6520/6530/3000A supports 2-channel DME function with an optional MKS-6570 DME board. In addition, you can connect an MVE-8000A or MVE-9000 extensible DME processor for a maximum of six channels of DME functionality.
The MVS-3000 can be connected to an MVE-8000A or MVE-9000 for a maximum of four channels of DME functionality.

Powerful external device interfaces

By connecting to a Sony routing switcher or similar, a large system can be built. It is also possible to operate other equipment, including VTRs and disk recorders, from a DCU or switcher via a 9-pin serial port.

Powerful tally system

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

Format converter board mounting support

An optional MKS-6550 format converter can be installed in the switcher to provide up-conversion, down-conversion, and cross-conversion functions when importing/exporting signals.
8-input/0-output or 4-input/2-output groupings are supported.

Large-capacity data storage

The control panel is equipped with a flash memory drive (called “local disk”) as standard for storing parameter data, switcher frame memory static images and other material. USB-compatible storage devices (called “removable disks”) can also be connected to the control panel for storing data.

Comprehensive video manipulation

M/E banks

Each M/E (mix/effects) bank and PGM/PST (program/preset) bank is equipped with four keyers, and each keyer is capable not only of chroma keying, but also independent key transitions separate from the background transitions. Also, the MVS-6530 supports eight keyers in the PGM/PST rows.

Powerful frame memory functions

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

Seamless DME operation with the switcher

The MVS-6520/6530/3000A supports a wide range of DME functions using the MKS-6570, including DME wipes and processed key functions as part of the standard switcher functions.

Multi viewer function

Equipped with two-system multi viewer function, as standard, for displaying a window split into four, ten, or sixteen subwindows.

Designed for use in a live broadcasting environment

High-performance user interface

- The menu panel provides a large color LCD panel, with rapid touch-panel menu selection.
  You can also operate the menus via a DVI-connected monitor (or touch panel) and mouse.
- The cross-point control block uses an organic EL display with high visibility for the source name display.
- The buttons in the Multifunction Flexi Pad (hereinafter called “Flexi Pad”) and ICP-6520/6530 transition control blocks use color backlit LCD displays. The signal names, and graphical representations of the patterns associated with buttons provide intuitive feedback, and allow the immediate decisions that are required in a live operating environment.

Rearrangeable M/E rows

On the ICP-6520/6530, the M/E rows can be rearranged depending on the control panel buttons.
This allows a flexible layout appropriate to the system operation.

Backup power supply

Equipped with two backup power supplies, as standard. This alleviates the risk of power supply problems for improved reliability during live operations.

Basic Video Processing

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

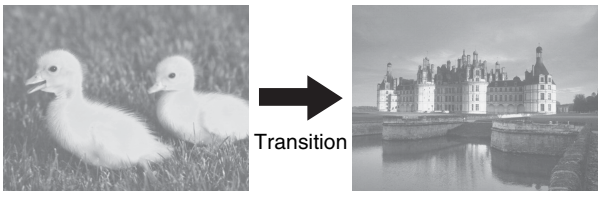
Transitions

In the M/E banks and PGM/PST bank, the switch from the current video stream (appearing on the corresponding program monitor) to a new video stream is referred to as a transition.
In the M/E banks and PGM/PST bank, you can change one of the images, the background, and keys 1 to 4 (downstream keys 1 to 4 in the PGM/PST bank), and also vary combinations of these simultaneously.

The following are examples of transition.

Changing the background

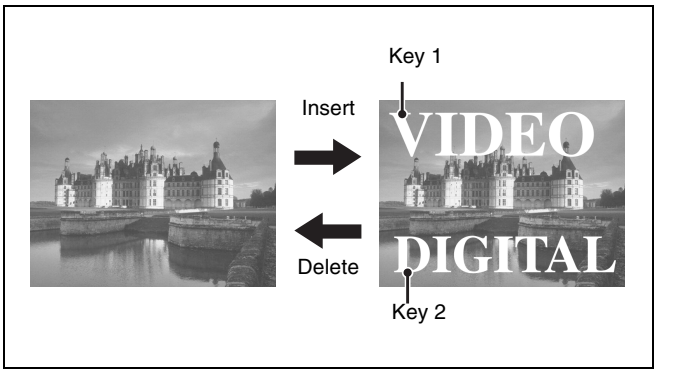
A background transition switches from the video currently selected on the background A bus (the current video) to the video selected on the background B bus (the new video).



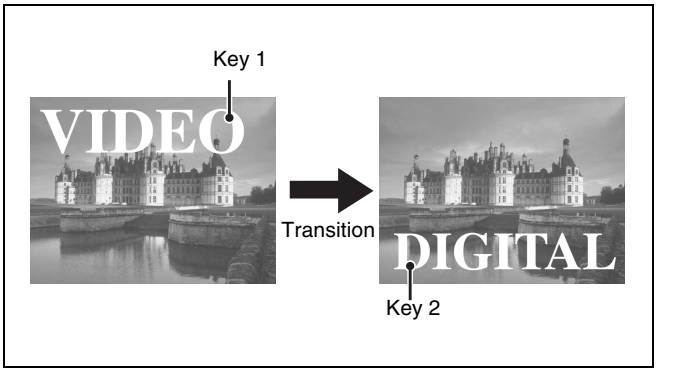
In the default selection of flip-flop mode *(☞ p. 73)*, the background always switches in the direction from the A bus to the B bus. When the transition completes, the cross-point selections on the A and B buses are interchanged.

Inserting and deleting a key

You can insert one or more of the four keys (downstream keys on the PGM/PST bank).
If you select a key which is already inserted, the transition will delete the key.
A simultaneous combination of deleting and inserting keys is also possible.



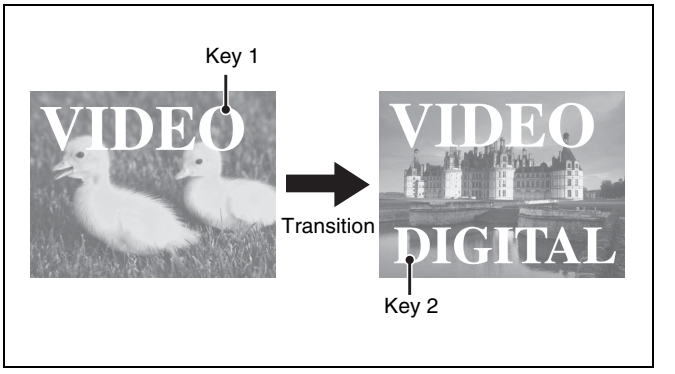
Inserting or deleting key 1 and key 2



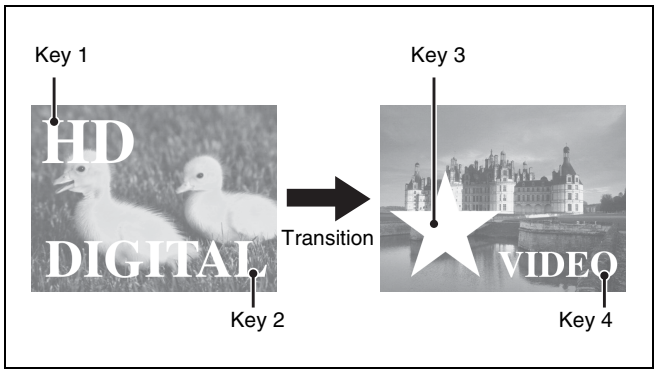
Deleting key 1 and inserting key 2

Simultaneously changing the background and keys

You can change one or more of the four keys (downstream keys on the PGM/PST bank) and the background at the same time.



Changing the background and keys 1 and 2 simultaneously



Changing the background and keys 1 to 4 simultaneously

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

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

There are two modes of executing a transition: an auto transition by button operation or a manual transition using the fader lever. It is also possible to combine these two modes.

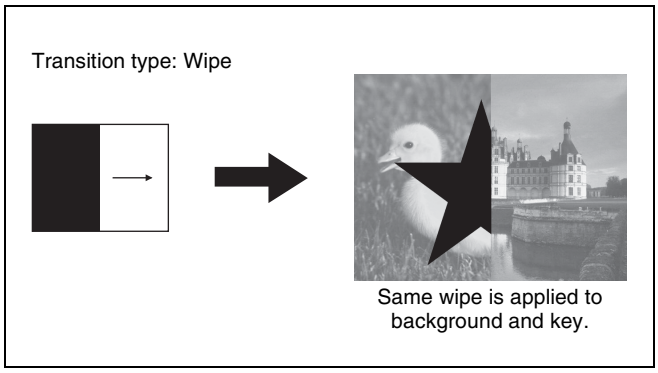
Independent key transitions

In addition to common transitions, it is possible to carry out independent transitions on the keyers of the M/E banks and PGM/PST bank. These are called “independent key transitions.”
By carrying out an independent key transition in combination with a common transition, different transition types can be used for the background and keys.
The following compares the independent key transition with a common transition, taking a simultaneous change of the background and key as an example.

Video used in the transition

Effect of a common transition

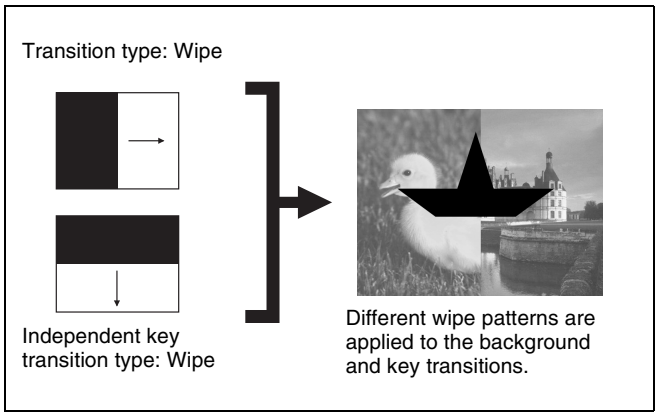
In the case shown in the previous illustration, carrying out a common transition produces the following change in the image.



Effect of a common transition

Effect with use of an independent key transition

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



Effect of a background transition and independent key transition

For details, see Chapter 3 “Signal Selection and Transitions” (☞ p. 59).

Keys

A key is an effect in which a part of the background image is replaced by an image or superimposed text. The signal determining how the background is cut out is termed “key source,” and the signal that replaces the cut-out part is termed “key fill.” The system component responsible for processing a key is referred to as a “keyer.”
For the four keyers on each switcher bank, you can use the following key types (i.e., methods of processing the key source).

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

Key modifiers

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

Masks

A mask allows a part of the image to be masked by the background or a key. If unwanted holes occur in the background, or if a key is not the desired shape, you can correct the problem with a mask.

Resizer

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

- Two-dimensional transform of a key
- Rotation of keys
- Resizer interpolation settings
- Resizer crop/border settings
- Resizer effect settings (mosaic, defocus)

For details, see Chapter 4 "Keys" (☞ p. 79).

Notes

Resizer and key edge cannot be used on some keyers.

For details, ☞ "Keyers that support resizer/key edge" (p. 79).

Wipes

A wipe is a transition from the current video stream to a new video stream, using a wipe pattern.
Changing the background by means of a wipe is referred to as a "background wipe," and inserting or deleting a key with a wipe is termed a "key wipe."
There are two types of wipe: those that can be selected in a common transition, and those that can be selected in an independent key transition.

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

For details, see Chapter 5 "Wipes" (☞ p. 101).

DME Wipes

A DME wipe is a wipe transition that uses an image transformation effect to change from one video image to the next.
There are two types of DME wipe: those which can be selected for a normal transition, and those which can be selected for an independent key transition.

DME wipe patterns supported on the MVS-6520/6530/3000A:

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

DME wipe patterns supported on the MVS-3000:

Slide, Squeeze, Door, Flip tumble, Frame in-out, Picture-in-picture, Mosaic, and Defocus

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

Resizer DME wipes

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

For details, see Chapter 6 "DME Wipes" (☞ p. 111).

Frame Memory

Frame memory is a function for using a still image or video (frame memory clip) as material for editing.
You can create a still image by capturing a frame of input video, or a clip by specifying a range of input video. The created images and clips can be written to memory for playback, editing, and output.

For details, see Chapter 7 "Frame Memory" (☞ p. 126).

Color Backgrounds

This function can be used to obtain color background video.
Two color signals generated from the dedicated generators can be switched or mixed, and then output.

For details, see "Color Background" (☞ p. 146) in chapter 8.

Copy and Swap

This function can be used to copy and swap the settings between switcher banks or between keyers.
The following settings can be copied or swapped.

- Settings for the M/E and PGM/PST banks
- Keyer settings
- Wipe settings in a transition control block
- Wipe settings in an independent key transition
- DME wipe settings in a transition control block
- DME wipe settings in an independent key transition
- Matte color settings (color 1, color 2, and how to compose them)
- Color settings

- DME channel settings
- Format converter input settings (copy only)
- Format converter output settings (copy only)

For details, see "Copy and Swap" (☞ p. 147) in chapter 8.

Color Corrector

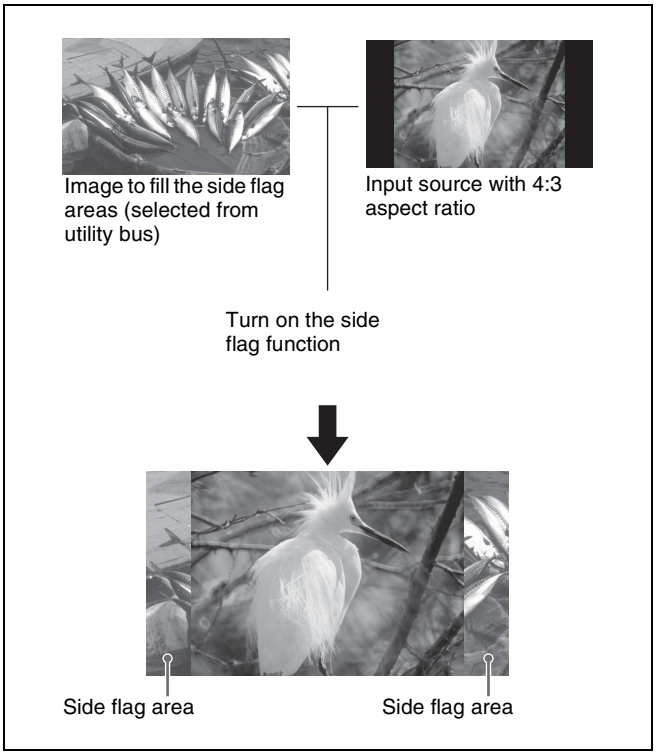
The color corrector enables video signal color correction (black balance/white balance adjustment, gamma correction, knee correction, etc.).
The color corrector includes the following adjustments.

- Input video processing
- Primary color correction
- RGB clip

For details, see "Configuring the Color Corrector" (☞ p. 347) in chapter 19.

Side Flags

The term "side flags" refers to the areas to left and right of an image with aspect ratio 4:3 embedded within a 16:9 frame, when these areas are filled with a separate image selected from the utility bus.



For details, see "Side Flags" (☞ p. 154) in chapter 9.

Creation of Special Effects and Management of Data and Operations

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

Digital Multi Effects (DME)

When used with the switcher, DME allows you to add three-dimensional effects such as image movement, rotation, magnification and shrinking, as well as a wide variety of special effects.
Each channel can be used on its own or in combination with other channels, which allows you to create advanced effects with more complexity.

The following types of DME special effects are available.

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

Global Effects

Global effects are special effects created by combining the images of successive channels. Combiner, Brick, and Shadow global effects are available.

For details, see Chapter 10 "DME Operations" (☞ p. 157).

Controlling External Devices

You can operate the system while controlling the following types of external device:

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

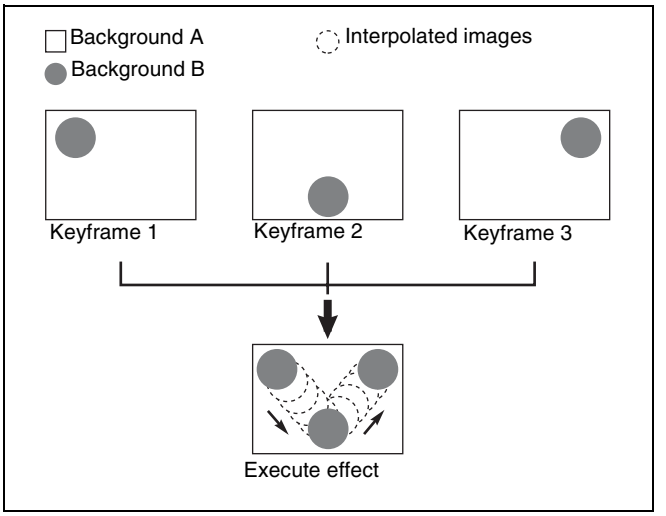
For details about the devices that can be connected, consult your Sony representative.

You can also control an external device by registering timeline keyframes beforehand.

For details, see Chapter 11 "External Devices" (☞ p. 226).

Keyframes

A keyframe represents an instantaneous state of an image; it can be saved in a register and recalled for reuse. By arranging a number of keyframes on the time axis, and interpolating between successive keyframes, you can create a "keyframe effect" in which there is a continuous change from each keyframe to the next.
The following figure shows three keyframes created with a wipe pattern (the circle) in different positions. This is interpolated to create the effect shown.



Example of keyframes and effect execution

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

For details, see Chapter 12 "Keyframes" (☞ p. 239).

Snapshots

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

Snapshots are divided as follows.

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

For details, see Chapter 13 "Snapshots" (☞ p. 267).

Utilities

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

For details, see "Utility Execution" (☞ p. 276) in chapter 14.

Shotboxes

The term "shotbox" refers to a function whereby for each specified region *(☞ p. 239)* any snapshot or keyframe effect can be recalled simultaneously.

For details, see "Shotbox" (☞ p. 277) in chapter 14.

Macros

The term "macro" refers to the function whereby a sequence of signal selections and other operations on the control panel is saved as data in memory (macro register), so that it can be recalled as required to automatically execute the same sequence of operations.
The individual control panel operations constituting a macro are termed "events."
Macros also provide the following functions.

Menu macros

The term "menu macro" refers to the function whereby a sequence of menu operations is saved as an event, so that it can be recalled as required to automatically execute the same sequence of operations.

Macro timelines

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

Macro attachments

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

For details, see Chapter 15 "Macros" (☞ p. 281).

File Operations

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

For details, see Chapter 16 "Files" (☞ p. 302).

Setup

Various settings are required, in order to operate the switcher, control panel, DME, external devices, and so on, connected together in a single system.
This is referred to as "setup," and you can carry out the setup operations from the Engineering Setup menu (hereinafter, the Setup menu). The settings are grouped under the following headings.

System setup (System)

For details, see Chapter 17 "System Setup" (☞ p. 313).

Panel setup (Panel)

For details, see Chapter 18 "Control Panel Setup" (☞ p. 325).

Switcher setup (Switcher)

For details, see Chapter 19 "Switcher Setup" (☞ p. 345).

DME setup (DME)

For details, see Chapter 20 "DME Setup" (☞ p. 363).

DCU setup (DCU)

For details, see Chapter 21 "DCU Setup" (☞ p. 366).

Router/tally setup (Router/Tally)

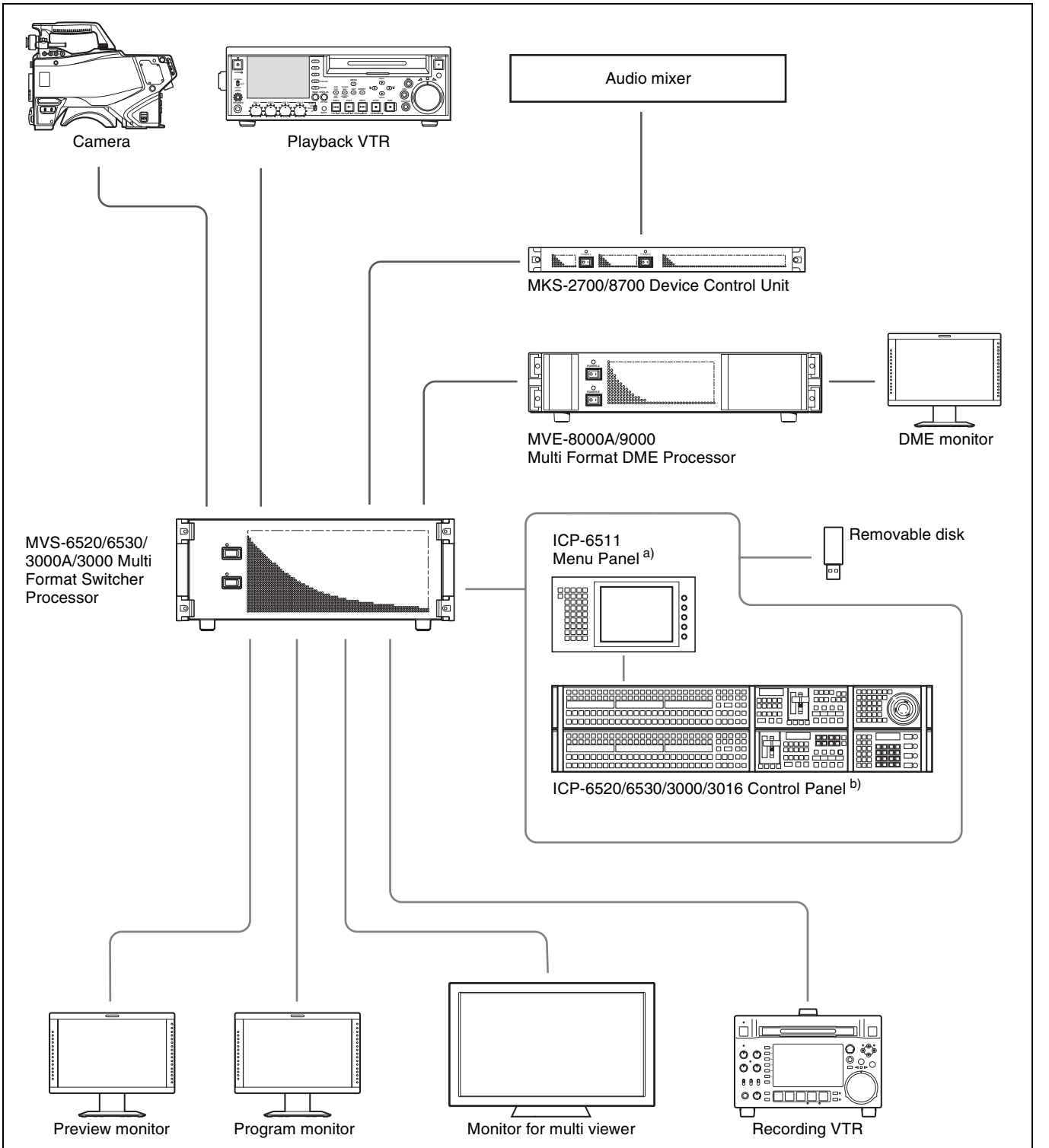
For details, see Chapter 22 "Router Interface and Tally Setup" (☞ p. 373).

User setup (User Setup)

For details, see Chapter 23 "User Setup" (☞ p. 378).

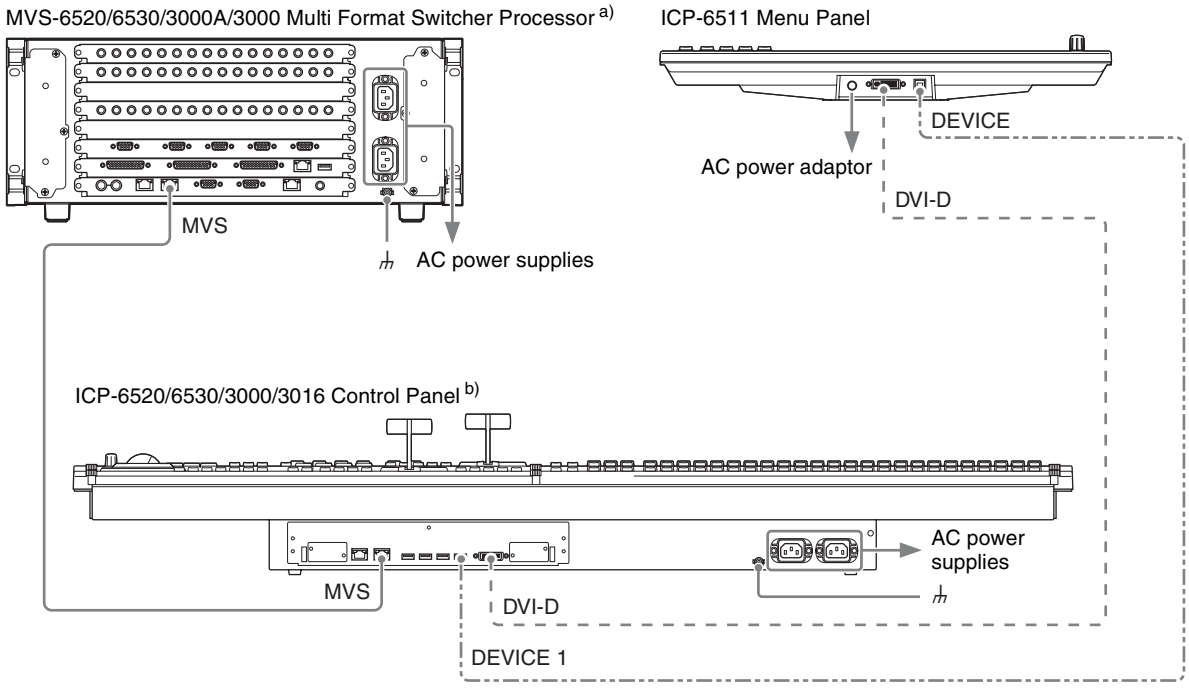
System Configuration

System Configuration Example



a) Menu can also be operated by connecting an external monitor in place of the menu panel.
b) ICP-6520 diagram shown.

Connection Example



a) MVS-6520/3000A/3000 diagram shown.
b) ICP-6520 diagram shown.

LAN cable (straight type)

DVI cable

USB cable

In addition to these devices, a DCU (MKS-8700/2700) or DME processor (MVE-8000A/9000) can be used to extend the system.

Names and Functions of Parts

Chapter 2

Names and Functions of Parts of the Control Panel

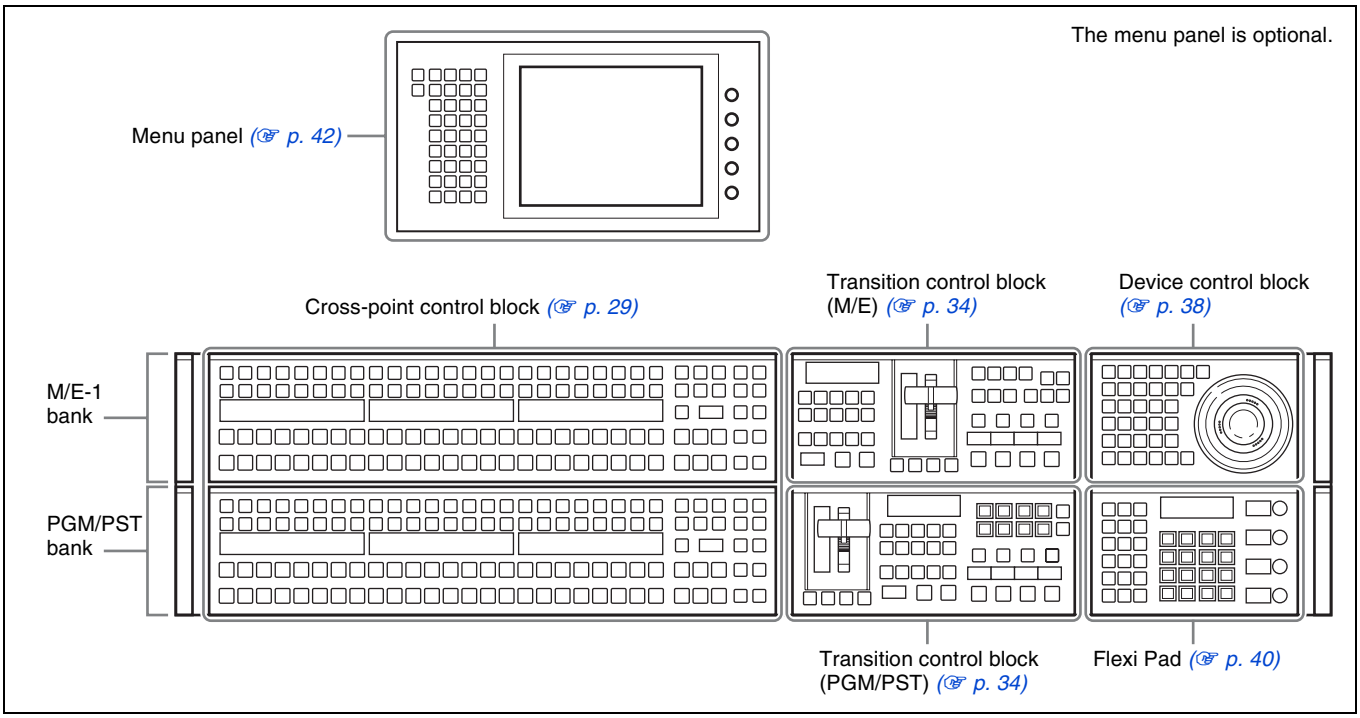
Specification differences for each system configuration

In an MVS system, the number of available banks and keys will differ depending on the control panel and switcher processor configuration.

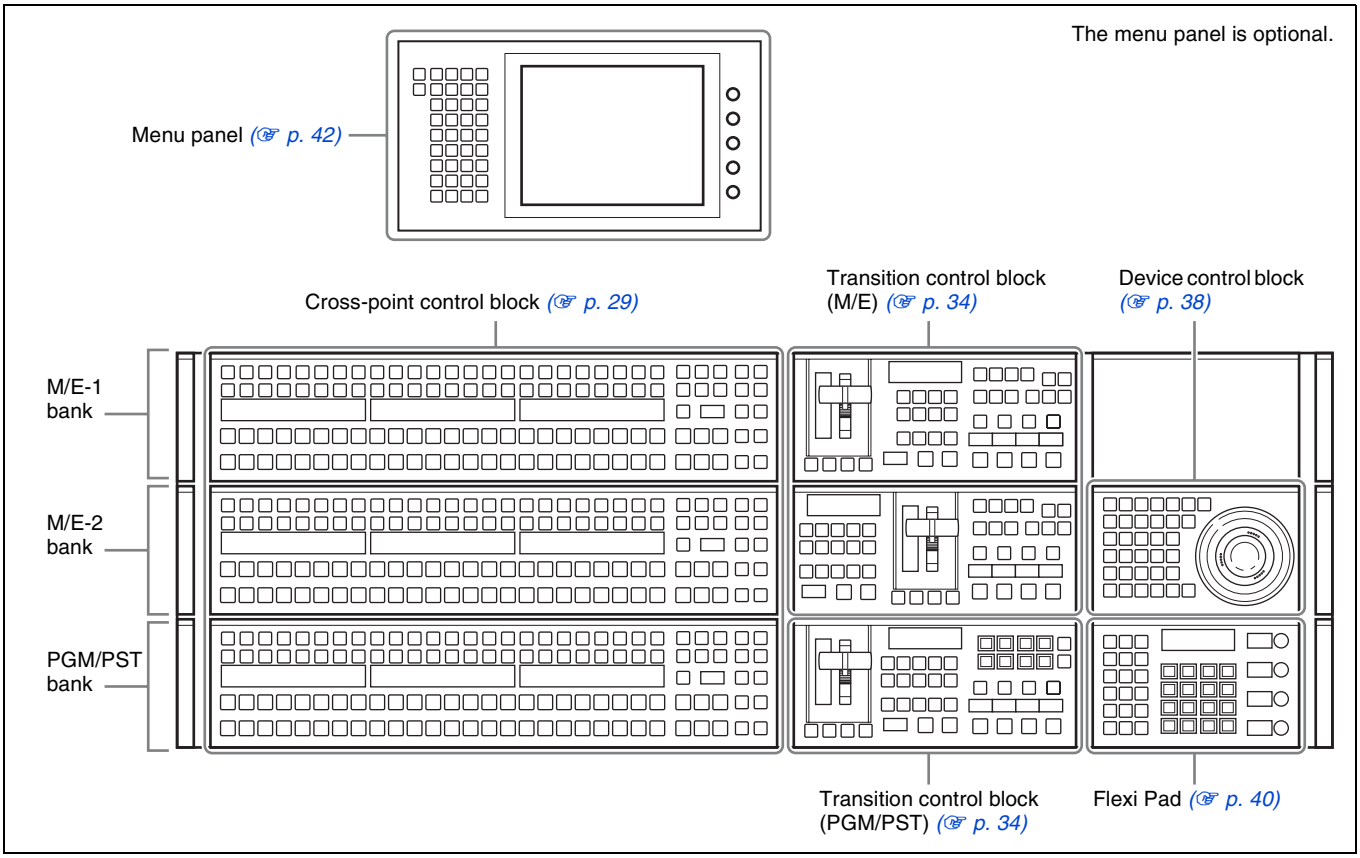
Name	ICP-6520 Control Panel	ICP-6530 Control Panel	ICP-3000 Control Panel	ICP-3016 Control Panel
Panel configuration	Two rows	Three rows	Two rows	Two rows
Banks	M/E-1, PGM/PST	M/E-1, M/E-2, PGM/PST	M/E-1, PGM/PST	ME-1, PGM/PST
Keys	• When MVS-6520/3000A/3000 (2M/E processor) is connected: M/E-1: Key1 to Key4 P/P: DSK1 to DSK4 • When MVS-6530 (3M/E processor) is connected: M/E-1: Key1 to Key4 P/P: DSK1 to DSK8	• When MVS-6520/3000A/3000 (2M/E processor) is connected: M/E-1: Key1 to Key4 P/P: DSK1 to DSK4 • When MVS-6530 (3M/E processor) is connected: M/E-1, M/E-2: Key1 to Key4 P/P: DSK1 to DSK8	• When MVS-6520/3000A/3000 (2M/E processor) is connected: M/E-1: Key1 to Key4 P/P: DSK1 to DSK4 • When MVS-6530 (3M/E processor) is connected: M/E-1: Key1 to Key4 P/P: DSK1 to DSK8 (DSK5 to DSK8 insertion and removal control from Flexi Pad)	

This manual describes operations and settings for an MVS-6520/3000A and ICP-6520 configuration as an example. For details about operational differences resulting from different specifications, ☞ *"8-Keyer Operation" (p. 412)*.

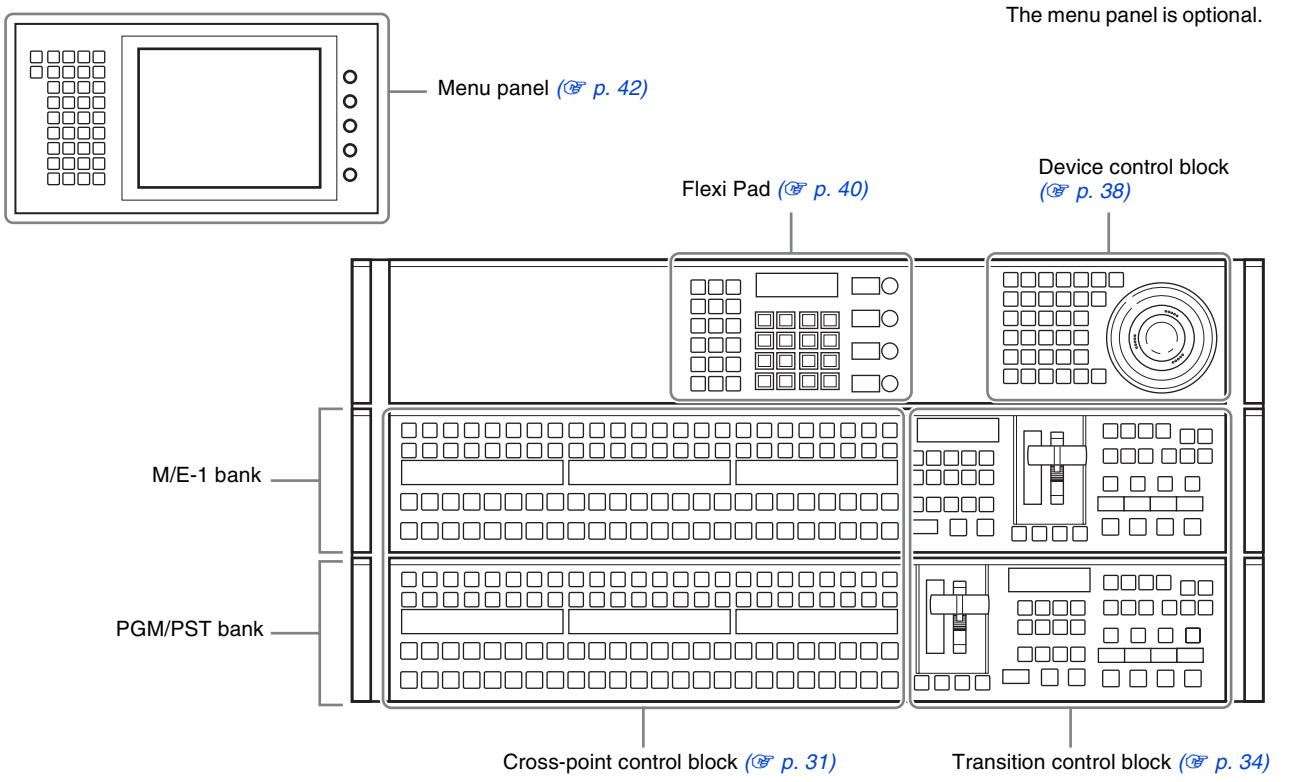
ICP-6520 Control Panel Configuration



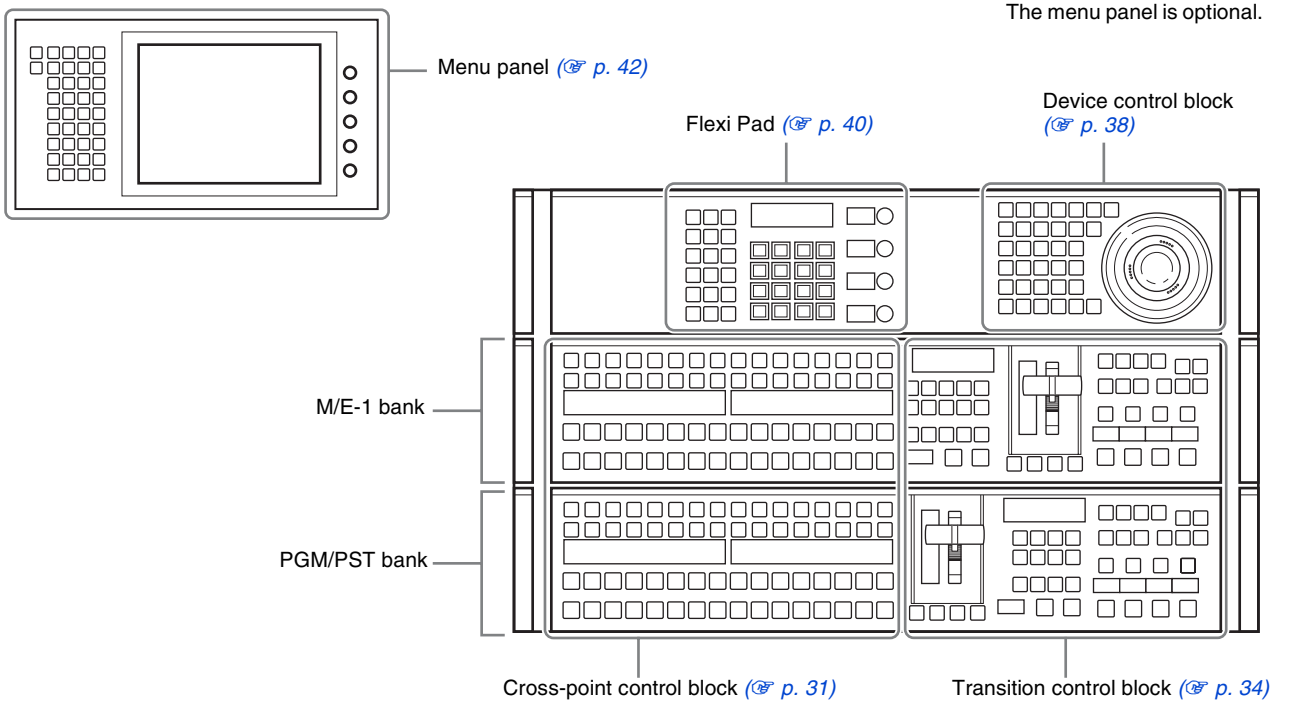
ICP-6530 Control Panel Configuration



ICP-3000 Control Panel Configuration

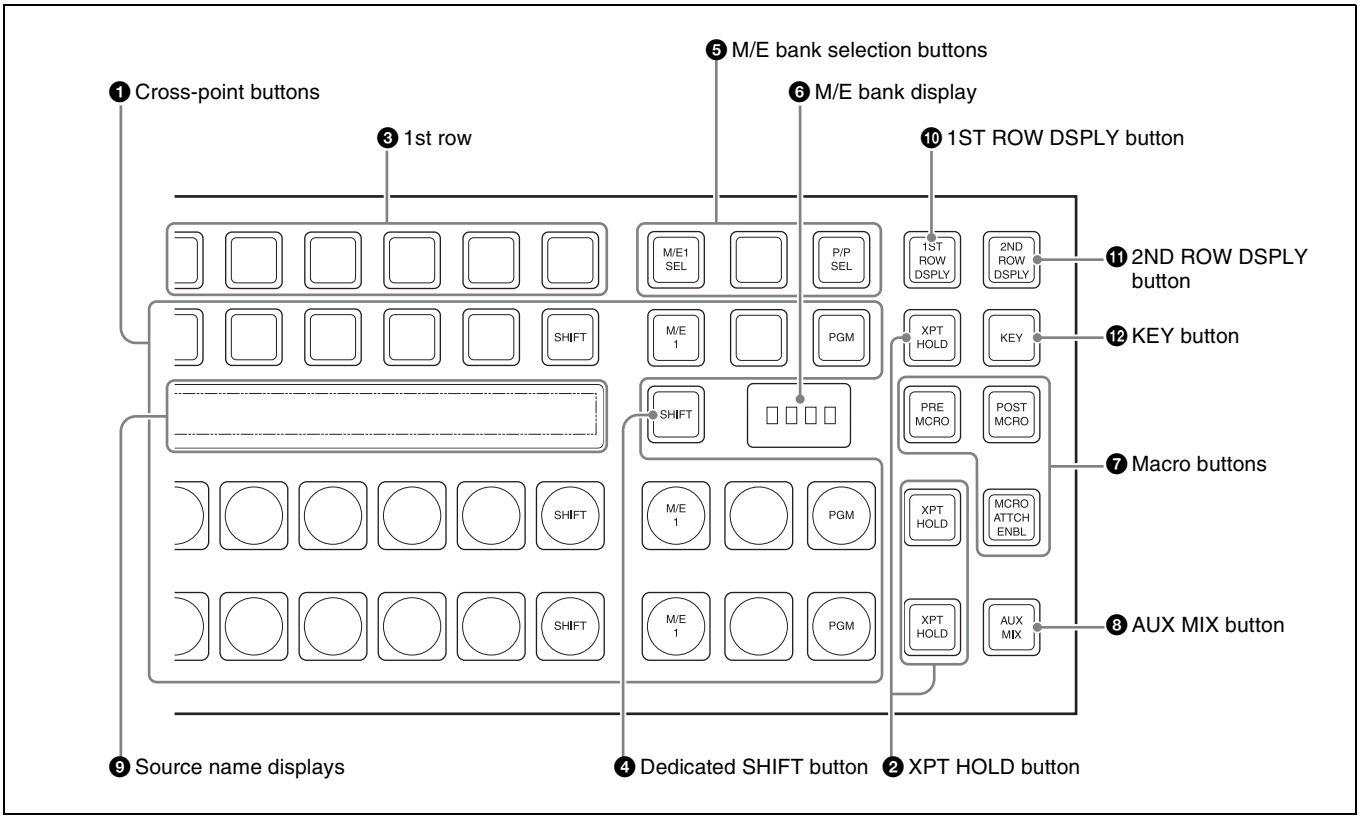


ICP-3016 Control Panel Configuration



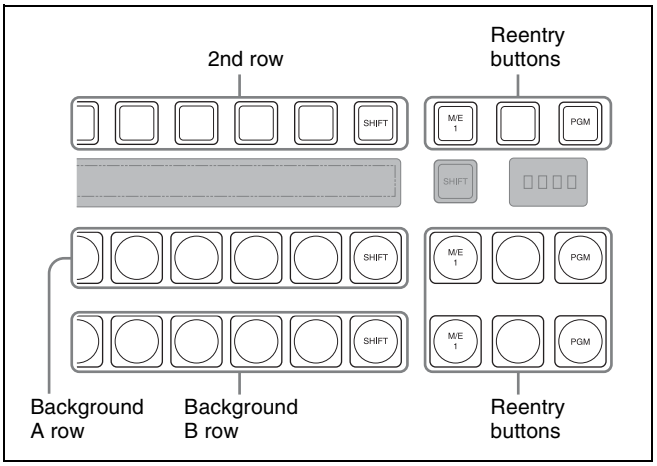
Cross-Point Control Block (ICP-6520/6530)

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



❶ Cross-point buttons

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



Name	Description
2nd row	• Use this to select the cross-point of the bus that is specified with the 1st row buttons.[a) b)] • If the utility/shotbox function is selected with the 1st row buttons, use this to recall the register or to execute the function.
Background A row	Use this to select the signal as the current background video on this M/E bank or PGM/PST bank.
Background B row	Use this to select the signal as the background video after the transition on this M/E bank or PGM/PST bank.
Reentry buttons	Use these to select the video created on another bank as background A or B on this bank or as the bus specified with the 1st row buttons. *For details, ☞ "Selecting M/E reentry input signals" (p. 60).*

a) You can select the source signal of the key bus by selecting the cross-point while holding down the button to which any of KEY1 to KEY4 or DSK1 to DSK4 is assigned in the 1st row.

b) You can select the image on the reverse side of the currently viewed DME image by selecting the cross-point while holding down the button to which any of DME1 V/K, DME2 V/K, or DME5 V/K to DME8 V/K is assigned

in the 1st row (DME1 V/K and DME2 V/K using MKS-6570 only, and DME5 V/K to DME8 V/K using MVE-8000A/9000 only).

Cross-point button numbers

Cross-point buttons and reentry buttons are respectively numbered *(☞ p. 61)*.

Assigning signals to buttons

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

For details, ☞ "Cross-Point Settings" (p. 329).

Visual indications on cross-point buttons

For details, ☞ "Colors of lit cross-point buttons" (p. 63).

❷ XPT HOLD (cross-point hold) button

These allow you to recall a keyframe or snapshot while keeping the current cross-point selection unchanged. Functions for these buttons vary depending on the operation mode selected in the Setup menu.

For details, ☞ "Setting the operation mode of the key bus [XPT HOLD] button" (p. 357).

❸ 1st row

This selects a key bus, AUX bus, or function.
You can assign the following buses, functions, and buttons in the Setup menu.

- KEY1 to KEY4, DSK1 to DSK4, UTIL1, EXT DME[1], EDIT PVW, AUX1 to AUX24, FMS1, FMS2, DME1 V/K[2], DME2 V/K[2], DME5 V/K to DME8 V/K[3]
- Utility/shotbox function
- Inhibit Set function
- Cross-point hold function
- [PRE MCRO], [POST MCRO], [MCRO ATTCH ENBL], [KEY], [1ST ROW DSPLY], [2ND ROW DSPLY], [SHIFT] buttons

1) MVS-6520/6530/3000A only
2) MKS-6570 only
3) MVE-8000A/9000 only

For details about assignments, ☞ "Assigning a Bus or Function to 1st Row Buttons" (p. 340).

Utility/shotbox function

Assign the function of the [UTIL/SBOX] button, and use for utility/shotbox operations.
When you turn on the button to which [UTIL/SBOX] is assigned, the buttons in the cross-point control block will be used for utility/shotbox operations.

For details, ☞ "Executing a Shotbox Function with Cross-Point Buttons in the 2nd Row" (p. 280).

Inhibit Set function

Assign the function of the [INH SET] button, and use to inhibit button operations.

To inhibit an operation, press the cross-point button for which you want to inhibit operation while holding the button to which [INH SET] is assigned.

Cross-point hold function

Assign the function of the [XPT HOLD] button to recall a keyframe or snapshot while maintaining the selection status of the current cross-point.
Valid for background A row and B row. It can also be used for the following function blocks when configured in the Setup menu.

- Background A row and B row
- Key bus
- Utility bus
- DME external video bus (MVS-6520/6530/3000A only)

❹ Dedicated SHIFT button

This button has the following two functions.

Source name display shift button: When this button is enabled, the source name display shows the shifted signal name.

Bus shift button: When this button is enabled, it acts as a shift button for all buses on this M/E (PGM/PST) bank.

You can select the mode in the Setup menu.

❺ M/E bank selection buttons

These interchange the settings of the entire switcher bank with the settings of the selected M/E bank.
This applies to all the buttons in the cross-point control block and the transition control block.

❻ M/E bank display

This indicates the notional mix/effect bank name to which the particular M/E bank is assigned, as a four-character identifier.

❼ Macro buttons

These enable macro attachments and select the macro attachment mode.

Name	Description
PRE MCRO (pre-macro)	Sets a macro attachment in pre-macro mode. When setting to macro-only mode, this button is used in combination with the user preference button on the menu panel with the "Macro Only Set" assignment. This mode can also be set by pressing the [PRE MCRO] and [POST MCRO] buttons simultaneously.
POST MCRO (post-macro)	Sets a macro attachment in post-macro mode. When setting to macro-only mode, this button is used in combination with the user preference button on the menu panel with the "Macro Only Set" assignment. This mode can also be set by pressing the [PRE MCRO] and [POST MCRO] buttons simultaneously.

Name	Description
MCRO ATTCH ENBL (macro attachment enable)	Enables the macro attachments set for the buttons of the M/E (PGM/PST) bank. In the Setup menu, you can also set the buttons to light whenever they are enabled.

❽ AUX MIX button

Executes an AUX mix transition when an AUX bus is selected using the 1st row buttons.

For details about AUX mix transitions, ☞ *"AUX Mix Transitions" (p. 78)*.

❾ Source name displays

These show the names of the signals (sources) or registers which can be selected on the cross-point buttons, in four-character mode or auto mode.

While the [SHIFT] button on the right hand side or the [SHIFT] button assigned to the cross-point button row is enabled, the source name of the signal assigned to the cross-point button in shift mode appears.

You can set the source name display mode in the Setup menu.

The following displays may also appear, depending on the status of the [1ST ROW DSPLY], [2ND ROW DSPLY], and [KEY] buttons.

Button name		Display
1ST ROW DSPLY	2ND ROW DSPLY	
Off	Off	A/B bus signal names
On	Off	Bus names or function names
Off	On	Key/AUX bus signal names [a] or function names

a) Key signal names are displayed when the [KEY] button is pressed, and video signal names are displayed when the [KEY] button is not pressed.

❿ 1ST ROW DSPLY button

When this is pressed and turned on, the bus names and function names currently assigned to the 1st row appear in the source name display.

⓫ 2ND ROW DSPLY button

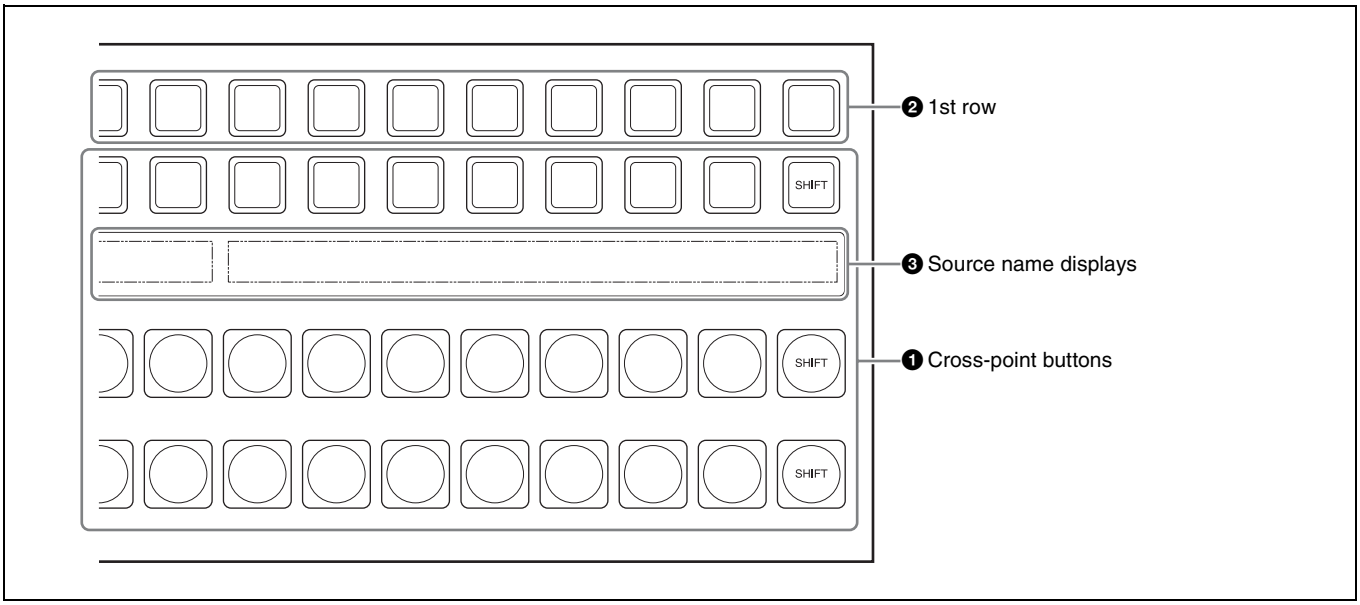
When this is pressed and turned on, the source name of the bus currently selected in the 1st row appears in the source name display. When the [UTIL/SBOX] button in the 1st row is selected, function names are displayed.

⓬ KEY button

When you press a 2nd row button while holding down this button, the key signal is selected.

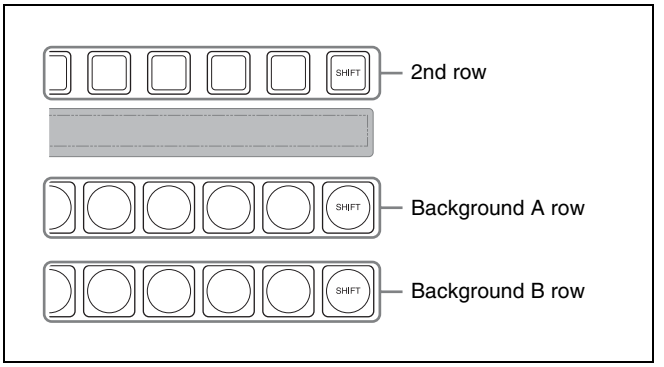
Cross-Point Control Block (ICP-3000/3016)

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



❶ Cross-point buttons

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



Name	Description
2nd row	• Use this to select the cross-point of the bus that is specified with the 1st row buttons.[a) b)] • If the utility/shotbox function is selected with the 1st row buttons, use this to recall the register or to execute the function.
Background A row	Use this to select the signal as the current background video on this M/E bank or PGM/PST bank.
Background B row	Use this to select the signal as the background video after the transition on this M/E bank or PGM/PST bank.

a) You can select the source signal of the key bus by selecting the cross-point while holding down the button to which any of KEY1 to KEY4 or DSK1 to DSK4 is assigned in the 1st row.

b) You can select the image on the reverse side of the currently viewed DME image by selecting the cross-point while holding down the button to which any of DME1 V/K, DME2 V/K, or DME5 V/K to DME8 V/K is assigned in the 1st row (DME1 V/K and DME2 V/K using MKS-6570 only, and DME5 V/K to DME8 V/K using MVE-8000A/9000 only).

Cross-point button numbers

Cross-point buttons are respectively numbered *(☞ p. 61)*.

Assigning signals to buttons

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

For details, ☞ “Cross-Point Settings” (p. 329).

Visual indications on cross-point buttons

For details, ☞ “Colors of lit cross-point buttons” (p. 63).

❷ 1st row

This selects a key bus, AUX bus, or function.
You can assign the following buses, functions, and buttons in the Setup menu.

- KEY1 to KEY4, DSK1 to DSK4, UTIL1, EXT DME[1)], EDIT PVW, AUX1 to AUX24, FMS1, FMS2, DME1 V/K[2)], DME2 V/K[2)], DME5 V/K to DME8 V/K[3)]
- Utility/shotbox function
- [INH SET], [XPT HOLD], [PRE MCRO], [POST MCRO], [MCRO ATTCH ENBL], [KEY], [1ST ROW DSPLY], [2ND ROW DSPLY], [SHIFT] buttons

1) MVS-6520/6530/3000A only
2) MKS-6570 only
3) MVE-8000A/9000 only

For details about assignments, ☞ “Assigning a Bus or Function to 1st Row Buttons” (p. 340).

Utility/shotbox function

Assign the function of the [UTIL/SBOX] button, and use for utility/shotbox operations.
When you turn on the button to which [UTIL/SBOX] is assigned, the buttons in the cross-point control block will be used for utility/shotbox operations.

For details, ☞ “Executing a Shotbox Function with Cross-Point Buttons in the 2nd Row” (p. 280).

Assignable buttons

Name	Description
INH SET (inhibit set)	Disables button operation. To inhibit operation for a button, press and hold the button assigned with [INH SET], and press the cross-point button whose operation you wish to inhibit.
XPT HOLD (cross-point hold)	Recalls a keyframe or snapshot while maintaining the current cross-point selection conditions. Available for background A row and background B row. The following function blocks can be enabled, depending on settings in the Setup menu. • Background A and B rows • Key bus • Utility bus • DME external video bus (MVS-6520/6530/3000A only)
PRE MCRO (pre-macro)	Sets a macro attachment in pre-macro mode. When setting to macro-only mode, this button is used in combination with the user preference button on the menu panel with the “Macro Only Set” assignment. This mode can also be set by pressing the [PRE MCRO] and [POST MCRO] buttons simultaneously.
POST MCRO (post-macro)	Sets a macro attachment in post-macro mode. When setting to macro-only mode, this button is used in combination with the user preference button on the menu panel with the “Macro Only Set” assignment. This mode can also be set by pressing the [PRE MCRO] and [POST MCRO] buttons simultaneously.

Name	Description
MCRO ATTCH ENBL (macro attachment enable)	Enables the macro attachments set for the buttons in the M/E (PGM/PST) bank. In the Setup menu, you can also set the buttons to light whenever they are enabled.
KEY	Pressing and holding this button and then pressing a 2nd row button selects the key signal.
1ST ROW DSPLY (first row display)	Displays the name of the bus and function currently assigned to the 1st row in the source name display.
2ND ROW DSPLY (second row display)	Displays the source name for the bus currently selected in the 1st row in the source name display. If the [UTIL/SBOX] button is selected in the 1st row, the function name is displayed.
SHIFT	Performs one of the following functions, according to the setting made in the Setup menu. • Source name display shift button Displays the name of the signal in shift mode in the source name display. • Bus shift button Functions as the shift button for all busses in the M/E (PGM/PST) bank.

❸ Source name displays

These show the names of the signals (sources) or registers which can be selected on the cross-point buttons, in four-character mode or auto mode.

While the [SHIFT] button assigned to the 1st row or the [SHIFT] button assigned to the cross-point button row is enabled, the source name of the signal assigned to the cross-point button in shift mode appears.

You can set the source name display mode in the Setup menu.

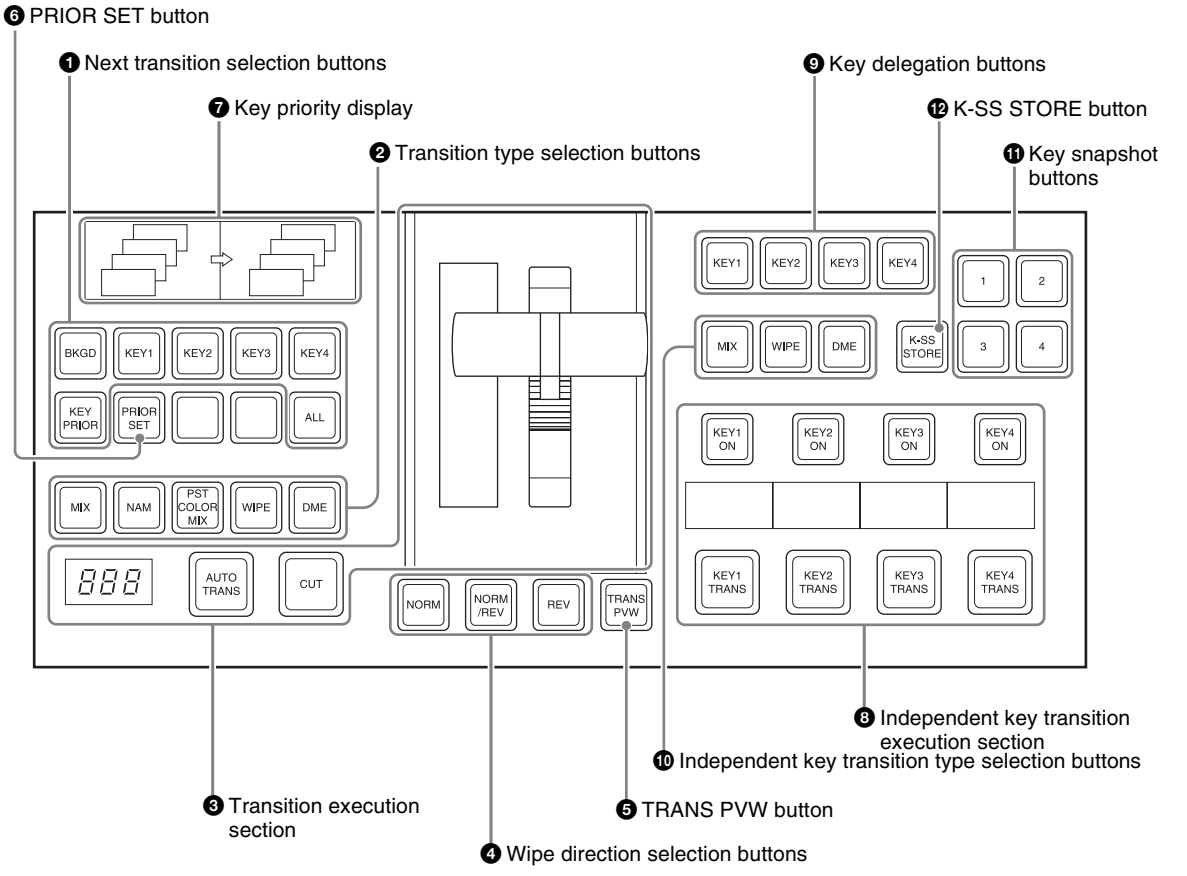
The following displays may also appear, depending on the status of the [1ST ROW DSPLY], [2ND ROW DSPLY], and [KEY] buttons.

Button name		Display
1ST ROW DSPLY	2ND ROW DSPLY	
Off	Off	A/B bus signal names
On	Off	Bus names or function names
Off	On	Key/AUX bus signal names [a] or function names

a) Key signal names are displayed when the [KEY] button is pressed, and video signal names are displayed when the [KEY] button is not pressed.

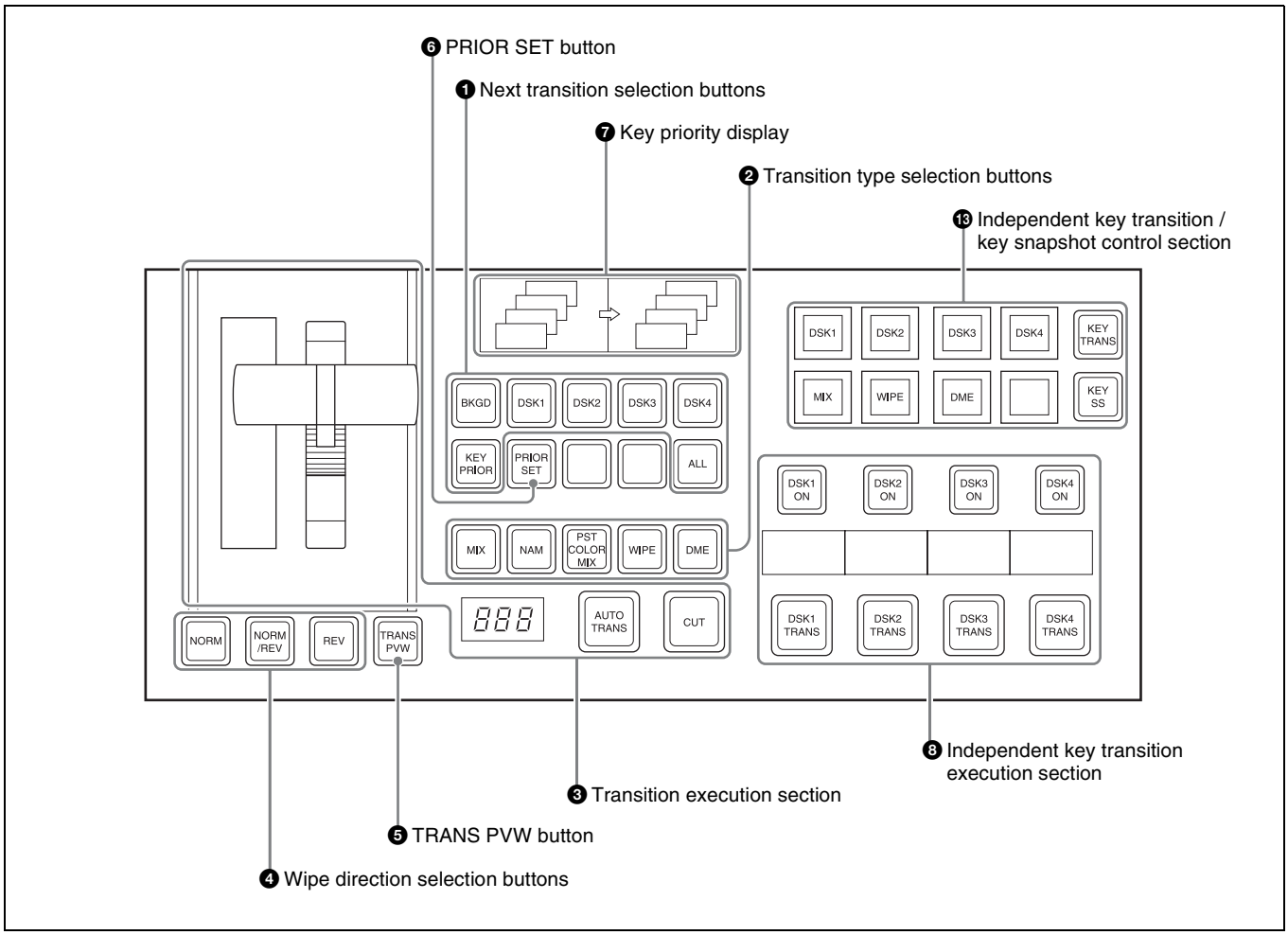
Transition Control Block

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



Shown above is the right-hand type transition control block (with the right-hand fader lever).

Transition control block
(ICP-6520/6530 M/E banks, ICP-3000/3016 M/E and PGM/PST banks)



Transition control block
(ICP-6520/6530 PGM/PST bank)

❶ Next transition selection buttons

These specify how the image will be changed as a result of the next transition.

Name	Description
BKGD (background)	The next transition will change the background.
KEY1 to KEY4 (DSK1 to DSK4 for the PGM/PST bank)	• Press a button, turning it on, to make the next transition insert or remove the corresponding key (keys 1 to 4). • If the key is currently not inserted, the transition will insert it, and if the key is currently inserted, the transition will delete it. *For details about operations for keys 5 to 8, ☞ "8-Keyer Operation" (p. 412).*
KEY PRIOR (priority)	The priority setting of the key after the next transition is enabled.
ALL	This turns on a preselected set of the [BKGD], [KEY1] to [KEY4], and [KEY PRIOR] buttons. Make this setting in the Setup menu.

❷ Transition type selection buttons

These select the transition type *(☞ p. 63)*.
When multi-program mode is selected in the Setup menu, two or more of the following buttons may light.

For details about the multi-program mode setting, ☞ "Setting the Operation Mode" (p. 345).

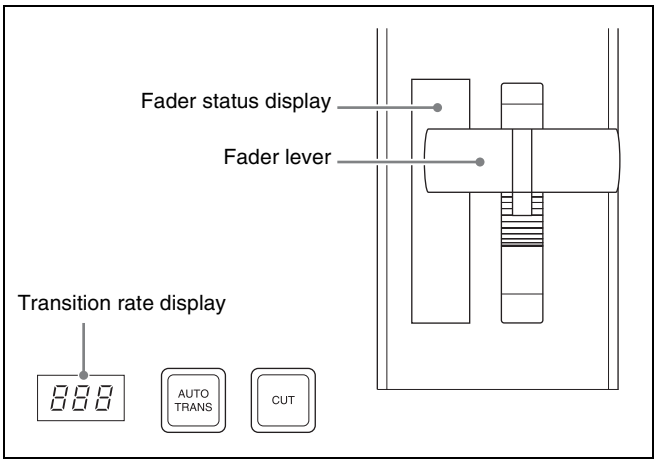
You can also assign a function to these buttons that selects whether or not the fader levers are used as keyframe faders.

For details, ☞ "Executing an effect manually" (p. 261).

For details about assignments for the transition type selection buttons, ☞ "Setting Transition Control Block Button Assignments" (p. 327).

❸ Transition execution section

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



Name	Description
Fader status display	• Displays the transition progress as a bar (transition indicator). • In a non-sync state, “Non Sync” and “Sync” appear at the top and bottom.
Fader lever	• Move this up or down to carry out the transition. • When you press the transition type selection button to which the KF button function has been assigned and turn it on, you can use this as a keyframe fader.
Transition rate display	This shows the “transition rate” (the time from the beginning of a transition to its completion) set for an auto transition, in frames.
AUTO TRANS (transition) button	• Pressing this button carries out an auto transition of the set transition rate (duration). The transition starts immediately, and the button lights amber. • When the transition completes, the button goes off.
CUT button	Pressing this button carries out the transition as a cut (i.e. instantaneously).

❹ Wipe direction selection buttons

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

Name	Description
NORM (normal)	The wipe proceeds in the direction from black to white or in the direction of the arrows as shown in *“Wipe Pattern List” (☞ p. 381)*.
REV (reverse)	The wipe proceeds in the opposite direction of [NORM].
NORM/REV (normal/reverse)	The wipe direction alternates between normal and reverse every time a transition is executed.

❺ TRANS PVW (transition preview) button

With the preview output of the M/E bank and PGM/PST bank, you can check the effect of a transition in advance. During the preview, you can use the fader lever, [AUTO TRANS] button, and [CUT] button. One of the following functions of this button can be selected in a Setup mode.

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

❻ PRIOR (priority) SET button

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

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

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

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

In either mode, hold down the [PRIOR SET] button, and press the [KEY1] to [KEY4] ([DSK1] to [DSK4]) button corresponding to the key you want to bring to the front.

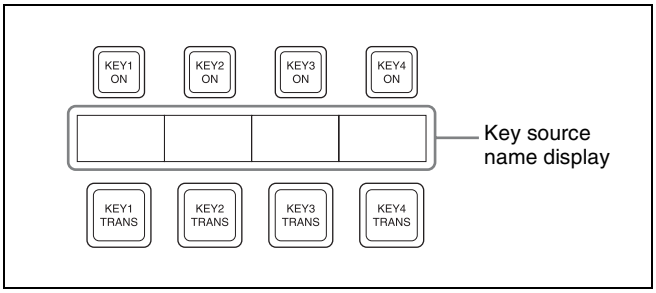
For details, ☞ “Setting the Key Priority in the Transition Control Block” (p. 66).

❼ Key priority display

The current key priority status is displayed on the left, while the key priority status after the transition is displayed on the right.

❽ Independent key transition execution section

This is used to insert or delete keys 1 to 4, and carry out auto transitions.



Name	Description
KEY1 ON to KEY4 ON (DSK1 ON to DSK4 ON for the PGM/PST bank)	• Press the corresponding one of these buttons to cut key 1 to key 4 in or out instantaneously. • The button lights red when the corresponding key appears in the final program output, and lights amber when the key does not.
KEY1 TRANS to KEY4 TRANS (DSK1 TRANS to DSK4 TRANS for PGM/PST banks)	Press these buttons to carry out an auto transition.
Key source name display	This displays the source name selected on the corresponding keyer.

Notes

For details about key 5 to 8 operations, ☞ *"8-Keyer Operation" (p. 412)*.

❾ Key delegation buttons

Assign the desired keyer, by pressing [KEY1] to [KEY4] ([DSK1] to [DSK4]) and turning them on.
While these buttons are held down, you can select a key source with the cross-point buttons for the key bus.
Pressing one of these buttons twice in rapid succession changes its state so that you can make cross-point selections on the corresponding key bus.
The key delegation buttons can also be used for copying keys.

For details, ☞ *"Copy and Swap Operations" (p. 149)*.

❿ Independent key transition type selection buttons

These select the independent key transition type.

For details, ☞ *"Basic Independent Key Transition Operations" (p. 75)*.

⓫ Key snapshot buttons

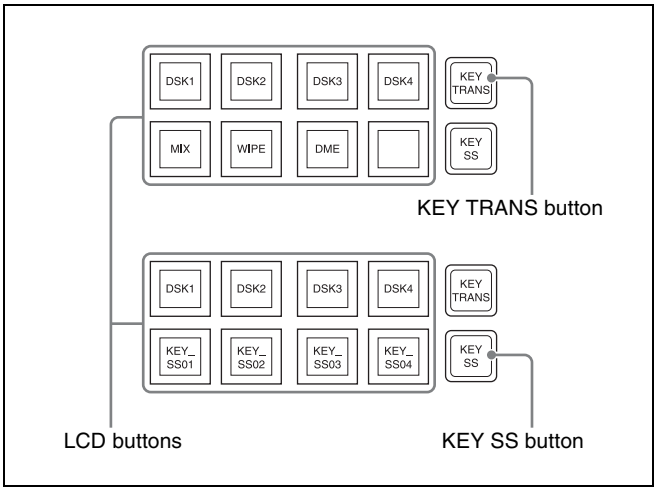
These correspond to registers 1 to 4 of the keyer selected with the key delegation buttons, and pressing a button saves or recalls a key snapshot.

⓬ K-SS STORE (key snapshot store) button

Press the key snapshot button of the register you want to save while holding this button to save the key snapshot.

⓭ Independent key transition / key snapshot control section

Selecting a function using the buttons on the right toggles the function of the eight LCD buttons as follows.



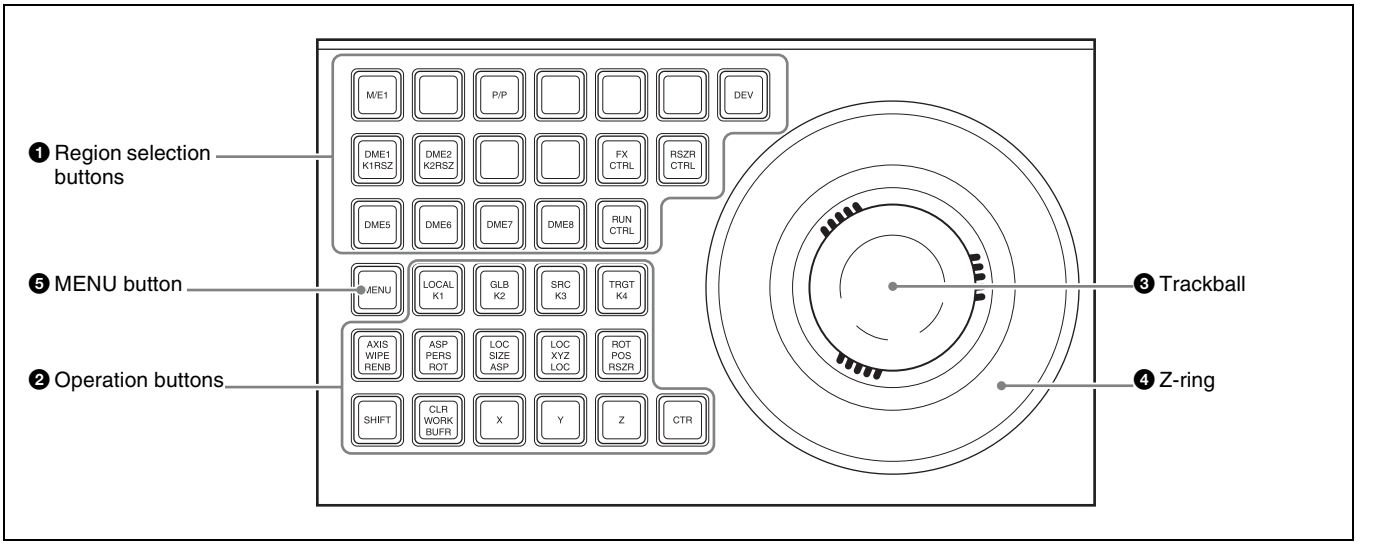
Name	Description
KEY TRANS (key transition)	• The function of the LCD buttons switches to independent key transition type selection. • Use the top row LCD buttons as key delegation buttons for keys 1 to 4. • Use the bottom row LCD buttons as independent key transition type selection buttons.
KEY SS (key snapshot)	• The function of the LCD buttons switches to key snapshot operation. • Use the top row LCD buttons as key delegation buttons for keys 1 to 4. • Use the bottom row LCD buttons as key snapshot buttons. You can save key snapshots by pressing these buttons while holding the [KEY SS] button.

Notes

For details about key 5 to 8 operations, ☞ *"8-Keyer Operation" (p. 412)*.

Device Control Block

The device control block is used for three-dimensional transform operations using a DME, for wipe pattern position setting, and for VTR/disk recorder/frame memory clip operation.



❶ Region selection buttons

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

Region selection button	Overview of assigned operation
M/E1, P/P	• These enable the positioner (wipe pattern position setting) operation mode. • You can select more than one button simultaneously.
DME1, DME2, DME5 to DME8	• These enable the three-dimensional transform operation mode. • You can select more than one button simultaneously. • The [DME1] and [DME2] buttons are enabled only when using the MKS-6570. • The [DME5] to [DME8] buttons are enabled only when an MVE-8000A/MVE-9000 is used.
DEV	• This enables the VTR/disk recorder/frame memory operation mode. • The operation applies to the [DEV1] to [DEV12], [FM1 CLIP], [FM2 CLIP], and [FM LOOP] buttons. • You can also assign the [FM3 CLIP] to [FM8 CLIP], [RECUE], and [LOOP] buttons in the Setup menu.
RUN CTRL	This enables the keyframe operation mode.
RSZR CTRL	• This enables the resizer operation mode. • Use the [M/E1] or [P/P] button to select the target switcher bank. • The operation applies to the [K1RSZ] and [K2RSZ] buttons.
FX CTRL	• This enables the Programmable Effector software operation mode. • The operation applies to the [FX1] to [FX4] and [ID1] to [ID4] buttons. *For details, refer to the Help for the MPES-FX01 Programmable Effector software.*

❷ Operation buttons

These perform various operations. The function of each button varies with the operation mode.

When the positioner operation mode is enabled

Name	Description
K1 to K4[a) b)]	These enable wipe pattern position setting for keys 1 to 4.
WIPE[a)]	This enables wipe pattern position setting for normal transitions.
POS (position)	This enables the trackball to move the wipe pattern in the X-axis and Y-axis directions.
X, Y	These restrict which axes the trackball can control to the X- or Y-axis.
CTR (center)	This returns the pattern position to the center of the screen.
CLR WORK BUFR (clear work buffer)	Press this twice in rapid succession to reset all parameters on the target M/E or PGM/PST to their initial values.

a) You can configure settings in the Setup menu to allow simultaneous selection of multiple buttons.
b) For details about operations for keys 5 to 8, ☞ *"8-Keyer Operation" (p. 412)*.

When the three-dimensional transform operation mode is enabled

The buttons are used for three-dimensional DME transformations.

For details, ☞ "Three-Dimensional Transformation Operations" (p. 169).

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

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

For details, ☞ "Controlling the Tape/Disk Transport" (p. 230).

When the resizer operation mode is enabled

Name	Description
LOC SIZE (ASP: aspect)	• Pressing this button and operating the trackball or Z-ring changes the aspect ratio of a key to which the resizer function is applied. • When this button is held down, the trackball or Z-ring operation is switched to a finer control (fine mode).
LOC XYZ (LOC: location)	• Pressing this button and operating the trackball or Z-ring moves, shrinks, or magnifies a key to which the resizer function is applied. • When this button is held down, the trackball or Z-ring operation is switched to a finer control (fine mode).
ROT (RSZR: resizer)	Press this button, turning it on, to enable the resizer.
ASP PERS (ROT: rotation)	• Pressing this button, after pressing the [RENB] button, and operating the trackball or Z-ring rotates the key to which the resizer function is applied or adjusts perspective. • When this button is held down, the trackball or Z-ring operation is switched to a finer control (fine mode).
AXIS (RENB: rotation enable)	Press this button, turning it on, to enable rotation operation.
CLR WORK BUFR (clear work buffer)	• Pressing this button once returns the two-dimensional transformation and rotation settings to the defaults. • Pressing the [CLR WORK BUFR] button twice, or holding down [SHIFT] and pressing the [CLR WORK BUFR] button returns all resizer parameter values to the defaults.
X, Y, Z	These restrict the axes affected by the trackball and Z-ring to the X-, Y- or Z-axis.
CTR (center)	• Pressing this button once changes the two-dimensional transformation and rotation settings to the closest detent values. • Pressing the [CTR] button twice, or holding down [SHIFT] and pressing the [CTR] button returns the two-dimensional transformation and rotation settings to the defaults.
SHIFT	Use this in combination with the [CTR WORK BUFR] or [CTR] button.

❸ Trackball

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

When the positioner operation mode is enabled

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

When the three-dimensional transform operation mode is enabled

Move the trackball to control three-dimensional transform operation of the X- and Y-axes.
When the [SRC] or [TRGT] button is held down, the operation is switched to a finer control (fine mode).

When the resizer operation mode is enabled

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

❹ Z-ring

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

When the three-dimensional transform operation mode is enabled

Turn this ring to control three-dimensional transform operation of the Z-axis.
When the [SRC] or [TRGT] button is held down, the operation is switched to a finer control (fine mode).

When the keyframe operation mode is enabled

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

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

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

When the resizer operation mode is enabled

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

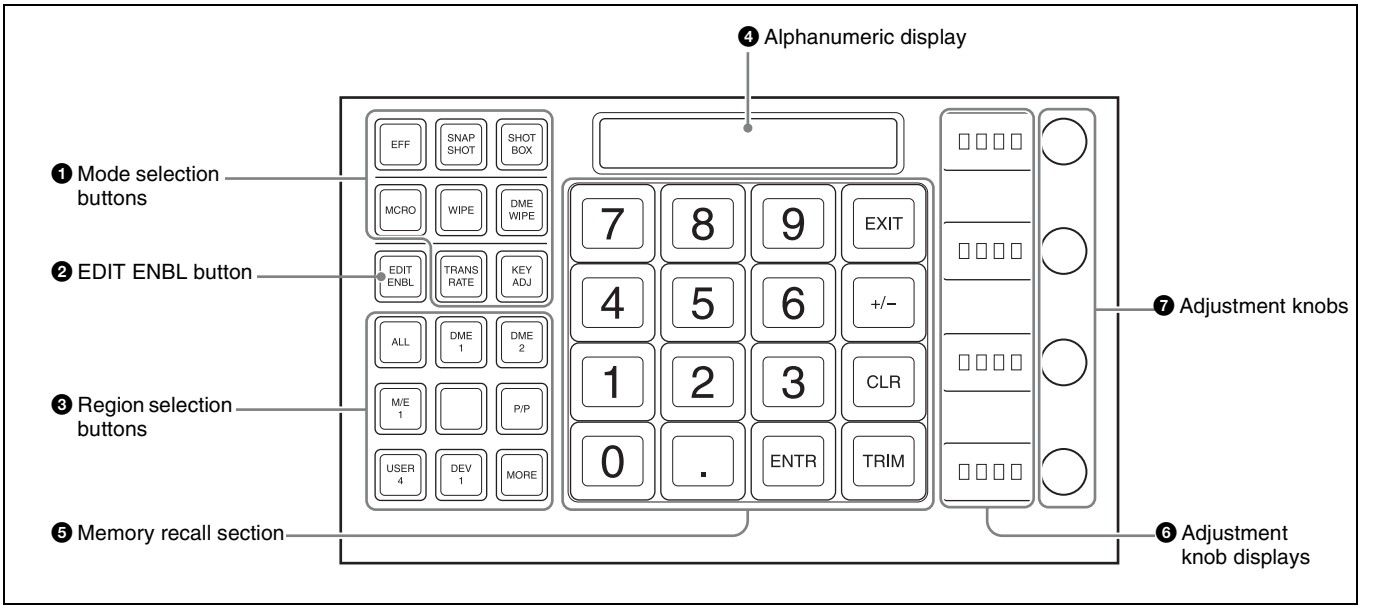
When the [LOC SIZE], [LOC XYZ], or [ASP PERS] button is held down, the operation is switched to a finer control (fine mode).

❺ MENU button

This enables adjustment of the menu parameters using the trackball and Z-ring.
In the case of the DME menu, the operation applies to the selected DME channel.
Pressing this button and turning it on in VTR/disk recorder/frame memory operation mode makes it possible to carry out timeline start/stop point setting operation for the selected device (timeline setting mode).

Flexi Pad

The Flexi Pad is used for creating and recalling snapshots, wipe snapshots, DME wipe snapshots, key snapshots, effects, shotboxes, and macros, for setting the transition rate, and for adjusting keys.



❶ Mode selection buttons

These select the mode.

Name	Description
EFF (effect)	Press this to carry out effect creation/recall/editing/execution/deletion.
SNAPSHOT	Press this to carry out snapshot creation/recall/editing/deletion.
SHOTBOX	Press this to carry out shotbox creation/recall/editing/execution/deletion.
MCRO (macro)	Press this to carry out macro creation/editing/execution/deletion.
WIPE (wipe snapshot)	Press this to carry out wipe snapshot creation/recall/deletion and wipe adjustments.
DME WIPE (DME wipe snapshot)	Press this to carry out DME wipe snapshot creation/recall/deletion and DME wipe adjustments.
TRANS RATE (transition rate)	Press this to set the transition rate.
KEY ADJ (key adjust)	Press this to carry out key adjustments and set modifiers.
KEY SS (key snapshot)	Press this to carry out key snapshot creation/recall/deletion. By default, this is not assigned to a mode selection button, so you must assign it to a mode selection button in the Setup menu before use.

❷ EDIT ENBL (edit enable) button

This enables the following operations.

- Effect creation/editing
- Snapshot attribute setting
- Shotbox creation/editing
- Macro creation/editing
- Wipe adjustments
- DME wipe adjustments

❸ Region selection buttons

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

When the [EFF], [SNAPSHOT], [SHOTBOX], or [MCRO] mode selection button is selected, you can select multiple region selection buttons simultaneously. In this case, the first button pressed lights green as the reference region, and the other buttons pressed light amber (the buttons for the regions shown in the memory recall section are yellow).

Name	Description
ALL	• Selects all regions. • If any region is selected, press this button to unset the selection of all regions.
DME1 to DME2	• Select a DME channel. • The [DME1] and [DME2] buttons are enabled only when using the MKS-6570.
M/E1, P/P	Select the M/E-1 and PGM/PST regions, respectively.
USER4	Selects the USER4 region.
DEV1	Selects the device 1 region.
MORE	• Displays buttons in the memory recall section for regions not assigned to a region selection button, so that they can be selected. • By default the following regions are shown on the memory recall section buttons: MSTR (master snapshot, master timeline registers), USER1 to 3, USER5 to 8, MCRO (macro), DEV2 (device 2), PBUS, GPI, RTR (router) • If there is a region selected in the memory recall section, this is indicated by the [MORE] button lighting green. • To revert the button displays in the memory recall section, press the [MORE] button once more, or press the [EXIT] button that appears in the memory recall section. • Note that except for the [ALL], [EXIT], and [MORE] buttons, you can freely change the region assignments in the Setup menu.

❹ Alphanumeric display

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

❺ Memory recall section

This comprises 16 LCD buttons, each with a display that changes according to the operating mode.

❻ Adjustment knob displays

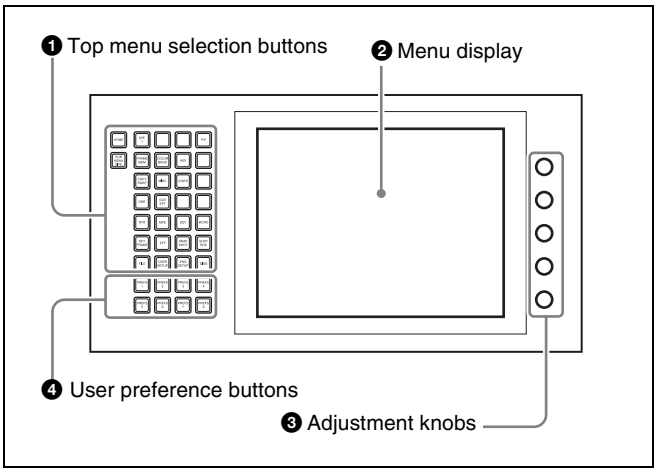
Each of these shows the initial letter of the parameter that can be adjusted with the knob to the right, and the setting value (three digit places, including the minus sign).

❼ Adjustment knobs

Use these to adjust the parameters selected with the memory recall section buttons.

Menu Panel

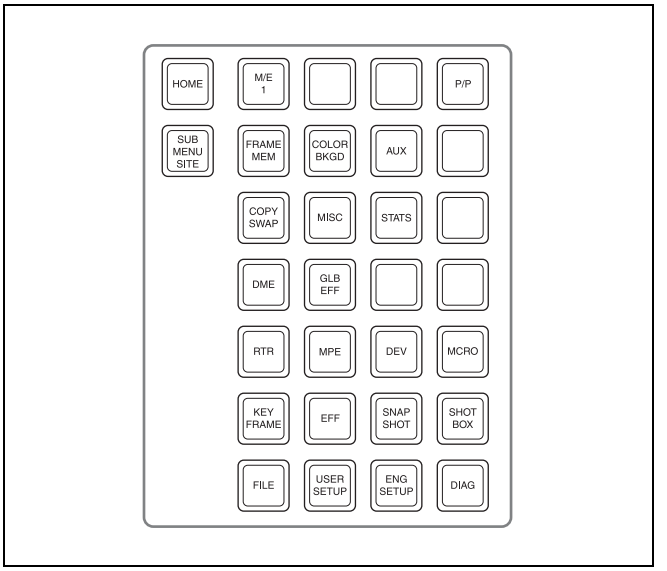
Connect an optional ICP-6511 menu panel, and use it for menu operations.



❶ Top menu selection buttons

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

For details, ☞ "Assigning Functions to the Menu Panel Top Menu and User Preference Buttons" (p. 328).



❷ Menu display

This shows the menu currently in use.

❸ Adjustment knobs

These adjust the parameter values appearing in the menu.

❹ User preference buttons

These recall the functions or menus assigned to them in the Setup menu.
It is also possible to change the assignment of these buttons in the Setup menu.

For details, ☞ "Assigning Functions to User Preference Buttons" (p. 334).

Names and Functions of Parts of the Menu

Overview

In the MVS system, all detailed settings for basic operations such as transitions, keys, and wipes, and DME are made in menus. In addition, system management, data management, and setup are all performed using menu operations.

Use the optional ICP-6511 menu panel to perform menu operations. You can also display menus on an external monitor, and operate using a mouse or touch panel.

For information about using the mouse, ☞ *"Operation with a Mouse" (p. 51).*

For information about supported monitors, contact your Sony representative.

Top Menu List

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

In the same way as for the top menu selection buttons on the menu panel, press each button to display the corresponding top menu in the menu display.
Press [Shutdown] on the bottom right to shut down the control panel.

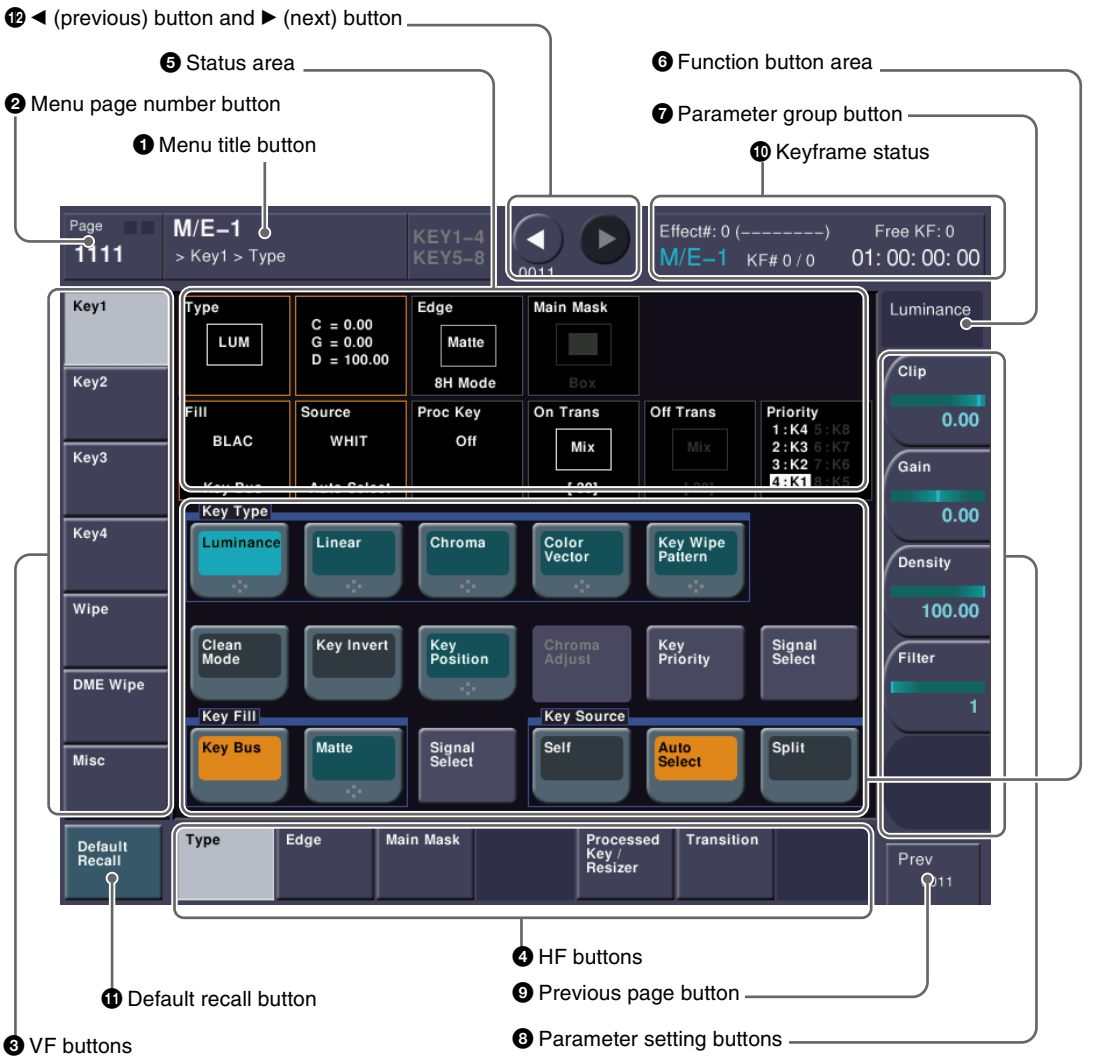
For details about shutting down the control panel, ☞ *"Shutting down the control panel" (p. 56).*

Notes

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

Menu Screen

The menu screen consists of the following principal parts. The section describes the M/E-1 >Key1 >Type menu (1111) screen as an example.

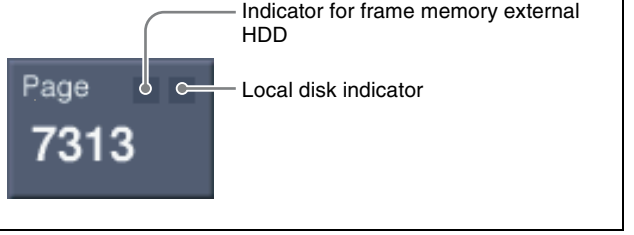


❶ Menu title button

This shows the title of the menu screen.
You can set different colors for the main menu site and subsidiary menu site *(☞ p. 52)*.

❷ Menu page number button

This shows the menu screen page number.
When you press this button, the top menu window *(☞ p. 46)* appears. You can enter the page number for the desired menu, or press one of the top menu selection buttons in the window, to display that menu.
While the system is accessing the local disk or external HDD, the indicator lights red.



Notes

When the indicator is lit, do not turn the power to the switcher OFF or disconnect the USB cable[1)].

1) When an external HDD is connected

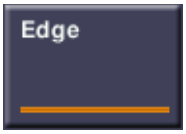
❸ VF buttons

These indicate the larger subdivisions (2nd level) of the menu.
Depending on the selected item, the menu screen contents change, including the HF button indications.

❹ HF buttons

These indicate the smaller subdivisions (3rd level) of the menu.
Depending on the selected item, the menu indications change.

Functions that are enabled are indicated by an orange bar in the VF and HF buttons.



❺ Status area

This shows the status of the settings items controlled by the selected menu.
An orange frame appears around the parameter area relating to the displayed menu. For each of the 12 areas, pressing the display jumps to the related menu.

❻ Function button area

This shows the functions that can be operated in the currently selected menu by means of buttons.
Each function button corresponds to a function which can be set in the currently selected menu. Press a button to enable the function, display a parameter group and adjust the parameters, or execute the function.
These buttons are grouped by function. In the screen example, the [Key Bus] and [Matte] function buttons constitute the <Key Fill> group.
Pressing a button turns it on and lights it, showing the state.

Color	State
Pale blue 	The function is enabled, and the parameters can currently be adjusted.
Orange 	The function is enabled.
Purple 	Execution button. Pressing the button immediately executes the function. (Example: [Auto Start] in the Chroma Adjust menu)

When you press a function button that is in this state, another menu appears.
(Example: [Chroma Adjust] in the Type menu)

❼ Parameter group button

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

❽ Parameter setting buttons

These show the parameters and their values. Pressing one of these buttons displays the numeric keypad window *(☞ p. 47)*, and you can then enter a new value for the corresponding parameter with the numeric keypad.

❾ Previous page button

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

❿ Keyframe status

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

When a menu other than the Key Frame menu is currently shown: The menu screen switches to the Key Frame menu.

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

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

⓫ Default recall button

Press this button, and then press a VF button or parameter setting button to return the parameters to their default values, in the following groupings.

- Function grouping (functions of the HF buttons under the VF button)
- Parameter grouping (values of the parameter setting buttons)

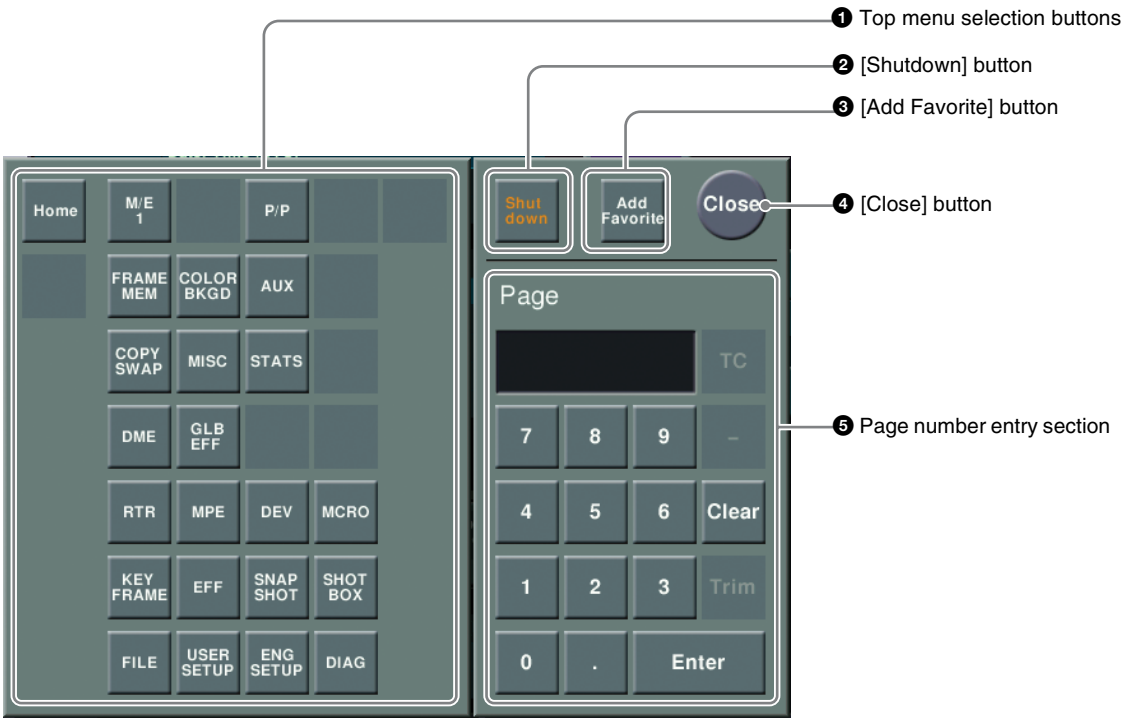
This only appears in those menus for which the default recall function is available.

For details about menus that can be returned to their default states, *☞ "Menu Tree" (p. 386).*

⓬ ◀ (previous) button and ▶ (next) button

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

Top Menu Window



❶ Top menu selection buttons
These display the selected menu.

❷ [Shutdown] button
Shuts down the control panel.

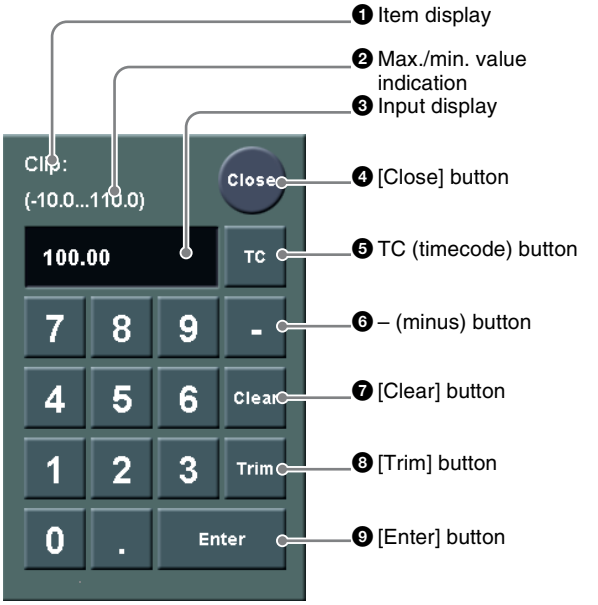
For details about shutting down the control panel,
☞ "Shutting down the control panel" (p. 56).

❸ [Add Favorite] button
This registers the currently displayed menu to the Shortcut menu *(☞ p. 51).*

❹ [Close] button
This closes the top menu window.

❺ Page number entry section
Enter a page number and press [Enter] to open that page. If the page number does not exist, the color of the entered page will change. Pressing [Clear] clears the entry.

Numeric Keypad Window



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

❷ Max./min. (maximum/minimum) value indication
This shows the maximum and minimum values of the parameter.

❸ Input display
This is the value being input into the numeric keypad window.

❹ [Close] button
This closes the numeric keypad window.

❺ TC (timecode) button
When the numeric keypad window is opened for a setting requiring a timecode value to be entered, this button appears in a depressed state.
The range of timecode values you can enter varies as follows depending on the signal format.

00:00:00:00 to 23:59:59:nn,
where nn = (number of frames per second) – 1.

❻ – (minus) button
This toggles the sign of the entered value.

❼ [Clear] button
This clears the input display. It does not change the parameter setting.

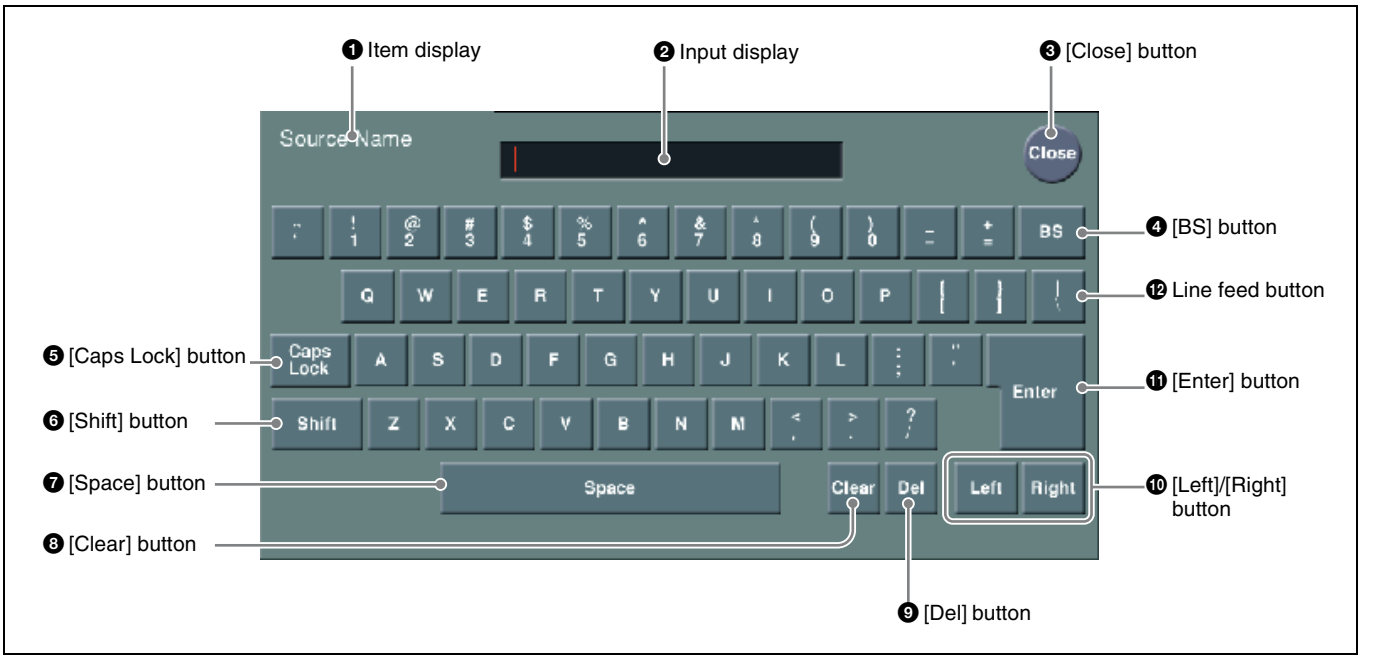
❽ [Trim] button
After entering the difference from the current value, press this button to confirm the numeric input.

❾ [Enter] button
This confirms the entered value.
If correctly set, the numeric keypad window closes.
If it is not correctly set, the input display changes color.

Keyboard Window

Notes

Except when changing source names, the following characters cannot be used.
space, \, /, :, ;, , (comma), . (dot), <, >, *, ?, ", |



❶ Item display
This is the name of the parameter being set.

❷ Input display
This is the character string being input.

❸ [Close] button
This closes the keyboard window.

❹ [BS] (backspace) button
This clears the character immediately before the cursor.

❺ [Caps Lock] button
This enables input of capital letters only.

Notes

You can enter items to be displayed on the control panel LCD using lowercase letters, but these will be converted to capitals for display.
MS-DOS does not distinguish case in filenames, and therefore you are recommended to enter filenames in capital letters.

❻ [Shift] button
This selects the characters on the shift side of the keys. The shift is released when you enter a character.

❼ [Space] button
This enters a space character.

❽ [Clear] button
This clears all of the characters in the input string.

❾ [Del] (delete) button
This clears the character immediately after the cursor.

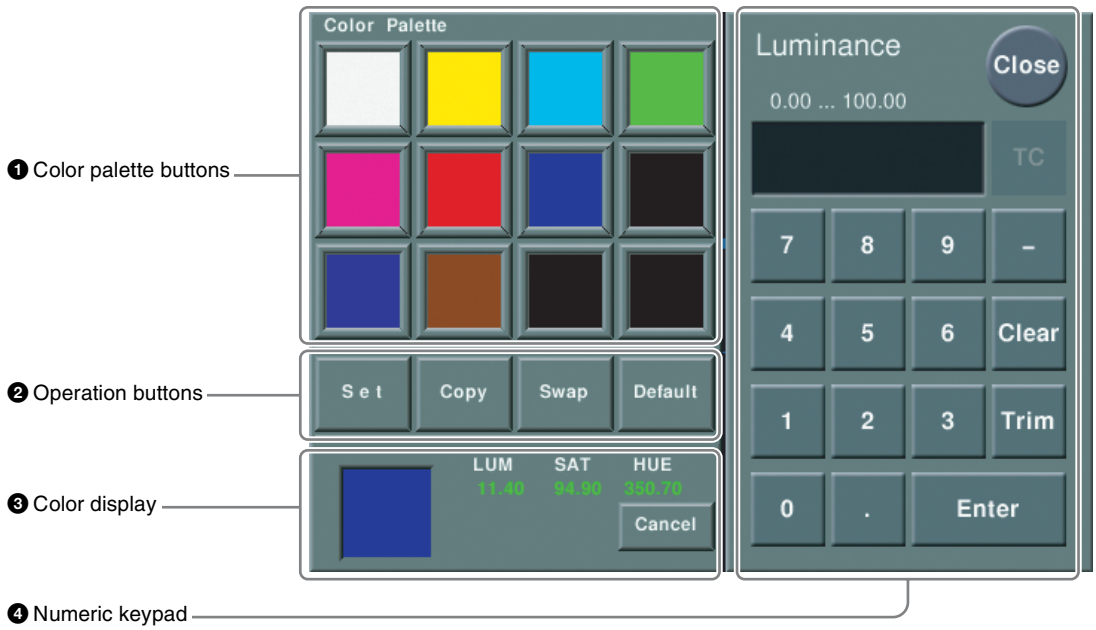
❿ [Left]/[Right] button
These move the cursor one character to the left or right in the input string.

⓫ [Enter] button
This sets the input string as a parameter value.
If correctly set, the keyboard window closes. If it is not correctly set, the input display changes color.

⓬ Line feed button
After pressing [Shift], press this button to feed a line. The input display shows this as "|".

Color Palette Window

When parameters are assigned as a combination of luminance, saturation, and hue, pressing a parameter setting button displays a color palette window.



❶ Color palette buttons
Press one of these to display the corresponding color in the color display.

❷ Operation buttons
Set: If you press any color palette button with this button held down, the color shown in the color display is assigned to the color palette button.
Copy: If you press a color palette button with this button held down, the color is used as the source for copying. Next press a different color palette button to copy to that button.
Swap: If you press two color palette buttons in sequence with this button held down, the two colors are swapped.
Default: If you press any color palette button with this button held down, the color palette button is set to the default color.

❸ Color display
This shows the setting color and its parameters (LUM, SAT, and HUE).
By adjusting the parameters, you can create any color.
If a parameter value is outside the permitted range for RGB (0 to 255), the "Illegal Color" indication appears, and this is adjusted to a value within range.
Cancel: Pressing this button returns to the state when the color palette window was opened.

❹ Numeric keypad
Use this to enter numeric values for parameters.

For details, ☞ "Numeric Keypad Window" (p. 47).

Basic Menu Operations

Notes

Some menus may not be displayed depending on the system configuration.
Some functions and items not supported by the MVS-6520, MVS-3000A, or MVS-3000 may be displayed in parts of the menu. These items are ignored, even if selected and values specified, and are not reflected in the system operation.

For details, ☞ "Menus of Disabled Operations and Settings" (p. 405).

Recalling Menus

The following three methods are available for recalling menus.

Top menu selection buttons on the menu panel

Open the top menu (1st menu level) of the corresponding menu for each button.

Top menu window

Specify the menu page number to open the menu. In the same way as the menu panel, you can also open top menus using the top menu selection buttons.

For details, ☞ "Top Menu Window" (p. 46).

Pressing a particular button twice

Open the menu that corresponds to the button.

For details, ☞ "Menu Access by Pressing a Button Twice" (p. 417).

Selecting Menus

1 Display the top menu.

2 Use the VF buttons (right side of screen) to select the 2nd level of the menu, and then use the HF buttons (bottom of screen) to select the 3rd level of the menu.

3 Press the appropriate function button within the function button area (center of screen).

In this manual, menu selection operations are indicated as "1st level >2nd level >3rd level (menu number)."

Example: To select the Shortcut menu

Home >Favorites >Shortcut menu (0021)

To go back to the previous menu

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

Selecting List Items

The following methods can be used to select items displayed in lists on the menu screens.

- Press an item in the list directly.
- Press the arrow keys to scroll to highlight the item.
- Turn the knob corresponding to the item selection parameter.
- Press the parameter settings button for the item selection, and enter the item number in the numeric keypad window.

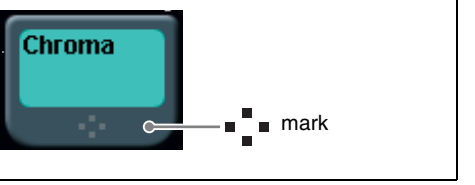
Depending on the menu, you can click [Plural] to select multiple items or [All] to select all items.
You can also select the number of parameters using [Num].

Example: Selecting frame memory folders

No.	Parameter	Adjustment
1	No	Select folder
2	Num	Number to select

If the [No] parameter is set to "2" and the [Num] parameter is set to "5," five folders are selected starting from folder number 2.

Setting Parameters



The above mark on a function button indicates that there are parameters which can be adjusted.
When you press such a button, you can set the parameters using one of the following methods.

- Turn the knob corresponding to the parameter to adjust the value.
- Press the parameter setting button corresponding to the parameter. This displays the numeric keypad window allowing you to enter the desired value.
- Operation using the mouse *(☞ p. 51)*.

In this manual, the parameter setting operation is described as shown below.
The "No." column indicates the menu panel adjustment knob and parameter setting button position (1 to 5 from the top).

Example: To set the key wipe pattern key parameters

No.	Parameter	Adjustment
1	Size	Pattern size
2	Soft	Edge softness
3	Density	Key density

You adjust the [Size] parameter (pattern size) using the first adjustment knob or the first parameter setting button.

In addition, when the [MENU] button in the device control block is pressed and turned on, you can use the trackball and Z-ring to adjust the parameters.

- Move the trackball on the X-axis to adjust the first parameter, and on the Y-axis to adjust the second parameter. Moving up or to the right increases the parameter value, and moving down or to the left decreases the parameter value.
- Turn the Z-ring to adjust the third parameter. Turning clockwise increases the parameter value, and turning counterclockwise decreases the parameter value.

Returning Parameters to Default Values

Press the [Default Recall] button, turning it on, then press a VF button or parameter setting button to return the parameters to their default values, in the following groupings.

- When a VF button is pressed: Function grouping (functions of the HF buttons at the bottom of the screen)
- When a parameter setting button is pressed: Parameter grouping

Notes

- The default state of the parameters depends on the initial status mode specified in the Setup menu, as follows.
  User: The state when [Initial Status Define] is executed.
  Factory: Factory default settings
- The horizontal (H) and vertical (V) position settings cannot be returned to their default states individually. For example, returning the horizontal (H) position to its default value also returns the vertical (V) position to its default value automatically, and vice versa.

For details about menus that can be returned to their default states, ☞ "Menu Tree" (p. 386).

Operation with a Mouse

Instead of pressing buttons on screen (touch operation), you can position the mouse cursor over a button and click the mouse. The parameter setting and list scrolling operations are described below.

To set a parameter with the mouse

To adjust the value of a parameter setting button with the mouse, you can use one of the following three methods.

- Position the cursor over the parameter setting button for which you want to adjust the value, and turn the mouse wheel.
- Position the cursor over the parameter setting button for which you want to adjust the value, then hold down the right mouse button, and drag the bar showing the setting to the desired value.
- Position the cursor over the parameter setting button for which you want to adjust the value, then click the left mouse button to open the numeric keypad window and enter the desired value.

To scroll a list with the mouse

Position the cursor over the list you want to scroll, and turn the mouse wheel.

In the Setup menu, you can specify the scroll direction and whether parameters increase or decrease in relation to the mouse wheel rotation. You can also switch the functions of the right and left mouse buttons during parameter setting button adjustments.

For details, ☞ "Setting the Mouse Wheel Scrolling Direction for Parameter Setting" (p. 344) and ☞ "Selecting the Mouse Button for the Parameter Setting Buttons" (p. 344).

Using Shortcut Menus

Create a shortcut menu by grouping frequently used menus into a "Favorites" menu.
In addition to menus, menu macros can also be saved to the shortcut menu.

For details about menu macros, ☞ "Menu Macros" (p. 295).

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

Recalling a menu from the shortcut menu

1. Open the Home >Favorites >Shortcut menu (0021).
2. Select a group in the <Group Select> group.
3. Press the button to which the desired menu is registered.

Registering a menu to the shortcut menu

You can register 15 buttons to a single shortcut menu group. The following two registration methods are available.

To register by page number

1. In the Home >Favorites >Shortcut menu (0021), select the group to which you want to register the menu.
2. Press [Button Edit].

   The Home >Favorites >Button Edit menu (0023) appears.
3. Select the position in which to display the button.

   To change the content of an already displayed button, press the button to select it.
4. Press [Page Set].

5 Enter the page number for the menu you want to register.

To register the currently displayed menu

1 In the Home >Favorites >Shortcut menu (0021), select the group to which you want to register the menu beforehand.

2 Display the menu you want to register in the shortcut menu.

3 Press the menu page number button, and press [Add Favorite].

The menu selected in step **2** is automatically registered to an open button in the group selected in step **1**.

Customizing the shortcut menu

To customize buttons

1 In the Home >Favorites >Shortcut menu (0021), press [Button Edit].

The Home >Favorites >Button Edit menu (0023) appears.

2 Use the following procedures.

To rename the button
Select the button you want to change, press [Rename], enter a new button name (up to 24 characters), and then press [Enter].

To change the button color
Select the button you want to change, press [Color Set], and then select the desired color.

To copy button settings
Select the button you want to copy, press [Copy], and then select the target button and press [Paste].

To delete button settings
Select the button you want to delete, then press [Clear].

To customize groups

1 In the Home >Favorites >Shortcut menu (0021), press [Group Edit].

The Home >Favorites >Group Edit menu (0022) appears.

2 Use the following procedures.

To rename a group
Select the group you want to change, press [Rename], enter a new group name (up to 24 characters), and then press [Enter].

To copy group settings
Select the group you want to copy and press [Copy], and then select the target group and press [Paste].

To delete group settings
Select the group button you want to delete, press [Clear]. Check the message, then press [Yes].

Switching between the Main Menu Site and Subsidiary Menu Site

For menu transitions, you can store two separate versions in the main and subsidiary menu sites.
By switching sites and pressing the ◀ button and the ▶ button, you can trace the history in each menu.

To turn the subsidiary menu site on and off

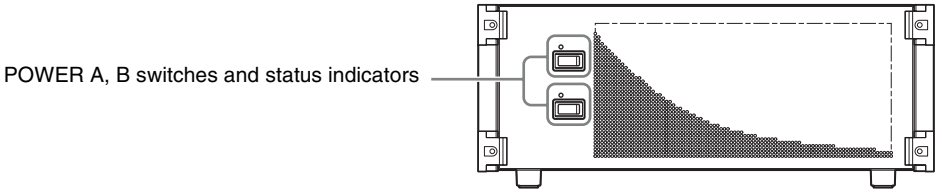
Assign [SUB MENU SITE] to a top menu selection button or user preference button on the menu panel.
To switch to the subsidiary menu site, press this button, turning it on.

For details about the assignment, ☞ "Assigning Functions to the Menu Panel Top Menu and User Preference Buttons" (p. 328).

Power Supply and Connectors

MVS-6520/6530/3000A/3000 Multi Format Switcher Processor

Front panel



POWER A, B switches and status indicators
The POWER switches turn the unit on and off. The unit is powered on when the POWER switches are on the " | " side, and powered off when the POWER switches are on the "○" side. The status indicators light in green when the unit is powered on.
Operation continues as long as power supply is normal on one unit.

Meaning of status indicator display

The power supply unit status indicator shows the status if an error is detected when the unit is powered on and during operation.

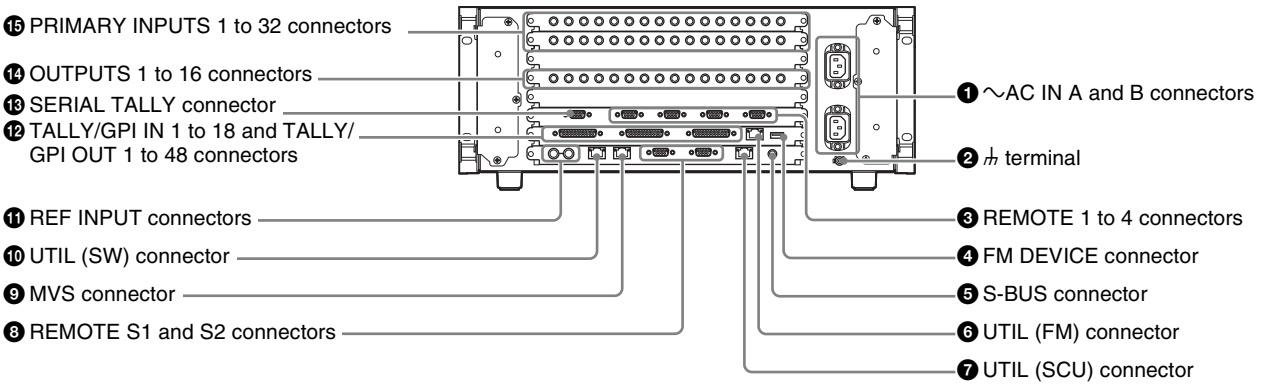
Indicator color	Status	Description	Steps to take
Green	Lit	Operating normally	–
Red	Lit	Power supply unit fan fault	Exchange the fan unit.
–	Not lit	Power supply fault	Exchange the power supply unit.

Notes

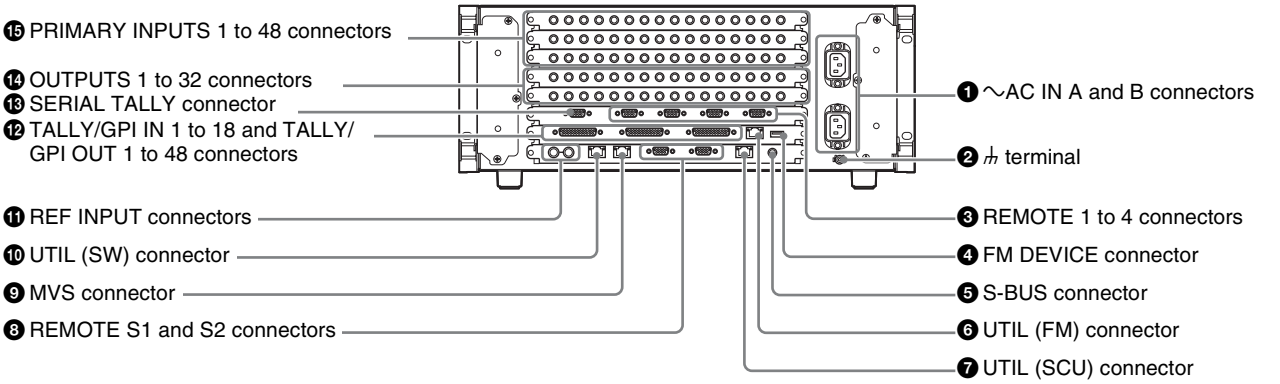
- If a status indicator does not light when you turn a POWER switch on, there may be a fault in the power circuits. Turn the POWER switch off and contact your Sony service representative.
- When the unit is powered on, the status indicators may light momentarily in red and a whining sound may be heard. If POWER A or B only is turned OFF, the power supply status indicator for that power supply lights in red. This is not a malfunction. Turn both POWER A and B switches ON.

Rear panel

MVS-6520, MVS-3000A, and MVS-3000



MVS-6530



❶ ∼ AC IN (AC power input) A and B connectors (3-pin)

Connect to 100 V to 240 V AC power supply with the optional AC power cords.

The unit is equipped with two power supplies. When A or B power supply is connected, unit operation can proceed.

❷ ⏚ (signal ground) terminal

Connect to the system ground.

❸ REMOTE 1 to 4 connectors (D-sub 9-pin, RS-422A)

Connect devices supporting Sony 9-pin VTR, VDCP (Video Disk Communications Protocol), or P-Bus (Peripheral II Protocol) protocols.

❹ FM (frame memory) DEVICE connector (USB 2.0 compliant)

This connector is for attaching an external HDD for frame memory.[1)]

❺ S-BUS connector (BNC-type)

Connect this connector with a BNC cable to an S-Bus data link via a T bridge.

Connecting devices such as IXS series routing switchers and MKS-8080/8082 AUX bus remote panels via an S-Bus data link enables the following kinds of control.

- Returning to the S-Bus, tally data created by this unit on the basis of data received from other devices
- Switching the cross-points of a routing switcher from the control panel
- Switching the cross-points of a switcher from the remote panel
- Displaying on the control panel source names set on a routing switcher

❻ UTIL (FM) (utility (frame memory data)) connector (RJ-45 compliant)

Intended for future expansion.

❼ UTIL (SCU) (utility (SCU)) connector (RJ-45 compliant)

Intended for future expansion.

❽ REMOTE S1 and S2 connectors (D-sub 9-pin, RS-422A compliant)

These connectors are used to operate the MVS system from external devices.

Define the types of the connected devices on the control panel.

❾ MVS (multi format video switcher) connector (RJ-45 compliant)

Connect to an ICP-series control panel. Connect to an Ethernet switch[1)] if connecting a DCU, MVE-8000A/9000 multi format DME processor, and other devices.

❿ UTIL (SW) (utility (SW)) connector (RJ-45 compliant)

Intended for future expansion.

⓫ REF INPUT (reference video input) connectors (BNC-type)

If you wish to synchronize this unit to an external reference signal, input the reference signal. For an HDTV system, input an HD tri-level sync signal, black burst signal, or analog sync signal. For an SDTV system, input a black burst signal or analog sync signal.
The two connectors have a loop-through configuration. Signal input to one connector can be output from the other connector. If you will not be using the loop-through output, be sure to terminate the unused connector with the supplied 75 ohm terminator.

⓬ TALLY/GPI IN (tally/ general purpose interface input) 1 to 18 and TALLY/GPI OUT (tally/ general purpose interface output) 1 to 48 connectors (D-sub 25-pin)

Output tally data created with the control panel of the MVS system (open collector). These connectors can also be used as GPI output ports.
You can also input trigger signals as GPI inputs.
Input and output settings are made on the control panel of the MVS system.

⓭ SERIAL TALLY connector (D-sub 9-pin, RS-422A)

Output tally data created with the control panel of the MVS system.

⓮ OUTPUTS

1 to 16 connectors (BNC-type): MVS-6520/ MVS-3000A/ MVS-3000

1 to 32 connectors (BNC-type): MVS-6530

These connectors output serial digital signals. You can assign them as program output, preview output, AUX output, and so on.
Make output assignments on the MVS system control panel.

For details about assignable signals, ☞ "Signal Output Settings" (p. 351).

⓯ PRIMARY INPUTS

1 to 32 connectors (BNC-type): MVS-6520/ MVS-3000A/ MVS-3000

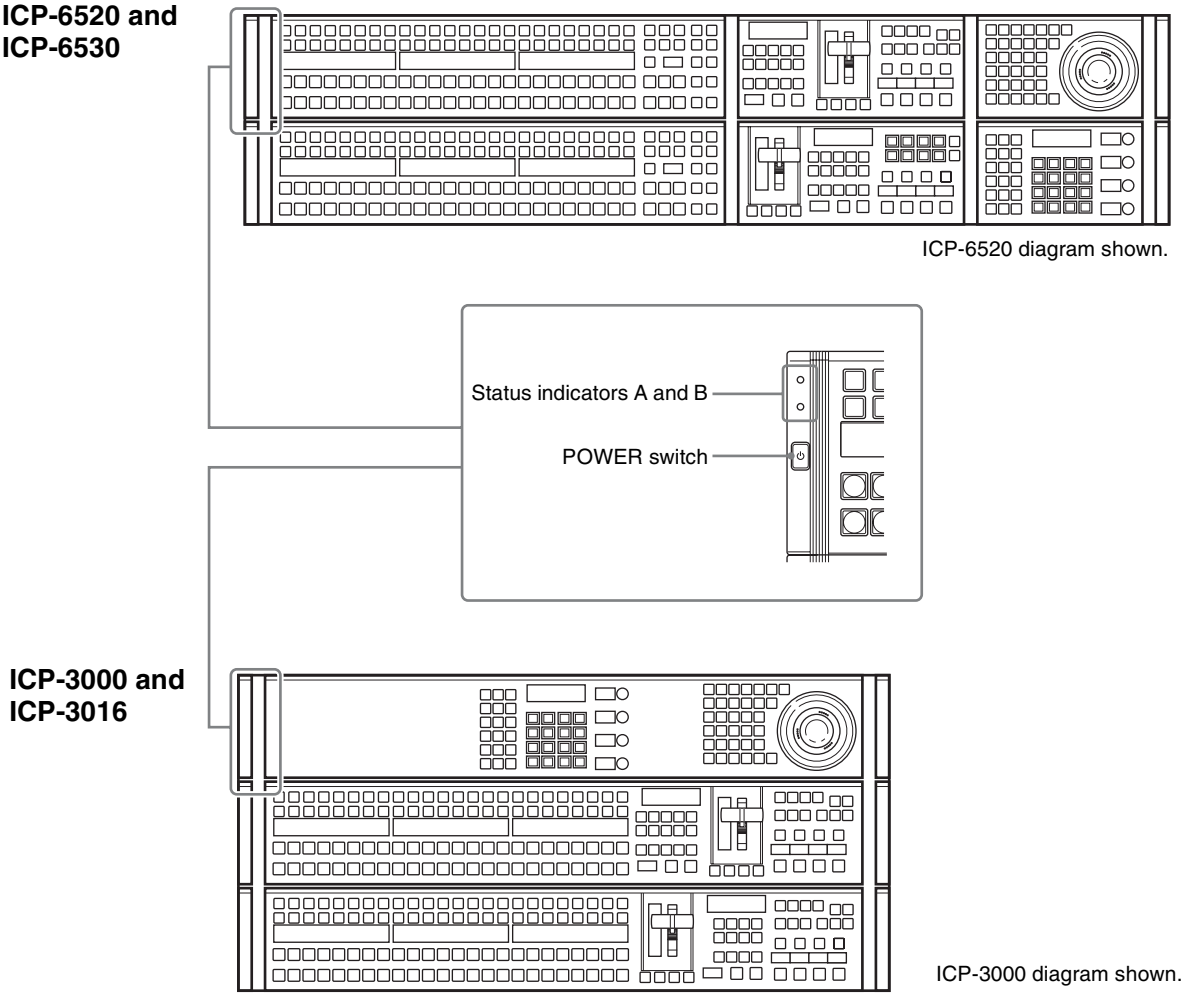
1 to 48 connectors (BNC-type): MVS-6530

These connectors allow you to input up to 32 or up to 48 serial digital video signals to the MVS-6520/MVS-3000A/ MVS-3000 or MVS-6530, respectively.

1) For information about devices that can be connected, contact your Sony representative.

ICP-6520/6530/3000/3016 Control Panel

Top panel



POWER switch and status indicators A and B

When power is supplied to the AC IN A and B connectors on the rear panel, the status indicators (green) light. If you press the POWER switch under this condition, ⏻ lights green and the panel turns on.

Shutting down the control panel

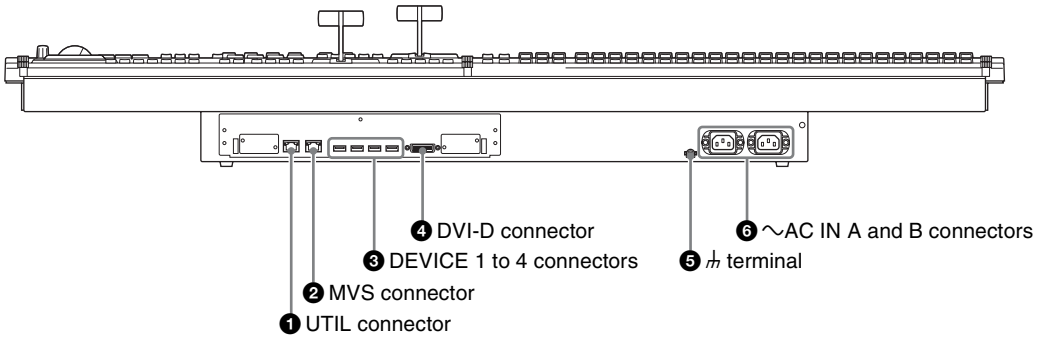
Press [Shutdown] in the top menu list or top menu window, and follow the on-screen instructions. After the menu screen goes fully black, check that the control panel power switch indicator ⏻ has gone out.

You can forcibly turn off the power without shutting down by pressing and holding the POWER switch for about five seconds.

Notes

- If status indicator A or B does not light even when power is supplied to the AC IN A and B connectors, there may be a fault in the power circuits. Disconnect the cords from the AC IN A/B connectors, and contact your Sony service representative.
- If you force shutdown without performing shutdown processing, setting data may not be saved.
- Shut down the control panel before turning off the AC power supply (or disconnecting the power cord).

Rear panel



ICP-6520 diagram shown.

❶ UTIL (utility) connector (RJ-45 compliant)
Intended for future expansion.

❷ MVS (multi format video switcher) connector (RJ-45 compliant)
Connect to the MVS-6520/6530/3000A/3000 multi format switcher processor. Connect to an Ethernet switch[1)] if connecting a DCU, MVE-8000A/9000 multi format DME processor, and other devices.

❸ DEVICE 1 to 4 connectors (USB 2.0 compliant, USB Type-A)
Connect to an ICP-6511 menu panel or a USB device.[1)]

❹ DVI-D connector
Connect to an ICP-6511 menu panel or external monitor.[1)]

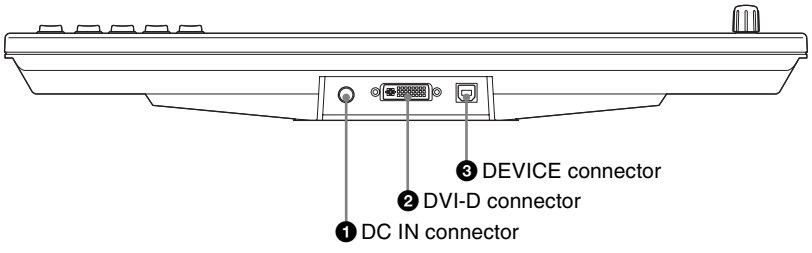
❺ ⏚ (signal ground) terminal
Connect to the system ground.

❻ ∿ AC IN (AC power input) A and B connectors (3-pin)
Connect to 100 V to 240 V AC power supply with the optional AC power cords.
The unit is equipped with two power supplies. When A or B power supply is connected, unit operation can proceed.

1) For information about devices that can be connected, contact your Sony representative.

ICP-6511 Menu Panel

Bottom panel

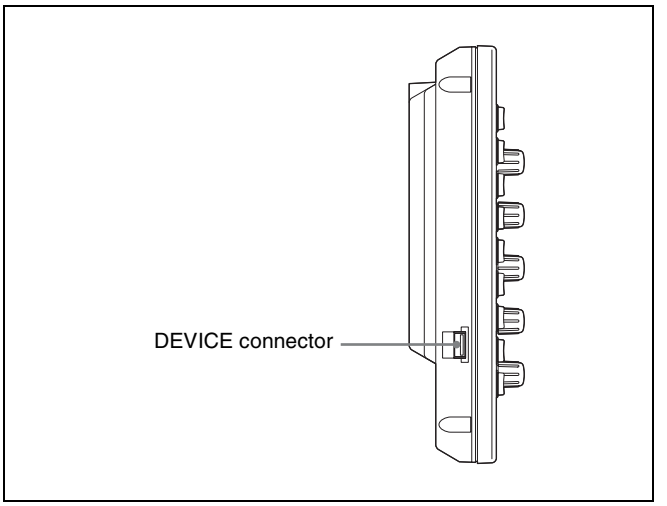


❶ DC IN connector
Connect to the 12V DC connector of the supplied AC adaptor.

❷ DVI-D connector
Connect to the DVI-D output of the ICP-series control panel.

❸ DEVICE connector (USB 2.0, USB Type-B)
Connect to the DEVICE 1 connector of the ICP-series control panel.

Side panel



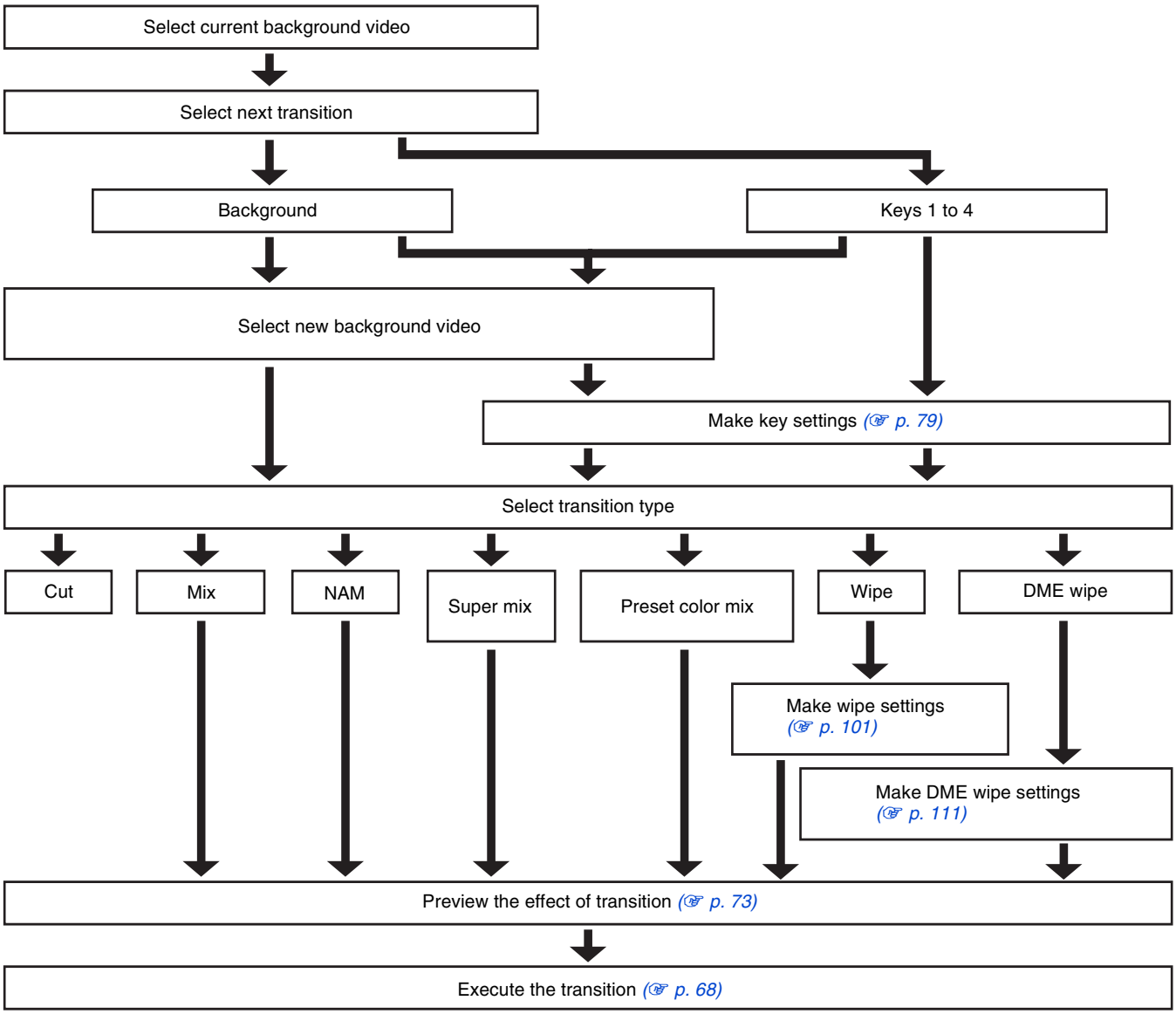
DEVICE connector (USB 2.0, USB Type-A)
In general, connect to a USB memory device, and input and output files.

Chapter 3 Signal Selection and Transitions

Video Processing Flow

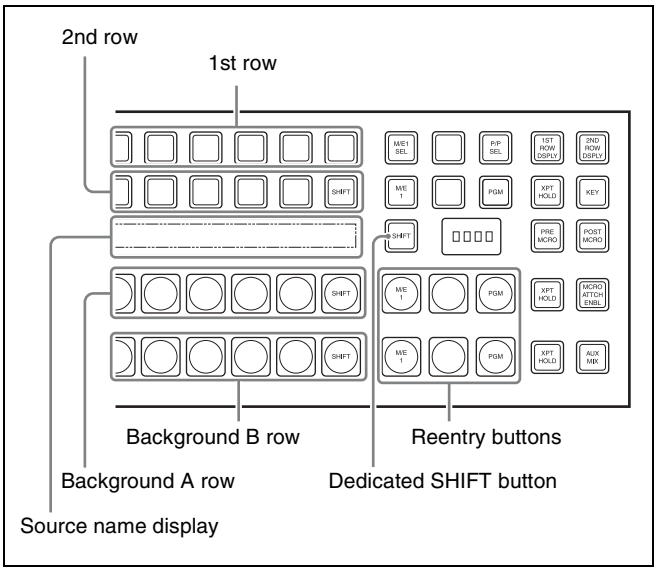
The switch from the current video stream (appearing on the corresponding program monitor) to a new video stream is referred to as a transition.

The following illustration shows the flow of operations for carrying out a transition on a switcher bank.

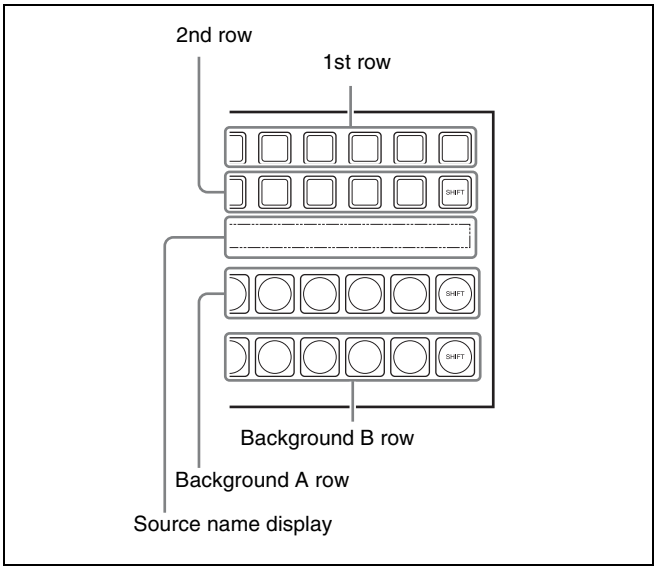


Signal Selection

You carry out signal selection in the cross-point control block of each bank.



Cross-point control block (ICP-6520/6530)



Cross-point control block (ICP-3000/3016)

Basics of Signal Selection

Each of the switcher banks have cross-point buttons and reentry buttons in their cross-point control blocks.
The ICP-6520 and ICP-6530 both have 24 cross-point buttons and three reentry buttons.
The ICP-3000 and ICP-3016 have 24 and 16 cross-point buttons, respectively. The ICP-3000 and ICP-3016 do not have reentry buttons.

These buttons are identified by numbers common to all of the banks and blocks, and a signal is assigned to each number.
The basis of signal selection is to select, in a cross-point button row, the cross-point button to which the desired signal is assigned.

Selecting M/E reentry input signals

For example, a video signal created on the M/E bank can be imported as an input signal on the PGM/PST bank. In this way, you can use a video created on any bank as an input signal on another bank. These signals are referred to as “M/E reentry input” signals.

To select using a reentry button (ICP-6520/6530)

Output video (M/E reentry inputs) from each bank are assigned to the reentry buttons on the cross-point control block.
For example, to select the reentry input from the M/E-1 bank as the background B input to the PGM/PST bank, in the PGM/PST cross-point control block, press the [M/E1] button in the background B row.

To select using an assignment to a cross-point button (ICP-3000/3016)

To select an M/E reentry input signal using the cross-point buttons, the signal must be assigned beforehand in the Setup menu *(☞ p. 329)*.
For example, if the program output from the M/E-1 bank (M/E1OUT1) is assigned to an arbitrary cross-point button, the signal can be used as the M/E-1 reentry input at any time.

Bus Selection

Each row of cross-point buttons is shared by multiple buses.
The following table illustrates the correspondence between buses and cross-point button rows, and the delegation operations.

Bank	Bus name	Cross-point button row	Delegation operation
M/E-1	Background A bus	Background A row	–
	Background B bus	Background B row	–
	Key1 bus	2nd row	In the 1st row, press the button to which the corresponding key was assigned in the Setup menu, turning it on.
	Key2 bus		
	Key3 bus		
	Key4 bus		

Bank	Bus name	Cross-point button row	Delegation operation
PGM/ PST	Program bus	Program row	–
	Preset bus	Preset row	–
	DSK1 bus	2nd row	In the 1st row, press the button to which the corresponding key was assigned in the Setup menu, turning it on.
	DSK2 bus		
	DSK3 bus		
	DSK4 bus		
M/E-1 PGM/ PST	Utility bus	2nd row	In the 1st row, press the button to which UTIL1 was assigned in the Setup menu, turning it on.
	AUX1 to AUX24 buses		In the 1st row, press the button to which the corresponding bus was assigned in the Setup menu, turning it on.
	Frame memory source 1 and 2 buses		
	DME1, DME2, DME5 to DME8 video buses a)		
	DME1, DME2, DME5 to DME8 key buses a)		
	Edit preview bus		
	DME external video bus b)		

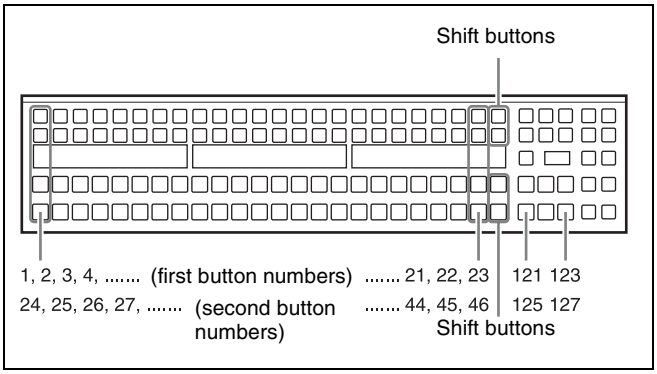
a) DME1 and DME2 are enabled when using the MKS-6570 only. DME5 to DME8 are enabled when using the MVE-8000A/9000 only.
b) MVS-6520/6530/3000A only

Signal Assignment and Selection

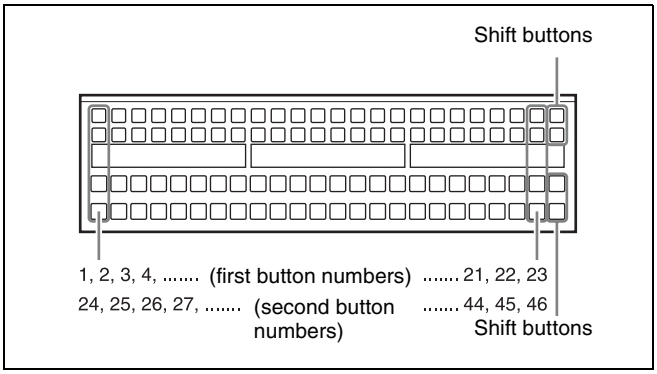
Assigning signals to buttons

Each of the cross-point buttons and reentry buttons has a corresponding button number, to which you assign a signal.
In addition to the signals input to the connectors at the rear of the switcher processor, you can also select signals generated within the switcher.
Each button has assigned to it a video signal and a key signal, forming a pair. You can set these video and key combinations in the Setup menu.

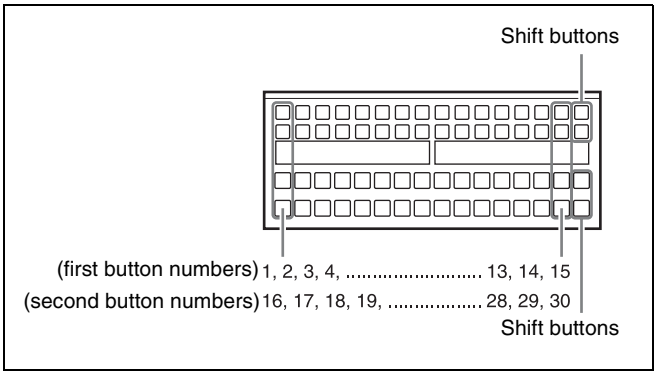
Cross-point control block button numbers



Cross-point control block (ICP-6520/6530)



Cross-point control block (ICP-3000)



Cross-point control block (ICP-3016)

On each switcher bank, each cross-point button and reentry button has two button numbers, and you use the shift button to switch between these numbers.
This section describes a unit with 24 cross-point buttons as an example.

The button numbers on the cross-point control block are as follows.

Cross-point control block button numbers

Button	Number when the shift button is not pressed	Number when the shift button is pressed
From the left end to the 23rd button	1 to 23	24 to 46

Cross-point control block button numbers

Button	Number when the shift button is not pressed	Number when the shift button is pressed
Reentry buttons	121 to 123	125 to 127

Notes

You can use the rightmost (24th) button as a [SIDE FLAG] button. In this case, the shift button moves one to the left, to the 23rd, and the button numbers are offset by one.

For details about the [SIDE FLAG] button, ☞ "Assigning a Cross-Point Button to Enable/Disable Side Flags" (p. 333).

Switching button numbers

The rightmost (24th) button functions as a shift button. The shift button function can be disabled in the Setup menu.
When selecting the signals of button numbers 1 to 23, press the cross-point button for the desired signal.
To select button numbers 24 to 46, hold down the shift button, and press the cross-point button for the desired signal.

Interchanging the M/E and PGM/PST Banks

On the ICP-6520/6530, you can use the M/E bank selection buttons on the cross-point control block to interchange the M/E bank and PGM/PST bank.
For example, if you press the [M/E1 SEL] button on the bank that is being used as PGM/PST, the bank will become the M/E-1 bank.
At the same time, the bank that was being used as M/E-1 will become the PGM/PST bank, effectively interchanging the M/E and PGM/PST banks.
The change will also be reflected in the M/E bank display.

Notes

On the ICP-3000/3016, you cannot interchange banks using control panel buttons.

Inhibiting Cross-Point Button Operations

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

Notes

This setting is cleared when you reset the control panel.

Buses for which operations can be inhibited

This setting applies to the cross-point buttons in each switcher bank.
If you make the setting for one cross-point button, this inhibits operation of all cross-point buttons with the same number in the following buses.
The corresponding name also disappears from the source name display.

- Background A, background B
- Keys 1 to 4
- Utility bus
- DME external video bus

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

In the Setup menu, assign "Inhibit Set" to any of the buttons in the 1st row.

For details, ☞ "Assigning a Bus or Function to 1st Row Buttons" (p. 340).

Inhibiting operation of a cross-point button

Hold down the button to which "Inhibit Set" is assigned, and press the cross-point button whose operation you want to inhibit.
The button you pressed flashes amber, and its operation is inhibited.

Notes

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

For details, ☞ "Setting and Canceling a Macro Attachment" (p. 292).

Clearing a cross-point button operation inhibit setting

Hold down the button to which "Inhibit Set" is assigned, and press the button whose operation is inhibited (flashing amber).
This clears the operation inhibit setting for the button you pressed.

Clearing all operation inhibit settings

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

Selecting Signals to be Linked with the Audio Mixer

When you select a signal in the background A row or 2nd row of a switcher bank, and the bank and signal are linked to an audio mixer, then the program output of the audio mixer will switch along with the signal selection.

For details about settings, ☞ "Making Settings for Audio Mixer" (p. 332).

Notes

- For details about audio mixers that can be connected, contact your Sony service or sales representative.
- When the signal is switched via a snapshot, keyframe, or similar means, the audio mixer will not be linked.
- When bus fixed mode is selected in the Setup menu *(☞ p. 73)*, the audio mixer program output is linked to the bus output as the background.

Signal Name Display

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

- The source name displays in the cross-point control block show the source names of the video signals assigned to numbers 1 to 23 (or 1 to 15).
- To display the source names for numbers 24 to 46 (or 16 to 30), press the following [SHIFT] button.
  ICP-6520/6530: [SHIFT] button on the right of the source name display.
  ICP-3000/3016: [SHIFT] button assigned to the 1st row.

Colors of lit cross-point buttons

In a particular row of cross-point buttons, only the last pressed button is effective, and lights amber or red. The amber indicates the "low tally" state, and the red indicates the "high tally" state, to indicate whether or not the selected signal appears in the final output video.

Meaning of colors of lit cross-point buttons

Color	State	Meaning
Amber	Low tally	Does not appear in final output video.
Red	High tally	Appears in final output video.

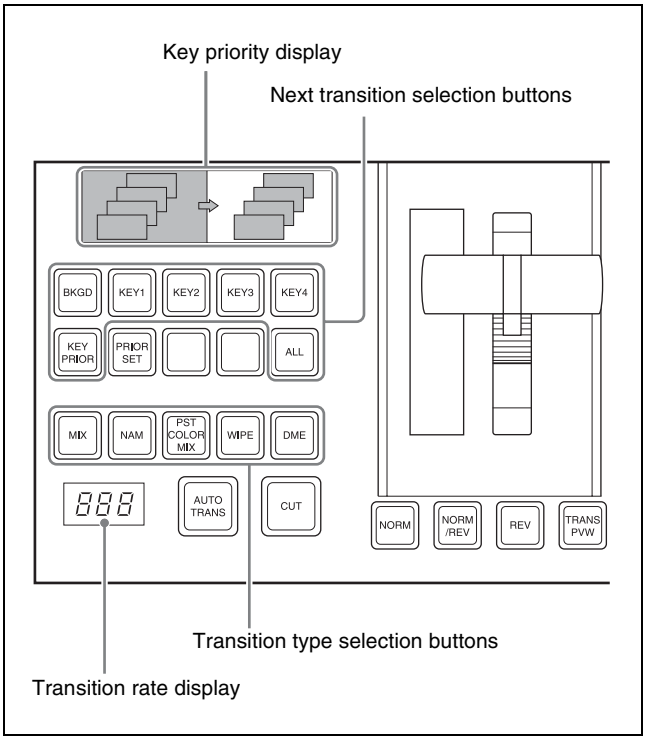
Transitions

Transition Types

Type	Description	Independent key transition	See page
Mix	The new video progressively fades in over the current video. The sum of the two video outputs is maintained at a constant, with the output of each at 50% at the mid-point of the transition (i.e., when the fader lever is in the center position).	Selectable	–
NAM (non-additive mix)	The current video and new video signals are compared, and the signal with the higher luminance level is given priority in the output. The signals are compared at the mid-point of the transition when both signals are at 100%, at which point the signal with the higher luminance level overpowers the other signal.	Not selectable	–
Super mix	The current video is maintained at 100% output for the first half of the transition as the new video is mixed while increasing progressively to 100%.	Not selectable	*p. 67*
Preset color mix	The current video is replaced by the new video in a two-stage transition, with a color matte (unpatterned display) inserted during the first stage.	Not selectable	*p. 67*
Wipe	The current video is replaced by the new video according to a predetermined wipe pattern.	Selectable	*p. 101*
DME wipe	Using an image transformation effect, the current video is replaced by the new video as in a wipe.	Selectable	*p. 111*

Type	Description	Independent key transition	See page
Clip transition	Linked to a mix (dissolve) or wipe transition, a frame memory clip (movie) is played back.	Not selectable	–
Cut	The new video quickly cuts into and replaces the current video.	Selectable	–

Procedure for Basic Transition Operation



Transition control block

1 In the background A row of the cross-point control block, select the background video.

2 Select the way in which the transition will affect the image, using the next transition selection buttons in the transition control block.

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

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

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

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

To change preset keys and backgrounds simultaneously: Press the [ALL] button.

For details about allocating a particular next transition button to the [ALL] button function, ☞ "Setting the Operation Mode of the [ALL] Button in the Transition Control Block" (p. 342).

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

For details about operations, ☞ "Key Priority Setting" (p. 65).

For details about using keys 1 to 8, ☞ "Setting the DSK1 to DSK8 Key Priority" (p. 414).

4 Select the new video used for the transition.

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

For details about key settings, ☞ "Keys" (p. 79).

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

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

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

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

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

You can also use the Misc >Transition menu (1171) to select a desired transition type for a switcher bank.

Notes

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

For details, ☞ "Setting Transition Control Block Button Assignments" (p. 327).

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

Super mix: *"Super Mix Settings" (☞ p. 67)*

Preset color mix: *"Color Matte Settings" (☞ p. 67)*
Wipe: *"Basic Wipe Setting Operations" (☞ p. 101)*
DME wipe: *"Basic DME Wipe Setting Operations" (☞ p. 115)*
Clip transition: *"Clip Transition Operations" (☞ p. 139)*

Using the transition preview function *(☞ p. 73)*, you can check the transition on the preview monitor.

7 Carry out the transition in the transition control block.

For a gradual transition such as a mix (dissolve) or wipe: Press the [AUTO TRANS] button, or operate the fader lever.
To execute a transition by pressing the [AUTO TRANS] button, first set the transition rate (specified as the duration of the transition) *(☞ p. 68)*.
When you have selected a wipe or DME wipe as the transition type, you can also set the transition range *(☞ p. 70)*.

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

For details, ☞ "Executing a Transition" (p. 68).

Transition linked to the audio mixer

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

For details about settings, ☞ "Making Settings for Audio Mixer" (p. 332).

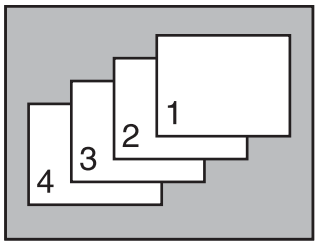
Notes

- The audio mixer is not linked to snapshots or key frame transitions.
- The audio mixer is not linked to transitions using the fader lever.
- If the bus-fixed mode *(☞ p. 73)* is selected in the Setup menu, and the fader lever is in the lowest position, there is a cross fade from the audio selected on the B row to the audio selected on the A row.
- The audio mixer is not linked to key transitions.
- In the following cases, the audio and video may be out of sync.
  - When carrying out a cross fade in some DME wipes (for example, "picture in picture")
  - When executing a preset color mix in two-stroke mode
- For details about audio mixers that can be used, contact your Sony service or sales representative.

Key Priority Setting

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

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



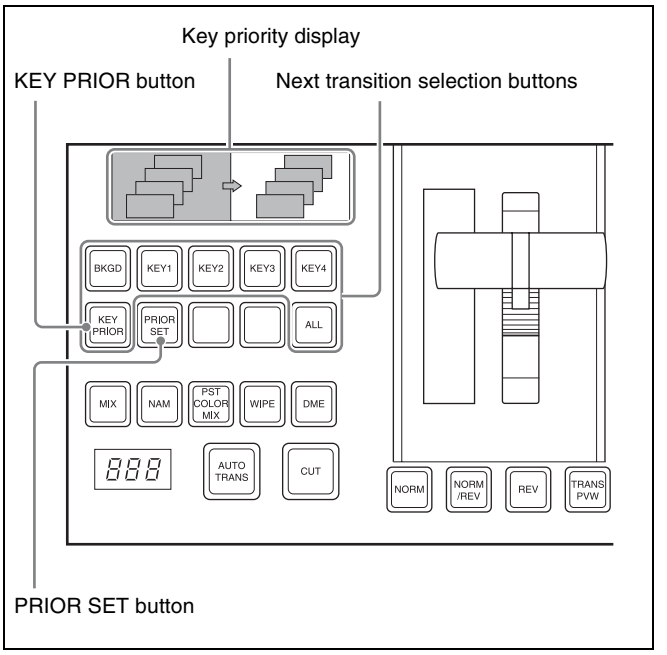
Priority sequence 1 to 4 on the screen

You can set the key priority for keys inserted in the current screen and for keys after the transition. There are two ways of setting the priority: either using the [PRIOR SET] button in the transition control block, or using the Misc menu to access the Key Priority menu for each switcher bank.

Notes

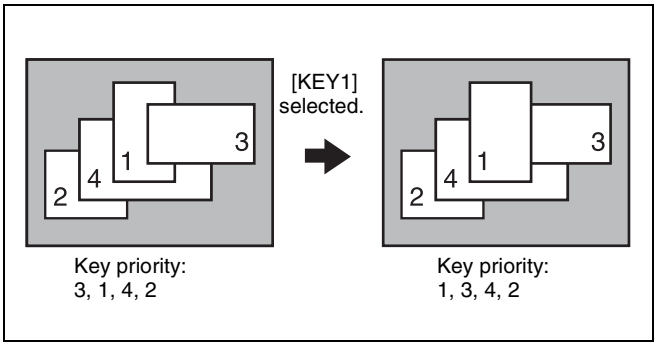
When the operating mode is set to multi program, the key priority setting cannot be made.

Setting the Key Priority in the Transition Control Block



Transition control block

Changing the key priority



1 Press and hold down the [PRIOR SET] button and press the [KEY PRIOR] to select the setting mode.

When a currently inserted key is selected, the [KEY PRIOR] button turns off.
When a key after a transition is selected, the [KEY PRIOR] button turns on.

2 Press and hold down the [PRIOR SET] button, and press one of the next transition selection buttons [KEY1] to [KEY4] ([DSK1] to [DSK4] buttons in the PGM/PST bank) for the key you want to bring to the front after the transition.
To set the priority to be the same as before the transition, press and hold down the [PRIOR SET] button and press the [BKGD] button.

Notes

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

When the [KEY PRIOR] button is selected as the next transition, the selected key appears on top on the preview monitor.

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

Setting the Key Priority by a Menu Operation

Changing the key priority

1 When operating from the M/E-1 bank, for example, open the following menu.

To target the currently inserted keys, open the M/E-1 >Misc >Key Priority menu (1173).
To target the keys after transition, open the M/E-1 >Misc >Next Key Priority menu (1174).

2 For each of <Priority 1>, <Priority 2>, <Priority 3>, and <Priority 4>, select a key to determine the key priority sequence.

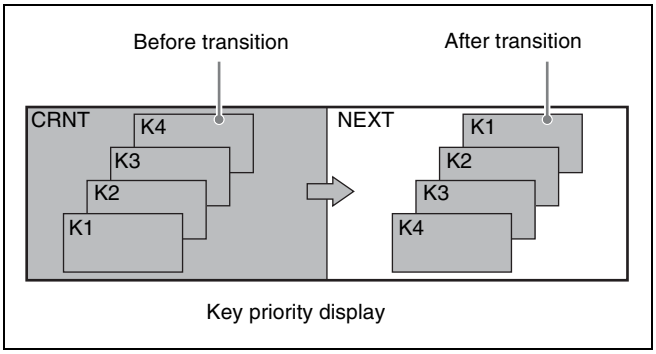
The keys appear in the set order on the program monitor of the corresponding bank.

Notes

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

Displaying the Key Output Status and Key Priority

The key status is displayed as follows in the key priority display of the transition control block. K1 to K4 represent key 1 to key 4, respectively.



Key priority display

The current priority (i.e., before transition) is displayed on the left (CRNT), and the priority after the transition is displayed on the right (NEXT).
After the transition is complete, the CURRENT and NEXT displays switch places.

Super Mix Settings

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

Notes

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

1 When operating from the M/E-1 bank, for example, open the M/E-1 >Misc >Transition menu (1171).

2 In the <Transition Type> group, select [Super Mix].

3 Adjust the output levels.

No.	Parameter	Adjustment
2	A Gain	Background A output level
3	B Gain	Background B output level

Color Matte Settings

You can specify the color matte that is inserted during preset color mix by luminance, saturation, and hue values. Also, in place of a color matte you can use an image selected on the utility bus.

Notes

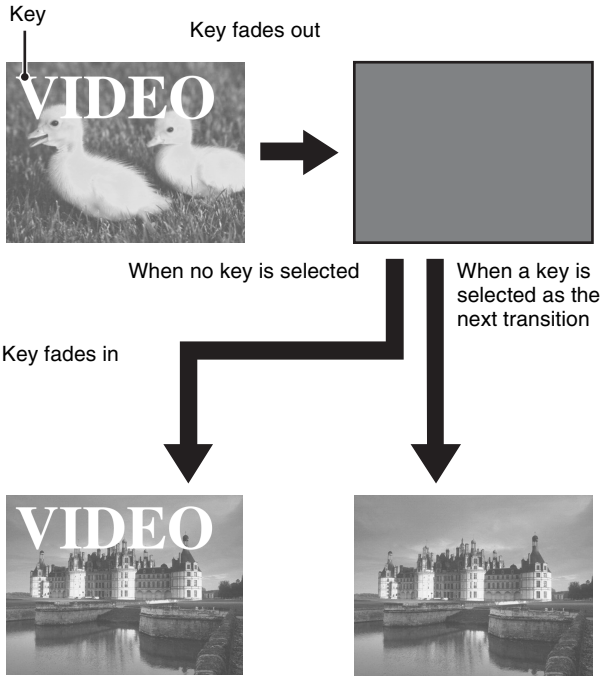
- This transition type is not available for an independent key transition.
- In the multi-program mode, you can use a preset color mix only when selecting the background for the next transition.

One-stroke mode and one-time mode

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

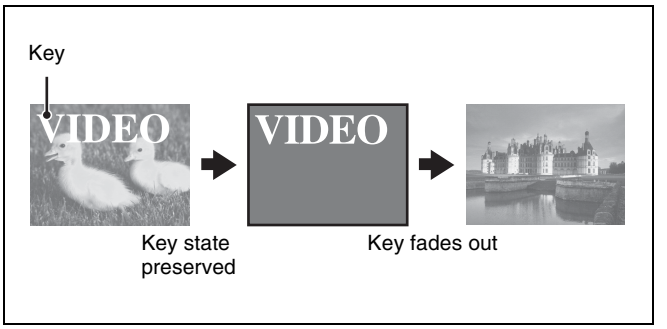
When only the background is changed

When a key is inserted



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

When a key is selected for the next transition while a key is inserted



Setting the color matte

1. When operating from the M/E-1 bank, for example, open the M/E-1 >Misc >Transition menu (1171).
2. Select [Preset Color Mix] in the <Transition Type> group.
3. In the <Preset Color Mix Fill> group, select one of the following.

   Flat Color: Monochrome color matte
   Utility 1 Bus: Signal selected on the utility bus
4. When [Flat Color] is selected, adjust the color matte.

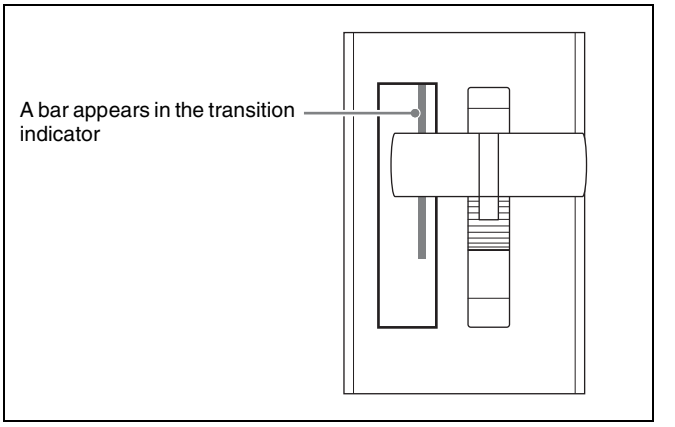
No.	Parameter	Adjustment
2	Luminance	Luminance
3	Saturation	Saturation
4	Hue	Hue

Executing a Transition

There are two modes of executing a transition: an auto transition by button operation or a manual transition using the fader lever.
It is also possible to combine both methods, taking control with the fader lever of an auto transition which has partly completed, or complete a transition started with the fader lever as an auto transition.
By combining common transitions with independent key transitions, different transition types can be applied to the background and keys, for example allowing a key wipe combined with a background dissolve.
When the audio mixer is linked in the Setup menu, you can carry out an auto transition, and also switch the sound with the audio mixer *(☞ p. 65)*.

Transition Indicator Function

In each of the switcher banks, to the left of the fader lever is a transition indicator. This indicator shows the state of the transition, whether auto or manual.



For example, in the previous illustration, it can be seen that the transition is more than half completed.
When the transition is completed, the indicator turns off.

Setting the Transition Rate

There are two ways of setting the transition rate: using the Flexi Pad to enter a numeric value, or using the Misc menu to access the Transition menu for each switcher bank. You can also display the transition rate, independent key transition rate, and fade-to-black transition rate for each bank, and change the settings *(☞ p. 150)*.

Notes

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

Frame input mode and timecode input mode

For numeric input of the transition rate value, there are two modes: frame input mode and timecode input mode. You select one of these modes using the Flexi Pad.

Frame input mode: The entered value is a number of frames.
Example: Entering 123 constitutes an entry of 123 frames

Timecode input mode: The entered value is a timecode value.
Example: Entering 123 constitutes an entry of 1 second 23 frames.

Notes

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

Frame display mode and timecode display mode

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

For details, ☞ "Setting the Transition Rate Display Mode" (p. 340).

Notes

The setting is common to all banks of the switcher.

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

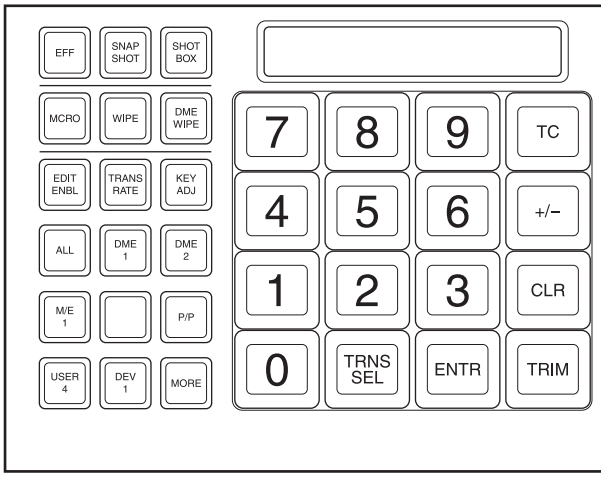
Timecode display mode: Values are shown as timecode values, consisting of seconds and frames. In this display mode, a value entered in frame input mode is converted for display as a timecode value. If the value consists of four or more digits, the last digit is not shown.

Example: A value of 9 seconds 23 frames appears as "9.23" and a value of 10 seconds 01 frame appears as "10.0."

Setting the transition rate in the Flexi Pad

1 In the Flexi Pad, press the [TRANS RATE] button.

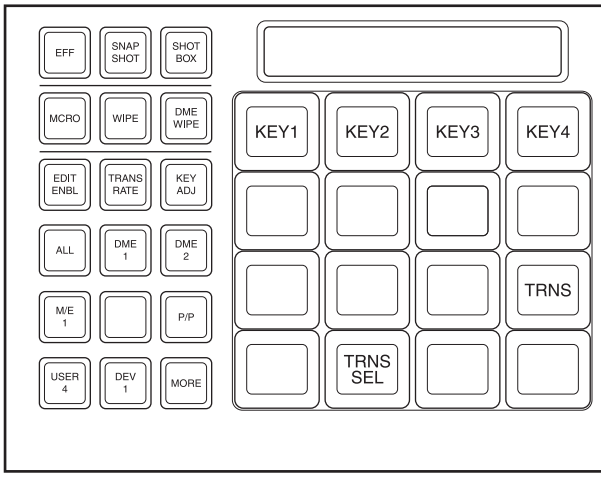
The button displays in the memory recall section change as shown in the following illustration, and the Flexi Pad switches to the transition rate setting mode.



2 In the region selection buttons, select the switcher bank.

3 Press the [TRNS SEL] button in the memory recall section.

The button displays in the memory recall section change as shown in the following illustration, and you can select the type of transition for which to set the rate.



4 Press the [TRNS] button.

You can now set the M/E-1 bank background transition rate.

5 While viewing the alphanumeric display, enter the transition rate you want to set with the memory recall section button.

If required, press the [TC] button to toggle the input mode (frame input or timecode input).

- Enter a value of up to three digits.
- To cancel the input, press any of the mode selection buttons.

6 Press the [ENTR] button.

Setting the transition rate by a menu operation

1 When operating from the M/E-1 bank, for example, open the M/E-1 >Misc >Transition menu (1171).

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

3 Set the transition rate.

No.	Parameter	Adjustment
1	Transition Rate	Transition rate

Displaying the transition rates in a menu and changing the settings

For each of the banks, you can display the transition rate, independent key transition rate and fade-to-black transition rate, and change the settings *(☞ p. 150)*.

Pattern Limits

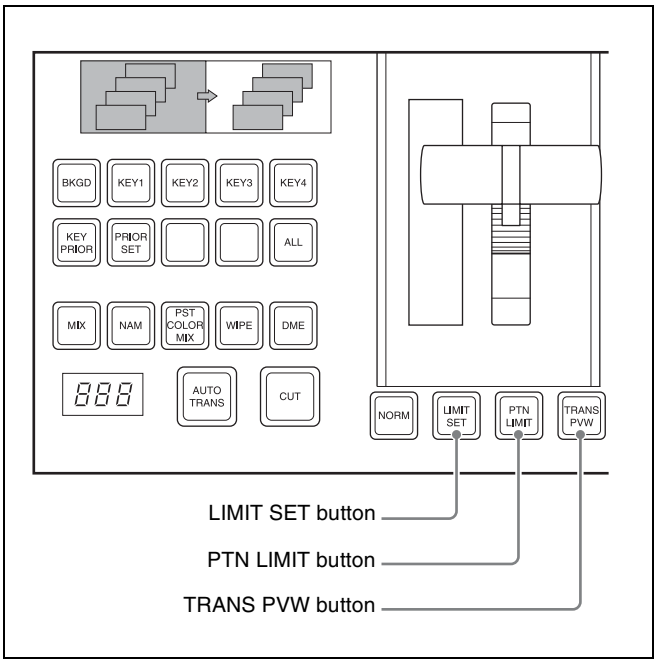
When a wipe or DME wipe pattern is selected for the transition, you can specify the range of movement of the wipe pattern through the course of the transition, for each bank.
When the pattern limit function is enabled, carrying out a transition results in the following effect for example settings.

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

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

Notes

- A pattern limit only applies when a wipe or DME wipe is selected as the transition type.
- A pattern limit cannot be applied to an independent key transition *(☞ p. 74)*.
- In multi program mode, a pattern limit can be used only when the background transition type is a wipe or DME wipe. If a key is selected for the next transition, the pattern limit setting is reflected in the wipe or DME wipe selected by the background transition type.



Transition control block

Setting the pattern limit with the fader lever

For assignment of buttons for pattern limits, ☞ "Setting Transition Control Block Button Assignments" (p. 327).

1 Move the fader lever to the position corresponding to a particular pattern size.

First make sure that the [PTN LIMIT] button is off. To check the pattern size on the preview monitor, first press the [TRANS PVW] button, to select the transition preview mode *(☞ p. 73)*.

2 Press the [LIMIT SET] button.

This sets the current fader lever position as the pattern limit.

Setting the pattern limit by a menu operation

1 When operating from the M/E-1 bank, for example, open the following menu.

When wipe is selected, open the M/E-1 >Wipe >Edge/Direction menu (1154).
When DME wipe is selected, open the M/E-1 >DME Wipe >Edge/Direction menu (1164).

2 Press [Pattern Limit], turning it on.

3 Adjust the following parameter.

No.	Parameter	Adjustment
1	Pattern Limit	Pattern limit

Executing a pattern limit transition

1 Press [PTN LIMIT], turning it on.

The button you pressed lights amber.

2 Execute the transition.

The transition progresses as far as the set pattern limit. Even if the transition completes, the cross-point button assignments of the background A and B buses do not interchange.

3 Carry out the transition once again.

The status before the previous transition is restored.

To cancel the pattern limit

To cancel the pattern limit after completion of step **3** in the previous procedure, press the [PTN LIMIT] button, turning it off.
If after carrying out step **2** in the previous procedure, the pattern limit has been reached, carry out the following procedure.

1 Press the [PTN LIMIT] button.

The button you pressed lights green.

2 Execute the transition.

The [PTN LIMIT] button turns off, and the pattern limit state is released.
Depending on the way in which the transition was executed, the action will be as follows.

- When you press the [CUT] button, the pattern limit is immediately released, and the image switches instantaneously.
- When you press the [AUTO TRANS] button, until the state of the next transition, the transition is carried out over the duration given by the transition rate.
- When you move the fader lever, the transition is carried out from the pattern limit state to the state before the pattern limit transition was carried out. Moving the fader lever even a little synchronizes the fader lever position with the transition state, and you can move the fader lever either in the forward direction or in the reverse direction.

Depending on the settings in the Setup menu, the transition may be executed at the instant you press the [PTN LIMIT] button, and the button will turn off. In this case, execution continues for the time specified by the dedicated transition rate in the menu setting, as far as the state of the next transition.

For details about settings, ☞ "Selecting the Bank to Make the Settings" (p. 357).

To set the transition rate when the pattern limit is released

1 In the <Pattern Limit Release> group of the Edge/ Direction menu (1164), select one of the following.

Auto Trans Rate: Use the transition rate set in the transition control block
Independ Trans Rate: Independent transition rate

2 If you selected [Independ Trans Rate] in step **1**, adjust the following parameter.

No.	Parameter	Adjustment
1	Transition Rate	Independent transition rate

Executing an Auto Transition

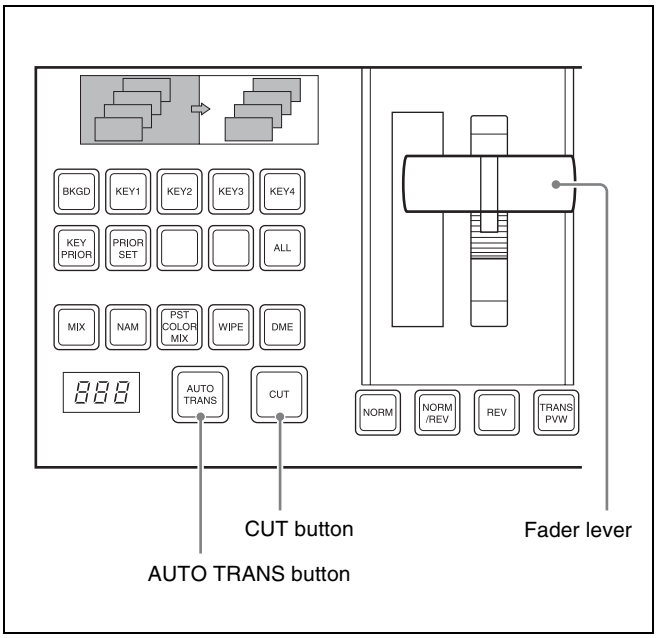
The following two modes can be used.

Cut

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

Auto transition

The transition from the current video to the new video is carried out automatically at a constant rate, using the transition effect selected as the transition type.
You can set the transition rate in advance *(☞ p. 68)*.



Transition control block

To execute a transition on a switcher bank by a button operation, use the following procedure in the transition control block.

To carry out an instantaneous cut transition: Press the [CUT] button.

To carry out a gradual transition: Press the [AUTO TRANS] button.
This executes the transition at the preset transition rate *(☞ p. 68)*.
While the transition is executing, the [AUTO TRANS] button lights amber. When it completes the button turns off.

To complete a partially executed transition instantaneously: Press the [CUT] button.
The [AUTO TRANS] button turns off.

Executing a Transition with the Fader Lever (Manual Transition)

Using the fader lever, you can manually control the progress of transition from the current video to the new video using the transition effect selected as the transition type. Moving the fader lever from one end of its travel to the other completes the transition.

To execute a manual transition with the transition control block fader lever, use the following procedure.

To carry out the transition completely: Move the lever over the full range of its travel.

To pause a partly executed transition: Stop moving the fader lever.

To resume a paused transition: Resume moving the fader lever.

Combining Auto and Manual Transitions

Using the [AUTO TRANS] button, the [CUT] button, and the fader lever, use the following procedures.

Moving the fader lever during an auto transition

During an auto transition started by pressing the [AUTO TRANS] button, operating the fader lever immediately enables the fader lever, and the [AUTO TRANS] button turns off. Thereafter, the fader lever controls the progress of the transition.

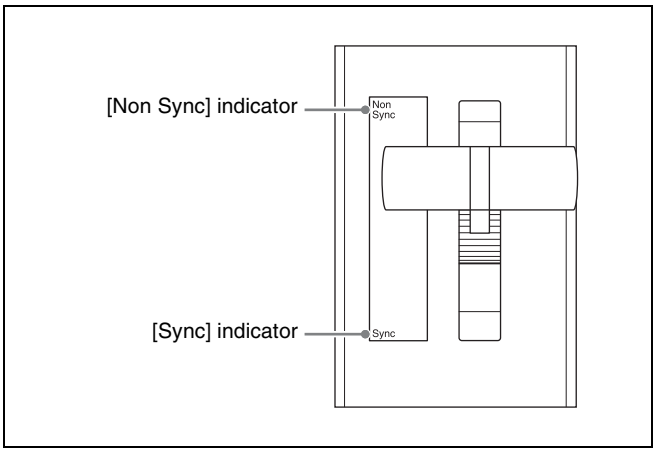
Executing an auto transition after partly moving the fader lever

- Press the [CUT] button to instantaneously complete the transition.
- Press the [AUTO TRANS] button to complete the rest of the transition at the preset transition rate.
  If the transition rate is set to 100 frames, and the fader lever has moved through $^{1}/_{4}$ of the transition, then the remaining $^{3}/_{4}$ of the transition is carried out in 100 frames.

Non-Sync State

If the fader lever is in an intermediate position when a transition is completed as an auto transition, then the lever position no longer agrees with the transition state. This is termed a “non-sync state.”
In a non-sync state, the [Non Sync] or [Sync] indicator indicates the position from which a normal transition can be carried out. This is at both end positions of the fader lever travel.

- If you move the fader lever toward the [Non Sync] indicator, transition is not executed, and the non-sync state will be released and the [Non Sync] indicator will disappear when you reach the end of the lever travel.
- If you move the fader lever toward the [Sync] indicator, the transition resumes, and the [Sync] indicator will disappear when you reach the end of the lever travel. In this case, a 100% transition is executed in the remaining section.



- Even in a non-sync state, you can carry out auto transitions. If you execute an auto transition by pressing the [AUTO TRANS] button, the indicators show the transition progress in the usual way, but when the transition completes, they once again indicate the non-sync state.

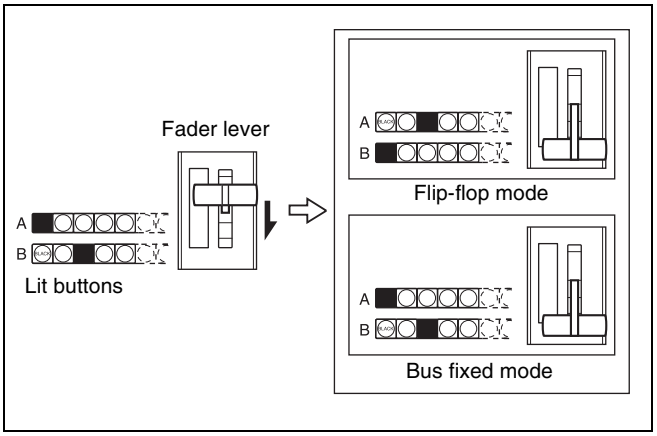
Fader Lever Operation in Bus Fixed Mode

Flip-flop mode and bus fixed mode

The following describes the difference between flip-flop mode and bus fixed mode, taking an M/E bank as an example; the functionality is the same, however, on the PGM/PST bank.

Normally, when a background transition is carried out on the M/E bank, the signals selected on the A and B rows of the cross-point buttons are interchanged at the end of the transition. That is to say, except during a transition, the background output is always from the background A bus. This is called “flip-flop mode.”

The alternative is known as “bus fixed mode,” in which there is no bus interchange. In this mode, when the fader lever is at the top of its travel the output from the A bus is always 100%, and when the fader lever is at the bottom of its travel the output from the B bus is 100%.



In the bus fixed mode there is a fixed relationship between the position of the fader lever and the signal output on background A bus and B bus. Depending on the direction of the transition, the fader lever must therefore always be moved in a particular direction, as shown in the following table. This does not affect an auto transition, which is executed regardless of the fader lever direction.

Next transition	Transition direction	Fader lever movement
Background	A → B	Downward
	B → A	Upward
Keys 1 to 4	On → Off (delete)	Downward
	Off → On (insert)	Upward

- When a transition applies to a combination of more than one of the background and keys, then the transition for all of these must be in the same direction complying with the above table.
- If as a result of an auto transition, for example, the fader lever position does not agree with the signal output, this is a non-sync state *(☞ p. 72)* and the [Non Sync] indicator will appear.

Transition Preview

With the preview output of the M/E bank and PGM/PST bank, you can check the effect of a transition in advance. To carry out a transition preview, press the [TRANS PVW] button in the transition control block to enable transition preview mode.

Notes

It is not possible to carry out a transition preview during the following.

- Transitions in progress
- Multi-program mode
- Bus fixed mode

Carrying out a transition preview

1 In the transition control block of a switcher bank, press the [TRANS PVW] button.

The [TRANS PVW] button lights green, and the switcher is now in the transition preview mode. At this point, the preview output is the same as the program output before the [TRANS PVW] button was pressed.

2 Operate the fader lever, or press the [AUTO TRANS] button or [CUT] button.

On the preview monitor, you can check the effect of the transition.

To terminate a transition preview

There are three modes for a transition preview. To terminate a transition preview, carry out the operation which depends on the mode, and press the [TRANS PVW] button, turning it off.

Lock: Switching the [TRANS PVW] button on or off switches between the transition preview mode and the normal mode.

Hold: The preview mode is enabled only while the [TRANS PVW] button is held down.

One Time: Each time a transition ends, it reverts to the normal mode.

Set the transition preview mode in the following combinations.

For details, ☞ "Setting the Button Operation Mode" (p. 342) and ☞ "Setting the transition preview mode" (p. 355).

Transition preview mode	Switcher setup (Transition menu) <Transition Preview> group	Panel setup (Operation >Custom Button menu) <Trans Pvw> group
Lock	Normal	Lock
Hold	Normal	Hold
One Time	One Time	–

Independent Key Transitions

What is an independent key transition?

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

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

It is also possible to use different transition types for key insertion and key deletion by means of a setting in the Setup menu *(☞ p. 75)*.

Combining other transitions with independent key transitions

When you set a common transition and a key independent transition for the same key, you can apply two different effects such as a wipe and mix (dissolve) to the key simultaneously.

When carrying out such a combination of transitions on the same key as auto transitions *(☞ p. 71)*, the result varies depending on the timing at which the two respective [AUTO TRANS] buttons are pressed.

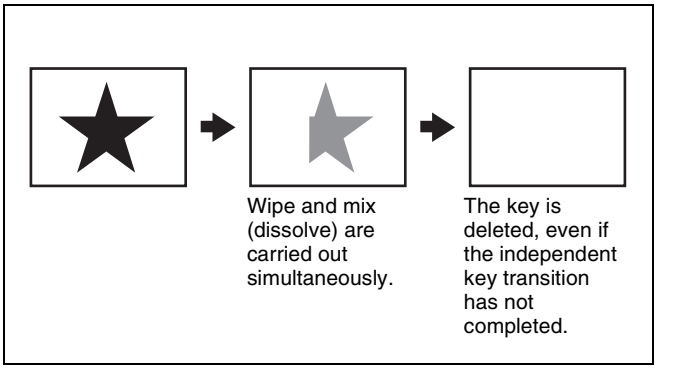
Simultaneous execution

If the [AUTO TRANS] buttons for the two transitions are pressed simultaneously, the following is the result.

Note that in both cases the common transition is a wipe and the independent key transition is a mix (dissolve).

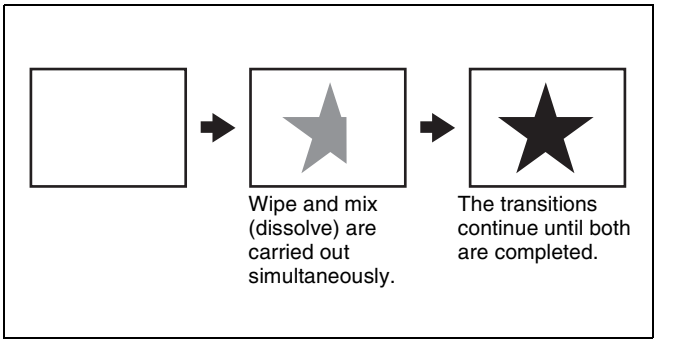
Deleting a key with simultaneous transitions: With the key inserted, the key is gradually deleted using the two transition types simultaneously.

When the common transition completes, even if the independent key transition is still not completed, the two end simultaneously.



Inserting a key with simultaneous transitions: With the key not inserted, the key is gradually inserted using the two transition types simultaneously.

If the common transition or independent key transition ends first, the other continues to completion.



Time offset execution

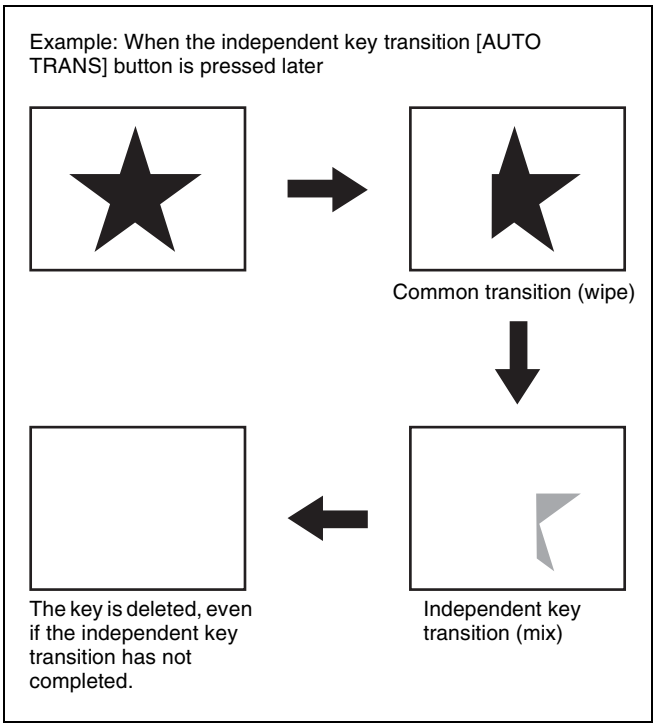
If the [AUTO TRANS] buttons for the two transitions are pressed with a time offset, the following is the result.

Note that in both cases the common transition is a wipe and the independent key transition is a mix (dissolve).

Time offset execution with the key inserted: With the key inserted, the key is gradually deleted using two transition types with a time offset.

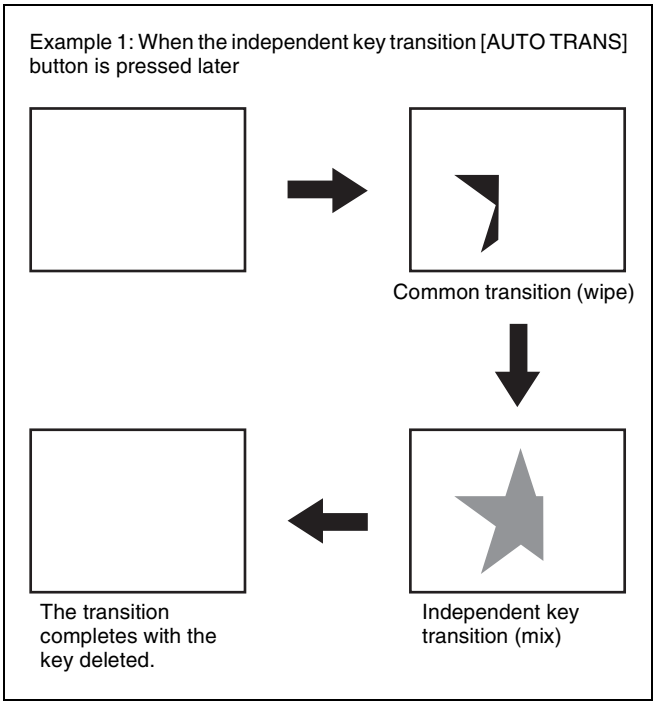
Whichever button is pressed first, when the common transition completes, even if the independent key

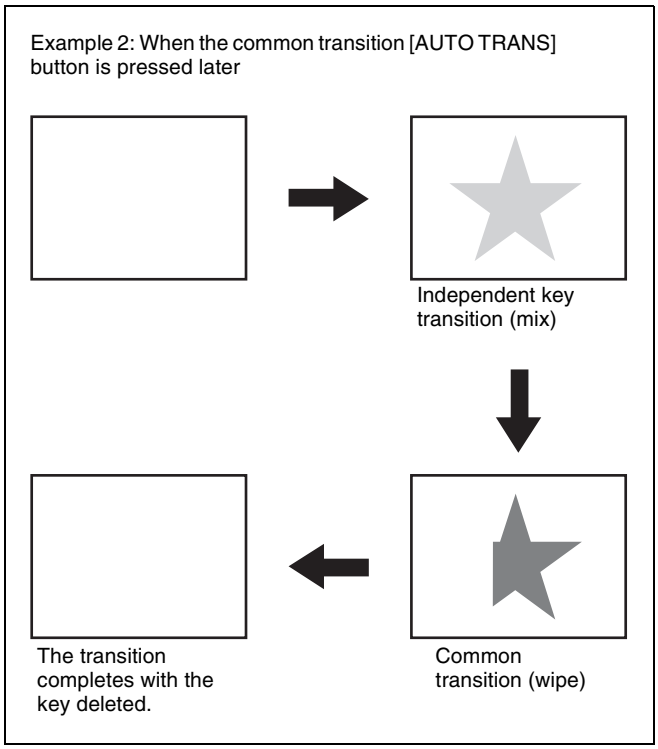
transition is still not completed, the two end simultaneously.



Time offset execution with the key not inserted: With the key not inserted, the key is gradually inserted using the transition type whose [AUTO TRANS] button is pressed first.

Since the key is then in the inserted state, the transition whose [AUTO TRANS] button is pressed later will delete the key. When the key is completely deleted, both transitions complete.

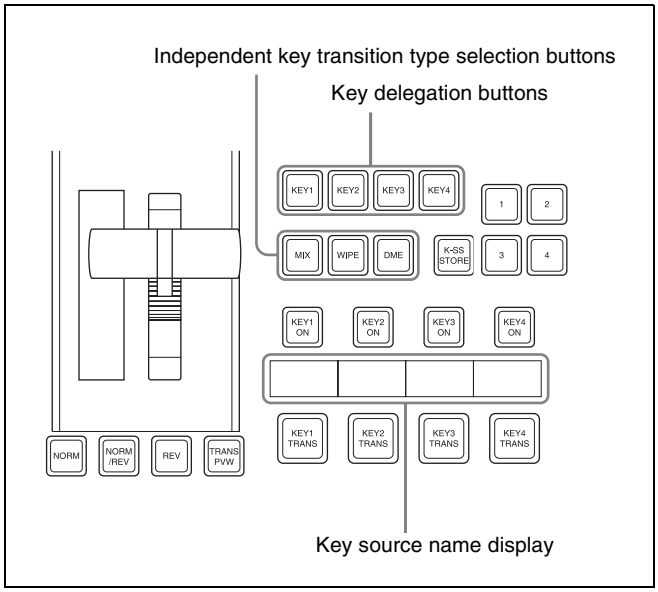




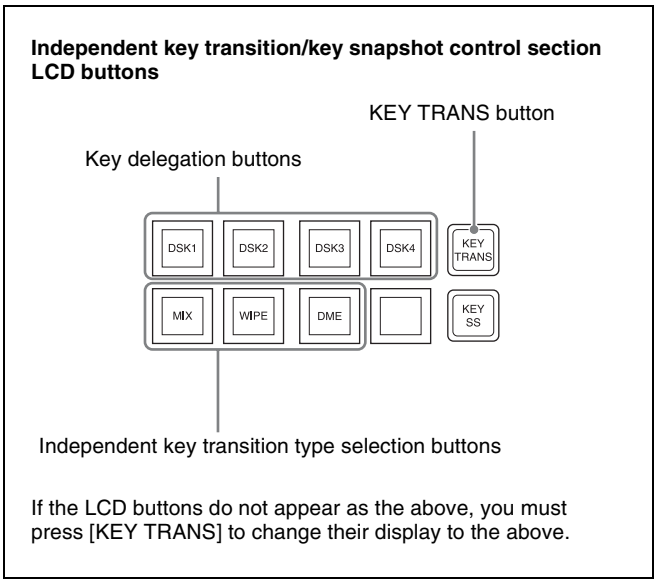
Basic Independent Key Transition Operations

Switching keys with independent key transitions

To set independent transitions for the keyers on a switcher bank, use the transition control block.



Transition control block
(ICP-6520/6530 M/E banks, ICP-3000/3016 M/E and PGM/PST banks)



Transition control block when connected to MVS-6520/3000A/3000 (ICP-6520/6530 PGM/PST bank)

Notes

For details about PGM/PST block operations when an ICP-6520/6530 is connected to the MVS-6530, ☞ *"8-Keyer Operation" (p. 412)*.

1 Select one or more of the delegation buttons [KEY1] to [KEY4] ([DSK1] to [DSK4] in the PGM/PST bank), turning them on.

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

2 Select the transition type.

To fade a key in or out: Press the [MIX] button, turning it on.
To insert or delete a key using a dedicated wipe pattern: Press the [WIPE] button, turning it on.
To insert or delete a key using a dedicated DME wipe pattern: Press the [DME] button, turning it on.

If, in the Setup menus, you set insertion and deletion as independent modes, make the following transition settings.
Separate settings are required for both inserting a key and deleting it. For example, with the key not inserted, if you select the transition type and carry out a transition, this will be the setting when inserting a key. You can also use the Transition menu to select a desired independent key transition type for each key.

For details about wipe settings, ☞ *"Basic Wipe Setting Operations for Independent Key Transitions" (p. 105)*.

For details about DME wipe settings, ☞ *"Basic DME Wipe Setting Operations for Independent Key Transitions" (p. 119)*.

3 Execute the transition.

To insert or delete the key gradually with a mix or wipe transition: Press one of the [KEY1 TRANS] to [KEY4 TRANS] buttons.

For details about the transition rate, ☞ *"Setting the Independent Key Transition Rate" (p. 76)*.
For details about operation together with a common transition, ☞ *"Combining other transitions with independent key transitions" (p. 74)*.

To cut the key in or out instantaneously: Press one of the [KEY1 ON] to [KEY4 ON] buttons for each keyer.

Notes

- In an independent key transition, the pattern limit function is not available.
- When the following DME effects are set, the effects may be applied during wipe transitions. If the effects are not necessary, cancel the settings.
  - Trail
  - Motion Decay

  When the Keyframe Strobe effect is set, operating keyframes may produce the same effect. Cancel the unnecessary DME settings in this case as well.

Copying keys

To copy keys within the same block

Press the [KEY3] button while holding down the [KEY1] button.
Information for key 1 is copied to key 3.

To copy keys between blocks

Press the [DSK3] button in the PGM/PST bank while holding down the [KEY1] button in the M/E-1 bank.
Information for key 1 of M/E-1 is copied to key 3 of PGM/PST.

Setting the Independent Key Transition Rate

There are two ways of setting the independent key transition rate: using the Flexi Pad to enter a numeric value, or using the Misc menu to access the Transition menu for each switcher bank.
You can also display the transition rate, independent key transition rate, and fade-to-black transition rate for each bank, and change the settings *(☞ p. 150)*.

If, in the Setup menu, you set insertion/deletion as independent modes, you can set the transition rates for key insertion and deletion independently. For example, with the system in the state with the key not inserted, the transition rate setting applies to key insertion.

This section describes setting an independent key transition for key 1 on the M/E-1 bank, as an example.

Setting the independent key transition rate in the Flexi Pad

1 In the Flexi Pad, press the [TRANS RATE] button.

The Flexi Pad switches to the transition rate setting mode.

2 In the region selection buttons, select the switcher bank.

3 Press the [TRNS SEL] button in the memory recall section.

You can select the type of transition for which to set the rate.

4 Press the [KEY1] button.

This enables setting of the independent key transition rate for key 1 of the M/E-1 bank.

5 While viewing the alphanumeric display, enter the transition rate you want to set with the memory recall section button.

If required, press the [TC] button to toggle the input mode (frame input or timecode input).
- Enter a value of up to three digits.
- To cancel the input, press any of the mode selection buttons.

6 Press the [ENTR KEY1] button.

Setting the independent key transition rate by a menu operation

1 Open the M/E-1 >Key1 >Transition menu (1116).

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

If, in the Setup menu, you set insertion/deletion as independent modes, make the settings for insertion in the <On Transition Type> group, and the settings for deletion in the <Off Transition Type> group.

3 Set the transition rate.

No.	Parameter	Adjustment
1	Transition Rate	Transition rate

Displaying the independent key transition rates in a menu and changing the settings

For each of the banks, you can display the transition rate, independent key transition rate and fade-to-black transition rate, and change the settings *(☞ p. 150)*.

Fade-to-Black

This function gradually darkens the program output video of the PGM/PST bank, eventually cutting it to black.

Notes

- In multi-program mode, it is possible to carry out a fade-to-black on a number of programs simultaneously.
- Fade-to-black can be executed via GPI or a macro. It cannot be executed from a control panel button.

You can also make a Setup menu setting such that a fade-to-black does not apply to particular programs.

For details about settings, *☞ "Enabling or disabling the fade-to-black function" (p. 356).*

Setting the fade-to-black transition rate

1 Open the PGM/PST >Misc >Transition menu (1471).

2 Select [FTB].

3 Set the fade-to-black transition rate.

No.	Parameter	Adjustment
1	Transition Rate	Transition rate

Displaying the transition rates in a menu and changing the settings

For each of the banks, you can display the transition rate, independent key transition rate and fade-to-black transition rate, and change the settings *(☞ p. 150)*.

AUX Mix Transitions

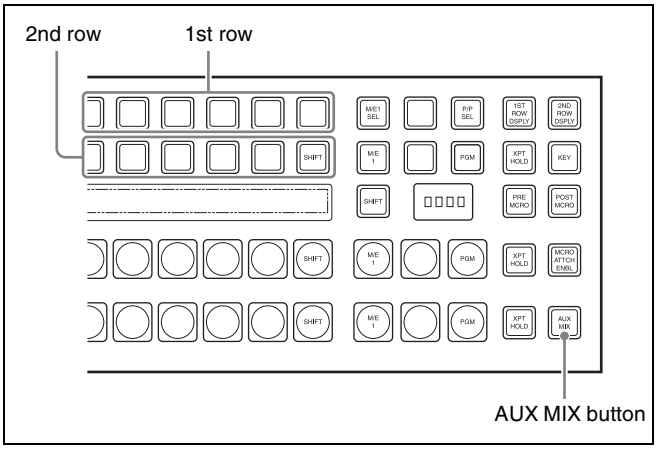
Transitions can also be performed between two AUX buses, separately from the M/E and PGM/PST banks.

Preparing AUX Mix Transitions

The following preparations are required.

Preparation	See page
Assign two AUX buses to be mixed to consecutive odd-numbered and even-numbered output connectors (e.g. Output 1 and Output 2).	*p. 355*
Set the AUX mix transition rate.	*p. 151*

Executing AUX mix transitions



Cross-point control block (ICP-6520/6530)

The following describes an example using AUX1 bus and AUX2 bus.

1 In the 1st row of the cross-point control block, press the button assigned with the AUX1 bus, turning it on.

Notes

Always select an odd-numbered bus when executing an AUX mix transition. If an even-numbered bus is selected, the AUX mix transition is not executed, even if AUX mix transitions are enabled.

2 In the 2nd row, select the image before the transition.

Notes

AUX mix transmissions are not executed correctly if the odd-numbered bus connector and the selected input signal have through mode enabled. Disable through mode for the input signal.

3 Press [AUX MIX], turning it on.

You can also use the Misc >Transition >Aux Mix menu (3232), instead of the [AUX MIX] button *(☞ p. 151)*.

Notes

The ICP-3000 and ICP-3016 cross-point control blocks do not have an [AUX MIX] button. In this case, to execute an AUX mix transition, enable AUX mix transitions in the Misc >Transition >Aux Mix menu (3232).

4 In the 2nd row, select the image after the transition.

The transition is executed at the specified transition rate. The image during the transition is output from the AUX1 bus. The image selected in step **4** is output from the AUX2 bus.

Chapter 4 Keys

Overview

A key is an effect in which a part of the background image is replaced by an image or superimposed text. The signal determining how the background is cut out is termed “key source,” and the signal that replaces the cut-out part is termed “key fill.” The system component responsible for processing a key is referred to as a “keyer.”
Each switcher bank has four keyers.

Notes

On the MVS-3000 or on the MVS-3000A without an MKS-6570 installed, KEY1 cannot be used when using a DME wipe with background selected for the next transition on the M/E bank. Similarly, DSK1 cannot be used with DME wipes on the PGM/PST bank. You select whether to enable KEY1 (DSK1) or DME wipes in the Setup menu *(☞ p. 346)*.

Keyers that support resizer/key edge

The resizer and key edge functions can be used by following keyers.
- Keys 1 and 2 of the M/E bank
- DSK1 and DSK2 of the PGM/PST bank

Key Types

The key type indicates the manner in which the key source signal is used to cut out the background.

Type	Description	Clean mode
Luminance key	The background is cut out according to the luminance (Y) of the key source signal, and at the same time the key fill signal is cut out and then added to the background signal.	Can be used
Linear key	This is a type of luminance key, but there is a reduced variability in gain, allowing more precise adjustment.	Can be used
Color vector key	The key signal is created from a combination of the luminance and chrominance components of the key source signal. When perfect keying is not possible with a luminance key, this allows a key signal to be created even if the luminance level is low, provided that the colors have high saturation.	Can be used
Chroma key	A key signal based on a particular color is used to cut out the background, and the key fill is then inserted.	Cannot be used
Key wipe pattern key	This uses the wipe pattern selected for an independent key transition to cut out the background and insert the key fill.	Cannot be used

Clean mode

In a luminance key, linear key or color vector key, you can turn clean mode on. When clean mode is on, key fill is added to the background without cutting out with key source. This improves the keyed image quality, but means that the part of the key fill signal which is not to be inserted must be completely black, or it will color the background. You set the clean mode with the Type menu of the respective keyer.

For details, ☞ “Setting the key type in a menu” (p. 82).

Note that in the following situations, the clean mode is turned off, and cannot be turned on.
- When the key type is a pattern key
- When key inversion is on
- When the key fill is a matte
- When the key edge is an outline
- When the key edge is normal with soft edge being on
- When fine key is on
- When the key positioner is on

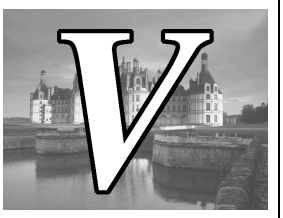
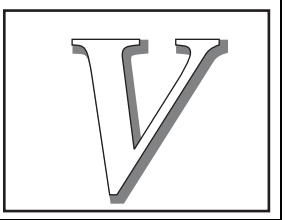
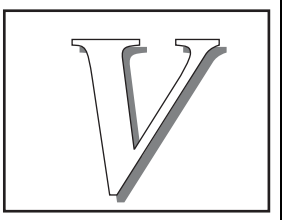
Key Modifiers

Edge modifiers

You can apply borders and other modifiers to the edge of the key image *(☞ p. 88)*.

Notes

Key edge functions can only be used for keys 1 and 2 (DSK1 and DSK2 for the PGM/PST bank).

Type	Description	Image
Normal	This is the state with no key edge modifiers applied.	
Border	This applies a uniform width border to the edge of the key. You can adjust the border width and density. You can also enable the separate edge function, and adjust the top, bottom, left, and right border widths separately.	
Drop border	This applies a border below and to the right of the key, for example. You can adjust the border width, position, and density.	
Shadow	This applies a shadow below and to the right of the key, for example. You can adjust the shadow width, position, and density.	
Outline	This uses the outline of the original key as the key. You can adjust the width and density of the outline. You can also enable the separate edge function, and adjust the top, bottom, left, and right outline widths separately.	
Emboss	This applies an embossing effect to the outline of the key. You can adjust the width and position of the embossing and the density. You can adjust the density separately for key fill and key edge. When embossing is on, the Fine Key and zabton functions turn off.	–
Soft edge	This softens the edge of the key.	–
Zabton	This inserts a translucent pattern behind a key. You can adjust the pattern size, softness, density and color.	–

Edge type and key fill/key source position

The key edge modification function has two modes: a mode (“key drop ON mode”) in which the key fill/key source position moves downward, and a mode (“key drop OFF mode”) in which it does not move.

Key drop ON mode: The key fill/key source position moves downward by eight scan lines or four scan lines. When a drop border or shadow is selected, it is possible to apply a border to the top edge of the key.

Key drop OFF mode: The key fill/key source position does not move. When a drop border or shadow is selected, it is not possible to apply a border to the top edge of the key.

In the key drop ON mode, a menu setting selects between the mode (“4H mode”) in which the key fill/key source position is lowered by four scan lines, and the mode (“8H mode”) in which the key fill/key source position is lowered by eight scan lines.

When Fine Key is on, the edge width is forced to the range 0.00 to 4.00.

Note that in the following situations, the key drop mode is forcibly turned on.

- When the edge type is border, outline, or emboss
- When the edge type is normal with soft edge being on
- When fine key is on

To fix key fill / key source in key drop OFF mode

Switch frame delay mode on.

Regardless of the fine key and edge type settings, key fill and key source are fixed in key drop off mode. In this mode key image has a one-frame delay.

Notes

This function uses the resizer, and therefore the normal effect of the setting is not obtained while using DME wipe or other effect that uses the resizer.

Edge fill

When a border, drop border, or shadow modifier is selected, you can select a signal to fill these edge effects ("edge fill").
The signal from the dedicated color matte generator is used for the edge fill.
In the case of an outline, there is no edge fill signal selection, because the key fill signal fills the outline, and the rest of the image remains as the background.
For the emboss effect, in place of the edge fill signal, the emboss fill matte 1 and emboss fill matte 2 signals are used.

Masks

A mask uses the background or a key to hide a part of the image. If unwanted holes occur in the background, or if a key is not the desired shape, you can correct the problem with a mask.

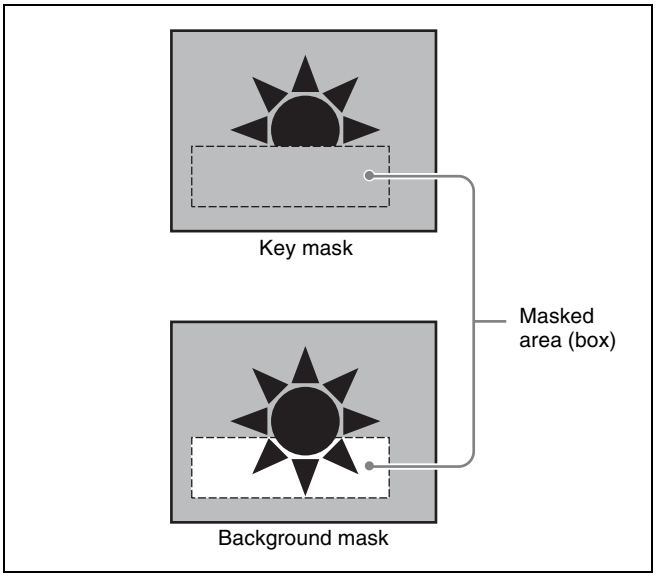
For details about masking operations, ☞ "Mask" (p. 91).

Key mask and background mask

There are two types of mask: a key mask and a background mask.

Key mask: This masks out a part of the key, which will result in the background appearing.

Background mask: This masks out a part of the background, which will result in the key fill appearing.



The signal from the dedicated box generator provided on each keyer, or the signal from the dedicated pattern generator, is used as the mask source.

When the box generator is selected, a mask using a rectangular signal is formed.
When the pattern generator is selected, you can select the pattern and apply modifiers.

Key Memory

The key memory function allows the keyer settings on each cross-point button to be automatically stored, so that the next time the same cross-point button is selected these settings are recalled automatically.
There are two modes for key memory: simple mode and full mode.
The parameters stored in each mode are as follows.

Simple mode: Key type, clean mode (including the plane setting for chroma keying), key position, key inversion, and adjustment values for the particular key type (Clip, Gain, Density, Filter, etc. This includes color vector key, key wipe pattern key, and chroma key. However, in the case of a chroma key, it excludes color cancel, Y balance, foreground CCR, and window.)

Full mode: All settings except transition (the same parameters as simple mode, fine key, key modifiers, mask settings, chroma key detailed settings, etc.)

For details about settings for these modes, ☞ "Selecting the key memory mode" (p. 357).

Key Default

With a simple operation, you can return the key adjustment values to their defaults.
The adjustment values that can be returned to their default values are as follows.

- Adjustment values for the particular key type (Clip, Gain, Density, Filter, etc.)
  In the case of chroma keying, all adjustment values return to their default values.
- Key position
- Key inversion
- Clean mode

For details about the method of operation, ☞ "Returning Parameters to Default Values" (p. 51).

Key Setting Operations Using Menus

There are two ways of making key settings: either using menus, or using the Flexi Pad.
This section describes basic procedures for making key settings using the menus, with the M/E-1 >Key1 menu as an example.
Operations in the Key menus are the same for each switcher bank.

Key Setting Menus

The key setting menus for each bank are as follows.

Bank	Keys set	Menu
M/E-1	Keys 1 to 4	M/E-1 >Key1 to 4
PGM/PST	Downstream keys 1 to 4	PGM/PST >DSK1 to 4

Key Type Setting

Setting the key type in a menu

1 Open the M/E-1 >Key1 >Type menu (1111).

2 In the <Key Type> group, select the key type.

Luminance: Luminance key
Linear: Linear key
Chroma: Chroma key
Color Vector: Color vector key
Key Wipe Pattern: Key wipe pattern key

3 Carry out the following settings as required, depending on the key type selected in step **2**.

To enable clean mode *(☞ p. 79)* **for a luminance key, linear key, or color vector key:** Select [Clean Mode] to turn it on.
When clean mode is enabled, key fill is added to the background without cutting out with key source.

When chroma key is selected: Select [Chroma Adjust] to access the Chroma Adjust menu *(☞ p. 86)*, and make the required settings.

When a key wipe pattern key is selected: In the M/E-1 >Key1 >Transition >Wipe Adjust menu (1116.1) *(☞ p. 106)*, carry out pattern selection and modifier setting, then return to the M/E-1 >Key1 >Type menu (1111).

4 Set the parameters.

When a luminance key or linear key is selected

No.	Parameter	Adjustment
1	Clip	Reference level for generating the key signal
2	Gain	Key sensitivity
3	Density	Key density
4	Filter	Filter coefficient[a)]

a) Setting this value to 1, produces the "through" state in which no filter is applied. The larger the value, the more strongly the filter is applied.

When a chroma key is selected

No.	Parameter	Adjustment
3	Density	Key density

When a color vector key is selected

Parameter group [1/2]

No.	Parameter	Adjustment
1	Y Clip	Reference level for creating luminance signal
2	Y Gain	Luminance signal sensitivity
3	C Clip	Reference level for creating chrominance signal
4	C Gain	Chrominance signal sensitivity
5	Density	Key density

Parameter group [2/2]

No.	Parameter	Adjustment
1	Y Filter	Luminance signal filter coefficient
2	C Filter	Chrominance signal filter coefficient

When key wipe pattern key is selected

No.	Parameter	Adjustment
1	Size	Pattern size
2	Soft	Edge softness
3	Density	Key density

5 Make the following settings, as required.

To invert the black and white of the key source: Press [Key Invert], turning it on.

To adjust the horizontal position or key source width for a luminance key, linear key, or chroma key: Press [Key Position], turning it on, and set the parameters.

No.	Parameter	Adjustment
1	H Phase	Key horizontal position
2	Left	Key left edge position
3	Right	Key right edge position

To set the key priority: Press [Key Priority] or open the M/E-1 >Misc >Key Priority menu (1173).

For details, ☞ "Setting the Key Priority by a Menu Operation" (p. 66).

Selecting the Key Fill and Key Source

Selecting the key fill and key source

To select the key fill and key source for key 1 on the M/E-1 bank, use the following procedure.

1 Open the M/E-1 >Key1 >Type menu (1111).

2 In the <Key Fill> group, select either of the following for use as the key fill.

Key Bus: Signal selected on the key 1 fill bus
Matte: Signal from the dedicated color matte generator

3 If you selected [Key Bus] in step **2**, select the [KEY1] button in the 1st row of the cross-point control block, and select the key fill in the 2nd row.

4 If you selected [Matte] in step **2**, in the Type menu, press the [Matte Adjust] button to display the Matte Adjust menu (1111.2), then adjust the single-color or two-color combination color matte.

Select whether to use a single-color matte or a two-color combination in the <Fill Matte> group in the Matte Adjust menu.
Flat Color: Adjust color 1 with the following parameters.

No.	Parameter	Adjustment
1	Luminance	Luminance
2	Saturation	Saturation
3	Hue	Hue

Mix Color: Carry out a color mix. Adjust color 1 and color 2, and select a mix pattern.

For details, ☞ "Executing a color mix for the key fill" (p. 84).

5 In the <Key Source> group, specify the key source selection mode.

Self: The key fill bus signal is automatically selected as the key source.
When the key type is selected as chroma key, select [Self].
Auto Select: The signal allocated, being paired with the key fill bus signal, to a cross-point button is automatically selected as the key source.
The pairing settings are carried out in the Setup menu.

For details, ☞ "Cross-Point Settings" (p. 329).

Split: You can select a key source signal independently of the key source automatically selected in Auto Select mode.

6 If you selected [Split] in step **5**, select the key source using any of the following methods.

- In the cross-point control block, press the button in the 2nd row while holding down the [KEY1] button in the 1st row.
- Press the button in the 2nd row of the cross-point control block while holding down the [SPLIT] button in the Flexi Pad.
- Press the button in the 2nd row while holding down the [KEY1] key delegation button in the transition control block.
- When [Split] is selected, the key memory function *(☞ p. 81)* is disabled.

Notes

To select a video signal that is assigned to a cross-point button, the operation mode for the [KEY] button must be set.

For details, ☞ "Setting the Button Operation Mode" (p. 342).

Selecting the key source and key fill in the menu

Selecting the key source

To select the key source, use the following procedure.

1 In the <Key Fill> group of the M/E-1 >Key1 >Type menu (1111), select [Key Bus].

2 Press [Signal Select].

The Signal Select menu (1111.3) appears.

3 In the <Target> group, press [Source].

4 In the <Key Source> group, specify the key source selection mode (Self, Auto Select, or Split).

*See step **5** in "Selecting the key fill and key source" (☞ p. 83).*

5 If [Split] is selected, select the key source signal.

6 In the <Assign> group, select the video signal or key signal from the V/K pair to assign to the key source.

7 Press [Set Xpt].

Selecting the key fill

To select the key fill, use the following procedure.

1 In the status area of the Type menu, press "Fill."

The Signal Select menu appears.

2 In the <Target> group, press [Fill].

3 Select the fill signal from the list on the right.

4 Press [Set Xpt].

Executing a color mix for the key fill

When [Matte] is selected for the key fill, you can combine color 1 and color 2 using the independent key transition wipe pattern.

1 In the <Key Fill> group of the M/E-1 >Key1 >Type menu (1111), select [Matte] and press [Matte Adjust].

The Matte Adjust menu (1111.2) appears.

2 Select [Mix Color] in the <Fill Matte> group.

3 Adjust the following parameters.

No.	Parameter	Adjustment
1	Size	Pattern size
2	Soft	Edge softness of the pattern

4 Return to the Type menu, and adjust color 1 and color 2.

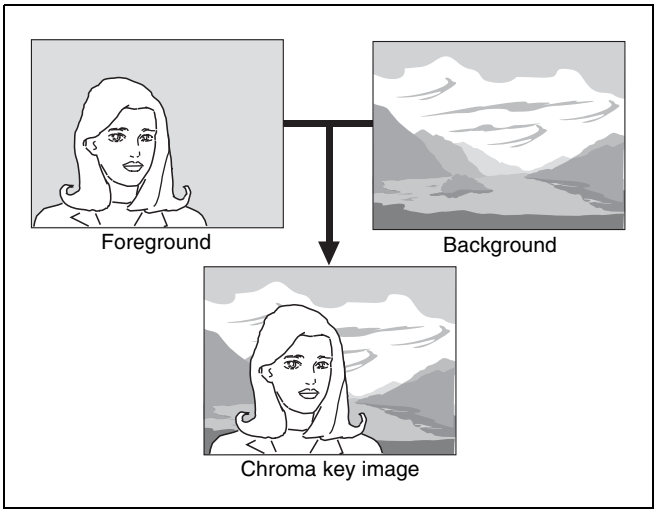
To adjust colors 1 and 2, turn on [Color1] or [Color2] respectively, then adjust the following parameters.

No.	Parameter	Adjustment
1	Luminance	Luminance
2	Saturation	Saturation
3	Hue	Hue

5 To interchange color 1 and color 2, press the [Color Invert] button, turning it on.

Chroma Key Composition and Basic Settings

A key signal based on a particular color is used to cut out the background, and the key fill is then inserted. The inserted signal is also referred to as the foreground, and the composite image is called a chroma key image.



For details about adjusting chroma key images, ☞ "Chroma Key Adjustments" (p. 85).

In creating a chroma key image, either a normal mix or an additive mix can be used.

Normal mix: The foreground is cut out with the key signal, and then combined with the background, which has also been cut out with the key signal.

Additive mix: The background, which has been cut out with the key signal, is combined with the unshaped foreground. This is effective for a natural-looking

composite when the scene includes glass or other translucent objects.

Plane

In an additive mix, the foreground is not shaped by the key signal, and variations in the (blue) background will appear in the composite image. To prevent this, it is possible to set a particular luminance level for the background, and any parts below this level are cut forcibly.

Composing an image by chroma keying

1 Open the M/E-1 >Key1 >Type menu (1111).

2 Select [Chroma] in the <Key Type> group.

It becomes possible to adjust the key density *(☞ p. 82)*.

3 Select [Chroma Adjust].

The Chroma Adjust menu (1111.1) appears.

4 Carry out auto chroma key adjustments.

Also carry out manual adjustments *(☞ p. 85)*, if necessary, to obtain an optimum chroma key image.

5 In the <Mix Mode> group, select [Normal Mix] or [Additive Mix] depending on the desired type of chroma key composition.

When using an additive mix for chroma keying, the (typically blue) background parts of the foreground video must be converted to black. For this, use the color cancel function *(☞ p. 86)*.

Using the plane function

In an additive mix, the foreground is not shaped by the key signal, and variations in the (blue) background will appear in the composite image. To prevent this, it is possible to set a particular luminance level for the background, and any parts below this level are cut forcibly.

1 In the Chroma Adjust menu, set [Plane] on.

2 Adjust the following parameters.

No.	Parameter	Adjustment
1	Luminance	Luminance level

Key Adjustments (Menus)

This section describes key adjustments made using menu operations.
You can adjust the following functions using menu operations.

- Chroma Key Adjustment *(☞ p. 85)*
- Key Edge Modifications *(☞ p. 88)*
- Masks *(☞ p. 91)*
- Applying DME Effects to Keys (MVS-6520/6530/3000A only) *(☞ p. 91)*
- Specifying the Key Output Destination
- Key Modify Clear *(☞ p. 92)*
- Blink Function *(☞ p. 92)*

Chroma Key Adjustments

Methods of adjusting the composite obtained from chroma keying include automatic adjustment with the auto chroma key function, and manual adjustment carrying out the necessary processing separately. The optimum results will be obtained by first carrying out adjustments with the auto chroma key function, then making any fine adjustments as required.
The following manual adjustments are possible.

Key active

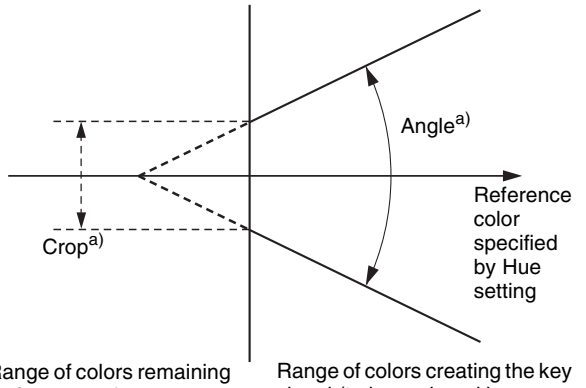
When this function is off, only the foreground is output and you can make adjustments for color cancel.

Color cancel

If the foreground image includes shades of the background color, turn this function on to remove the color from the foreground image.

Window

You can adjust the range over which the key signal is determined as matching the specified hue. When this function is off, the default range is used for the key.
Chroma keying generates a key signal based on a particular color (reference color) in the foreground (typically a plain blue background), and the “window” refers to the range of colors which are regarded as matching this specified reference color to create the key signal.
As seen on a vectorscope (that is, in the hue-saturation color space), the range for this matching corresponds to a truncated sector. This range is specified by two parameters: the “Angle” parameter, which determines the range of the hue parameter, and the “Crop” parameter, which determines the degree of truncation (see the following figure).



a) The Crop and Angle values do not change even if you use the auto chroma key function.

Y balance

In normal chroma keying, the key signal is generated from the chrominance component only, and all elements of the foreground with the same hue are replaced by the background. Using the Y balance function, you can specify a luminance level range within which the key is active, and replace the specified part by the background.
You can use the Y balance function independently on the key signal for the composition and the key signal for the color cancel function. When applied to the key signal for the composition, this produces the foreground with the color cancel effect applied. This can therefore be used to provide an impression of smoke, for example.
When the Y balance function is applied to the color cancel key, the relevant part is output in its original color without canceling, and therefore it is possible to combine colors which are the same color as the background (i.e. typically blue) in the foreground.

Video signal adjustment

You can vary the foreground signal gain, or change the hue. There are separate adjustments for the gain of the overall video signal, and Y and C components.

Making auto chroma key adjustments

Auto chroma key is an automatic adjustment function which allows you to specify a part of the foreground video (for example, the blue background color) and use it as a reference for creating the chroma key image.

1 In the <Key Type> group of the M/E-1 >Key1 >Type menu (1111), select [Chroma].

2 Select [Chroma Adjust].

The Chroma Adjust menu (1111.1) appears.

3 Select [Sample Mark] in the <Auto> group.

The foreground video only appears on the monitor, with a white box-shaped sample selector.

4 Adjust the position and size of the sample selector, to specify the color to be used as the basis of chroma keying (typically a blue background).

No.	Parameter	Adjustment
1	Position H	Horizontal position
2	Position V	Vertical position
3	Size	Size

5 Press [Auto Start] in the <Auto> group.

This executes an auto chroma key based on the color specified by the sample selector, and displays the composite image on the monitor.

Making key active adjustments

When the key active function is on, the composite image is output to the monitor, and you can watch the monitor while manually adjusting the keying.
When the key active function is off, only the foreground image appears. Set this off when manually adjusting color cancel.

1 In the M/E-1 >Key1 >Type >Chroma Adjust menu (1111.1), set [Key Active] on.

2 Adjust the following parameters.

No.	Parameter	Adjustment
1	Clip	Chroma key reference level
2	Gain	Key gain
3	Hue	Hue
4	Density	Density
5	Filter	Filter coefficient

Making color cancel adjustments

If the background color is leaking into the foreground video, turning the color cancel function on allows you to eliminate this leakage.

1 In the M/E-1 >Key1 >Type >Chroma Adjust menu (1111.1), set [Key Active] off.

Only the foreground image appears on the monitor.

2 In the <Color Cancel> group, set [Color Cancel] on.

3 Adjust the following parameters.

No.	Parameter	Adjustment
1	Luminance	Luminance
2	Saturation	Saturation
3	Hue	Hue
5	Filter	Filter coefficient

4 Set [Key Active] on.

The chroma key composite image now appears in the monitor.

Making key signal adjustments for color cancel

When the color cancel function is set on, you can adjust the key signal for color cancel.

1 In the <Color Cancel> group of the M/E-1 >Key1 >Type >Chroma Adjust menu (1111.1), set [Color Cancel] on.

2 In the <Color Cancel> group, set [Cancel Key] on.

The cancel key is now on, and you can now adjust the key signal for color cancel.

No.	Parameter	Adjustment
1	Clip	Color cancel key reference level
2	Gain	Color cancel key gain

3 Make the following settings, as required, in the <Color Cancel> group.

When setting [Key Position] on and adjusting the color cancel key edge position

No.	Parameter	Adjustment
1	H Phase	Move left and right edges of the color cancel key simultaneously
2	Left	Move left edge of the color cancel key
3	Right	Move right edge of the color cancel key

When setting [Window] on and adjusting the detection range of the color cancel key

No.	Parameter	Adjustment
1	Crop	Crop value
2	Angle	Angle value

For details about the crop and angle parameters, ☞ "Window" (p. 85).

When setting [Y Balance] on and adjusting the ratio in which Y balance is added to the color cancel key

No.	Parameter	Adjustment
1	Mixture	Ratio of Y balance key

Adjusting the window

Setting the window *(☞ p. 85)* function on allows you to adjust the detection range used to determine the key signal. When this function is off, the default range is used for image adjustment.
After making sure that the values of Clip, Gain, and Hue are adjusted appropriately, use the following procedure to make the window adjustment.

1 In the M/E-1 >Key1 >Type >Chroma Adjust menu (1111.1), set [Window] on.

2 Adjust the following parameters.

No.	Parameter	Adjustment
1	Crop	Crop value
2	Angle	Angle value

Adjusting the Y balance

Setting the Y balance *(☞ p. 86)* on allows you to specify that, even if the hue is the same, only portions of a particular luminance will be replaced by the background.

1 In the M/E-1 >Key1 >Type >Chroma Adjust menu (1111.1), set [Y Balance] on.

2 Adjust the following parameters.

No.	Parameter	Adjustment
1	Clip	Luminance range
2	Gain	Key gain
3	Luminance	Luminance

Adjusting the video signal

You can vary the foreground signal gain, or change the hue. There are separate adjustments for the gain of the overall video signal, and Y and C components.

1 In the M/E-1 >Key1 >Type >Chroma Adjust menu (1111.1), set [FRGD CCR] on.

2 Adjust the following parameters.

No.	Parameter	Adjustment
1	Video Gain	Overall gain of video signal

No.	Parameter	Adjustment
2	Y Gain	Y signal gain
3	C Gain	C signal gain
4	Hue	Hue offset amount

Key Edge Modifications

Notes

Key edge functions can only be used for keys 1 and 2 (DSK1 and DSK2 for the PGM/PST bank).

To modify the key edge of key 1 on the M/E-1 bank, use the following procedure.

1 Open the M/E-1 >Key1 >Edge menu (1112).

2 Select the edge type *(☞ p. 80)* in the <Edge> group.

Normal: Unadorned edge
Border: Edge with border applied
Drop Border: Edge with drop border applied
Shadow: Edge with shadow applied
Outline: Edge used as outline
Emboss: Embossing effect applied to edge

If you select [Normal], skip to step **7**.

3 Set the border width and other parameters.

When border or outline is selected: The setting parameters depend on the key type and whether the separate edge function is on or off.
To enable the separate edge function, press [Separate Edge], setting it on.

- When separate edge is off

No.	Parameter	Adjustment
1	Width	Width
3	Density	Density

- When separate edge is on
The left, right, top, and bottom border or outline widths can be adjusted independently. The separate edge function is only valid when a luminance key, linear key, or chroma key is selected as the key type.

No.	Parameter	Adjustment
1	Top	Top edge width
2	Left	Left edge width
3	Right	Right edge width
4	Bottom	Bottom edge width
5	Density	Density

When drop border or shadow is selected: The setting parameter values depend on the on/off setting of key drop and the selection of 4H mode/ 8H mode *(☞ p. 80)*.

No.	Parameter	Adjustment
1	Width	Width
2	Position	Position
3	Density	Density

When emboss is selected:

No.	Parameter	Adjustment
1	Width	Width
2	Position	Position
3	Density[a)]	Density

a) The Density adjustment only affects the key edge. This can be adjusted separately from Key Density, and if Key Density is set to 0.00, only the embossed edge effect can be applied.

To make edge fill adjustments, carry out the settings in step **6**.

4 Press [Edge Matte], and adjust the color parameters for the edge fill signal.

No.	Parameter	Adjustment
1	Luminance	Luminance
2	Saturation	Saturation
3	Hue	Hue

When the edge type is outline, in place of the edge fill signal, the selected key fill signal fills the outline, and elsewhere remains as the background.
You can also press the [Matte Adjust] button to display the Matte Adjust menu, and adjust the single-color or two-color combination color matte.
You can select whether to use a single color matte or a two-color combination color matte in the <Edge Matte> group.

For the color mix operation, ☞ "Executing a color mix for the key edge fill matte" (p. 89).

5 When emboss is selected for the edge type, adjust the color in the <Emboss Fill> group.

To adjust matte 1 and 2, press [Matte1] or [Matte2] respectively, then adjust the following parameters.

No.	Parameter	Adjustment
1	Luminance	Luminance
2	Saturation	Saturation
3	Hue	Hue

6 To make the edge soft, press [Soft Edge] to turn it on, then adjust the softness.

No.	Parameter	Adjustment
1	Soft	Edge softness

For a normal edge, when [Soft Edge] is enabled, [Key Drop] is kept on.

7 To make separate fine adjustments to the positions of the left, right, top, and bottom of the source edge, press [Fine Key], to set it on, and adjust the following parameters.

Parameter group [1/2]

No.	Parameter	Adjustment
1	Top	Key top edge position
2	Left	Key left edge position
3	Right	Key right edge position
4	Bottom	Key bottom edge position

Parameter group [2/2]

No.	Parameter	Adjustment
1	H Phase	Key horizontal position
2	V Phase	Key vertical position

Notes

- In the emboss function, it is not possible to set [Fine Key] on.
- When the edge type is normal, drop border, or shadow, enabling the [Fine Key] function keeps [Key Drop] on.

Setting key drop mode

1 In the M/E-1 >Key1 >Edge menu (1112), press [Key Delay Mode].

The Key Delay Mode menu (1112.4) appears.

2 In the <Key Delay Mode> group, press [Key Drop] to set the key drop mode.

On: Key drop on mode
Off: Key drop off mode

Notes

In key drop off mode, an edge can only be set below the key if drop border or shadow is selected for the edge type.

To set the position of the key fill/key source

Press [8H Mode] to switch between 8H mode and 4H mode.
On: 8H mode
Off: 4H mode

Notes

- 4H mode
  The edge width is 0.00 to 4.00 (excluding when key wipe pattern key is selected for key type, and border or outline is selected for the edge type).
- 8H mode
  The edge width varies depending on the edge type.
  - Border or outline (excluding when key wipe pattern is selected for key type): The edge width is 0.00 to 8.00. However, if fine key is turned on, the edge width is 0.00 to 4.00.
  - Drop border or shadow: The edge width is 0.00 to 8.00. However, if the fine key is on, the edge width is 0.00 to 4.00.
  - Emboss: The edge width is 0.00 to 4.00.

To fix key fill/key source to key drop Off mode

In the <Key Delay Mode> group, press [Frame Delay], turning it on.

Notes

This function uses the resizer, and therefore the expected result of the setting may not be obtained if conditions do not allow the resizer to be used.

Executing a color mix for the key edge fill matte

When you select Matte for the edge fill of a border, drop border, or shadow, you can create a combination of color 1 and color 2 using a wipe pattern generated by the dedicated pattern generator.

1 In the M/E-1 >Key1 >Edge menu (1112), press [Matte Adjust].

The Matte Adjust menu (1112.1) appears.

2 In the <Edge Matte> group, press [Mix Color], turning it on.

3 Adjust the following parameters.

No.	Parameter	Adjustment
1	Size	Pattern size
2	Soft	Edge softness of the pattern
3	Pattern	Pattern number[a)]

a) The patterns are the same as for a wipe (☞ *"Wipe Pattern List" (p. 381)*).

To select the pattern, display the Mix Ptn Select menu (1112.2) by pressing [Mix Pattern Select] in the Matte Adjust menu.

After selecting one of the patterns (patterns 1 to 24) displayed in the Mix Pattern Select menu, you can adjust the following parameters.

No.	Parameter	Adjustment
1	Size	Pattern size
2	Soft	Edge softness of the pattern

4 Adjust color 1 and color 2.

To adjust colors 1 and 2, turn on [Color1] or [Color2] respectively, then adjust the following parameters.

No.	Parameter	Adjustment
1	Luminance	Luminance
2	Saturation	Saturation
3	Hue	Hue

5 If required, set the pattern modifiers.

When turning [Position] on and setting the pattern position

No.	Parameter	Adjustment
1	Position H	Horizontal position[a)]
2	Position V	Vertical position[a)]

a) ☞ p. 103.

When turning [Multi] on and replicating the pattern

No.	Parameter	Adjustment
1	H Multi	Number of repetitions of pattern horizontally
2	V Multi	Number of repetitions of pattern vertically
3	Invert Type	Replication layout[a)]

a) ☞ p. 105.

When turning [Aspect] on and setting the aspect ratio of the pattern

No.	Parameter	Adjustment
1	Aspect	Aspect ratio[a)]

a) ☞ p. 105.

When turning [Angle] on in the <Rotation> group and inclining the pattern

No.	Parameter	Adjustment
1	Angle	Rotation angle of pattern[a)]

a) ☞ p. 104.

When turning [Speed] on in the <Rotation> group and rotating the pattern at a constant rate

No.	Parameter	Adjustment
1	Speed	Rotation speed of pattern[a)]

a) ☞ p. 104

6 To interchange color 1 and color 2, press the [Color Invert] button, turning it on.

Applying the zabton effect

Notes

The zabton function and [Fine Key] (☞ p. 89) cannot be turned on at the same time.

1 In the M/E-1 >Key1 >Edge menu (1112), press [Zabton], turning it on.

2 Adjust the following parameters.

No.	Parameter	Adjustment
1	Size	Pattern size
2	Soft	Edge softness of the pattern
3	Density	Density

Notes

If [Mask Pattern] is selected in step 4 below and [Box] is selected for the mask, the “Size” parameter cannot be changed. Set “Size” in the Main Mask menu (1113).

3 To adjust the pattern and color, press [Zabton Adjust].

The Zabton Adjust menu (1112.3) appears.

4 In the <Zabton Pattern> group, select the pattern.

Key Wipe: Use a key wipe.
You can change this pattern by pressing [Pattern Select] to open the menu for key wipe pattern selection (Pattern Select menu), and make adjustments by pressing [Pattern Adjust] to open the menu for pattern adjustment (Wipe Adjust menu).

Key Edge Pattern: Use a color mixing pattern for key edge.
You can change this pattern by pressing [Pattern Select] to open the menu for edge color mix dedicated wipe pattern selection (Mix Ptn Select menu), and make adjustments by pressing [Pattern Adjust] to open the menu for pattern adjustment (Matte Adjust menu).

Mask Pattern: Use the mask [Box] or [Pattern].

You can also press [Pattern Select], and in the corresponding pattern adjustment menu, change the pattern.

5 To adjust the color, press [Zabton Color] and adjust the following parameters.

No.	Parameter	Adjustment
1	Luminance	Luminance
2	Saturation	Saturation
3	Hue	Hue
4	Density	Density

Mask

The mask function can be used to mask off unneeded parts of a key or background, or to remove defects.

Using a mask

For example, to make settings for key 1 on the M/E-1 bank, use the following procedure.

1 Open the M/E-1 >Key1 >Main Mask menu (1113).

2 In the <Mask Type> group, select the mask type.

Key Mask: Masks a part of a key.
Bkgd Mask: Masks a part of a background.

3 In the <Mask Source> group, select the mask source.

Box: Signal from the dedicated box generator
Pattern: Signal from the dedicated pattern generator

4 Set the mask source parameters.

When Box is selected

No.	Parameter	Adjustment
1	Top	Position of top side
2	Left	Position of the left side
3	Right	Position of the right side
4	Bottom	Position of the bottom side
5	Soft	Box softness

When Pattern is selected

No.	Parameter	Adjustment
1	Size	Pattern size
2	Soft	Edge softness of the pattern
5	Pattern	Pattern number[a)]

a) The patterns are the same as for a wipe (*"Wipe Pattern List" (☞ p. 381)*).

To select the pattern, display the Mask Ptn Select menu (1113.1) by pressing the [Mask Ptn Select] button in the Main Mask menu.
After selecting one of the patterns (wipe patterns 1 to 24) displayed in the Mix Pattern Select menu, you can adjust the following parameters.

No.	Parameter	Adjustment
1	Size	Pattern size
2	Soft	Edge softness of the pattern

5 To invert the black and white of the mask source, press [Mask Invert], turning it on.

6 When a pattern is selected as the mask source, set the pattern modifiers as required (see step **5** in *"Executing a color mix for the key edge fill matte" (☞ p. 89)*).

Applying a DME Effect to a Key

Notes

- DME (including DME wipes) can be used in up to two places on a single M/E.
- On the MVS-3000, DME effects cannot be applied to a key.

Assigning a DME to a key

1 Open the M/E-1 >Key1 >Processed Key/Resizer menu (1115).

In the Key3 and Key4 menu, select [Processed Key] instead of [Processed Key/Resizer].

2 In the <DME Select> group, select the DME channel (DME1 or DME2) to be used.

The lit colors of [DME1] and [DME2] indicate the DME assignment.
Lit green: Shows the DME assigned to the currently selected key.
Lit amber: Shows the DME assigned to a key other than the currently selected key.
Off: DME is not assigned.

To select a DME being used by another keyer
Press [Override], turning it on, then select the DME channel.
The later selection is valid, and the button lights green.

You can check the DME operating status in the Status menu *(☞ p. 152)*.

Assigning a DME output signal as a monitor signal

1 Open the M/E-1 >Key1 >Processed Key/Resizer >Monitor menu (1115.1).

In the Key3 and Key4 menu, select [Processed Key] instead of [Processed Key/Resizer].

2 Press [Monitor Set], turning it on.

3 In the <DME Select> group, select the DME channel (DME1 or DME2) to be used.

This assigns the selected DME output to DME MON V and DME MON K.
The lit colors of [DME1] and [DME2] indicate the DME assignment.
Lit green: DME currently being monitored
Lit amber: DME that can be monitored
Off: DME is not assigned.

Key Modify Clear

A simple button operation or a menu operation returns the key settings to the initial status settings.
Press [Default Recall] at the lower left of the menu screen, turning it on, then press the corresponding VF button (VF1 to VF4) to return the key settings to their initial status.

For details about initial status, ☞ *"Saving User-Defined Settings" (p. 317).*

Blink Function

With the blink function, you can obtain the following effects.
Key blink: The key is alternately inserted and deleted at regular intervals. You can set the period of blinking, and the proportion of each cycle for which the key is inserted.
Edge blink: The key fill and key edge fill are interchanged at regular intervals. You can set the period of blinking, and the proportion of each cycle for which the original state holds.

The blink settings are in the Transition menu for each key.

Using the blink function

For example, to make settings for key 1 on the M/E-1 bank, use the following procedure.

1 Open the M/E-1 >Key1 >Transition menu (1116).

2 In the <Blink> group, select [Key Blink] or [Edge Blink] to set it on.

3 Set the blink parameters.

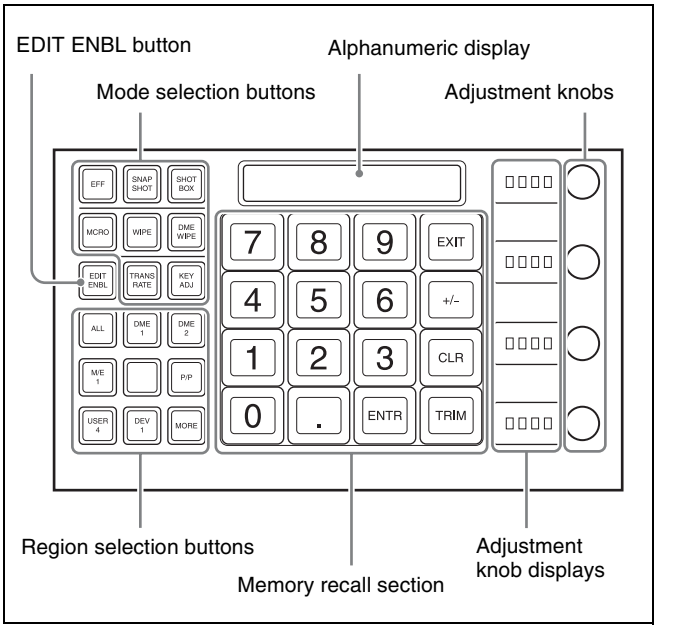
When key blink is selected

No.	Parameter	Adjustment
1	Blink Rate	Length of blink cycle
2	Duty	Proportion of cycle for which original state holds

When edge blink is selected

No.	Parameter	Adjustment
1	Blink Rate	Length of blink cycle
2	Duty	Proportion of cycle for which key inserted

Key Adjustments (Flexi Pad)



Selecting the bank and keyer

Before carrying out key adjustment, first select the key adjust mode, then select the switcher bank and keyer. For example, to adjust key 1 on the M/E-1 bank, proceed as follows.

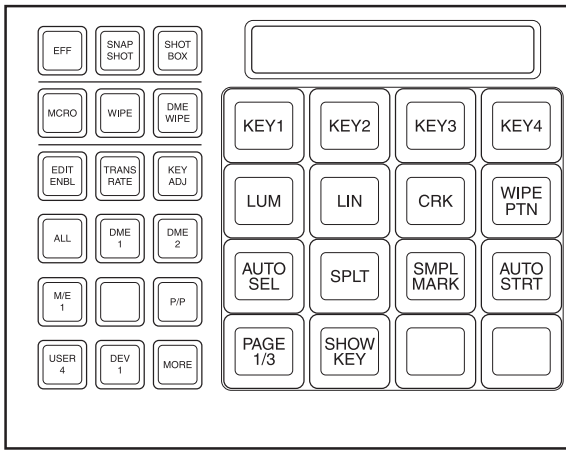
1 In the Flexi Pad mode selection buttons, press [KEY ADJ].

2 Press the [M/E1] region selection button.

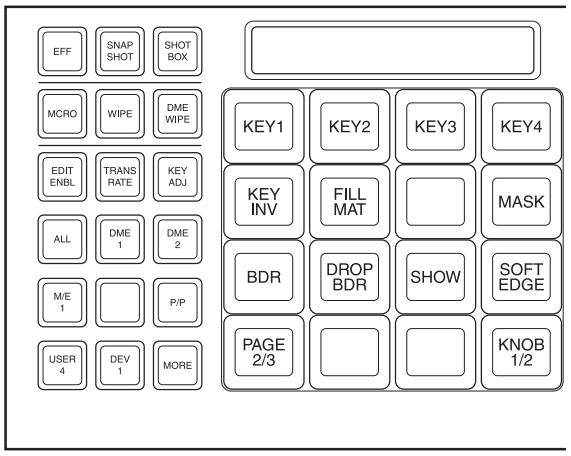
3 In the memory recall section, press the [KEY1] button.

The button displays in the memory recall section now appear as shown in the following illustration. Pressing the [PAGE 1/3] > [PAGE 2/3] > [PAGE 3/3] buttons further changes the display as follows, then pressing [PAGE 3/3] returns to the original display shown in the illustration.

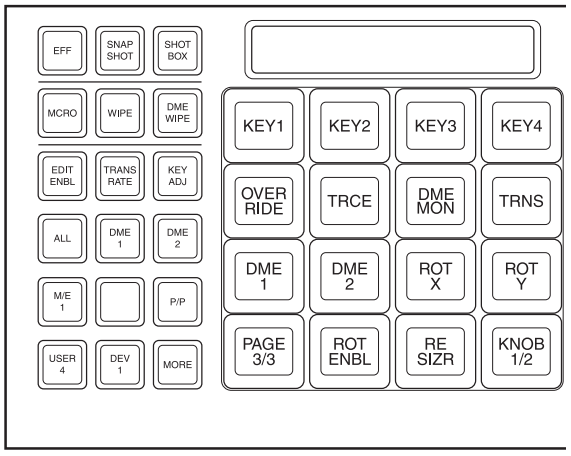
[PAGE 1/3]



[PAGE 2/3]



[PAGE 3/3]



With these buttons in the memory recall section, you can carry out the following key adjustment.

Notes

On the MVS-3000, buttons related to DME cannot be used.

Selecting the key type

[LUM] button: Selects a luminance key.
[LIN] button: Selects a linear key.
[CRK] button: Selects a chroma key.
[WIPE PTN] button: Selects a key wipe pattern key.
Adjust the parameters for each type with the adjustment knobs.

For details about the parameters, ☞ "Setting the key type in a menu" (p. 82).

Selecting the key source

[AUTO SEL] button: The signal assigned as a pair with the key fill bus signal for the key row button in the cross-point control block is automatically selected.
[SPLT] button: Select a different signal manually. To make the selection, hold down this button, and press the button assigned to the signal you want as key source in the cross-point control block.
You can also use the same signal as the key fill selected on the key fill bus as key source (SELF). Press the [AUTO SEL] button and [SPLT] button simultaneously so that both are off, to select the SELF mode.

Setting auto chroma key

[SMPL MARK] button: Toggles the sample mark display on and off. When on, the monitor screen shows the foreground video and a white box sample mark.
[AUTO STRT] button: Automatically adjusts the chroma key. When the [SMPL MARK] button is off, pressing this does not carry out automatic chroma key adjustment.
You can adjust the display position and size of the sample mark with the adjustment knobs.

For details about parameters, ☞ "Making auto chroma key adjustments" (p. 86).

Setting the show key function

[SHOW KEY] button: When this is pressed, the key source signal to which key processing has been applied is output from the specified output port (show key mode).

For details about settings, ☞ "Settings for the Show Key Function" (p. 356).

Inverting black and white in the key source

[KEY INV] button: When this is set to on, black and white in the key source is inverted.

Selecting the key fill signal

[FILL MAT] button: When this is on, the signal generated by the dedicated color matte generator is selected, and when it is off, the signal selected on the key 1 fill bus is selected.

For details about parameters, ☞ "Selecting the key fill and key source" (p. 83).

Selecting the mask source

[MASK] button: Selects the mask source (box or pattern generated by dedicated generator) to be selected in the Main Mask menu for each M/E bank.

The parameters that can be adjusted with the adjustment knobs are different for a box or a pattern. The box parameters are on two pages; to access the second page, press the [KNOB 1/2] button.

For details about parameters, ☞ "Using a mask" (p. 91).

Applying modifiers to the key edge

[BDR] button: Applies a border to the edge.
[DROP BDR] button: Applies a drop border to the edge.
[SHDW] button: Applies a shadow to the edge.

The parameters that can be adjusted with the knobs are on two pages; to access the second page, press the [KNOB 1/2] button.

*For details about parameters, see step **3** in "Key Edge Modifications" (☞ p. 88).*

Setting the degree of edge softening

[SOFT EDGE] button: Softens the key edge.

*For details about parameters, see step **6** in "Key Edge Modifications" (☞ p. 88).*

Setting the resizer function

[RESIZR] button: Enables and disables the resizer function.

The parameters that can be adjusted with the knobs are on two pages; to access the second page, press the [KNOB 1/2] button.

For details about parameters, ☞ "Menu operations for key shrinking, magnification, rotation, and movement" (p. 95).

If you press the [RESIZR] button at the same time as any of the [KEY1] to [KEY4] buttons, you can switch the trackball to the resizer setting mode.

Rotating keys

[ROT ENBL] button: Enables rotation of the key using the resizer. Enabled when the [RESIZR] button is on.
[ROT X] button: Rotates the key around the X axis.
[ROT Y] button: Rotates the key around the Y axis.

For details about parameters, ☞ "Menu operations for key shrinking, magnification, rotation, and movement" (p. 95).

Using a DME currently used on another keyer

[OVERRIDE] button: When one DME channel is in use, holding down this button and pressing a DME channel button ([DME1] or [DME2]) allows you to forcibly select this channel. The button for the selected DME channel lights green.

Recalling the keyer using the DME channel

[TRCE] button: Holding down this button, press the selection button for the DME channel already assigned to another keyer or transition, to switch the keyer or transition to which the DME channel is assigned to the currently selected state.

Monitoring DME output

[DME MON] button: Holding down this button and pressing the selection button for a DME channel ([DME1] or [DME2]) assigns the signal for this channel as a reentry signal to DME MON V/K and allows you to monitor on an AUX bus, etc. However, it is first necessary to assign this channel on the DME to the delegation (keyer or transition) to be monitored.

Selecting the DME channel

[DME1] and [DME2] buttons: Press one of these to select the corresponding DME channel. The number of valid buttons depends on the number of DME channels in use.

Returning the key adjustment values to their defaults

Holding down a key type button ([LUM], [LIN], [CRK], or [WIPE PTN]) recalls the key default values.

Key modify clear

When the [KEY ADJ] button is held down, holding down the region selection button for the selected region together returns all the key settings of the region to the initial status settings.

When the [KEY ADJ] button is held down, holding down the button for the selected key together returns the key settings to the initial status settings.

For details about initial status, ☞ "Saving User-Defined Settings" (p. 317).

Resizer

Resizer allows you to apply effects such as image shrinking, magnification and movement, rotation as well as change of the aspect ratio, to the processed key.
You can use the following operations.

- Two-dimensional transformations of keys *(☞ p. 95)*
- Key rotation on the X- or Y-axis
- Resizer interpolation settings *(☞ p. 96)*
- Resizer crop/border settings *(☞ p. 97)*
- Resizer effect settings *(☞ p. 98)*
  (mosaic, defocus)

Notes

MVS-6520/6530/3000A

- Resizer can only be used for keys 1 and 2 (DSK1 and DSK2 for the PGM/PST bank).
- The image of the key manipulated by resizer has a one-frame delay.
- Some effects of resizer are different from what you would expect of DME effects.
- There are restrictions on combined use of resizer effects themselves and that with DME wipes.
- You cannot apply DME effects to a key for which the resizer function is enabled. When one of the three functions – resizer, DME wipe, and DME effects – is enabled, the other two are disabled.

MVS-3000

- Resizer can only be used for keys 1 and 2 (DSK1 and DSK2 for the PGM/PST bank).
- The image of the key manipulated by resizer has a one-frame delay.
- Some effects of resizer are different from what you would expect of DME effects.
- DME wipes cannot be simultaneously used on keys where resizer is enabled.

Two-Dimensional Transformations and Rotation of Keys

Notes

When the screen aspect ratio is 4:3 in HD format, when the resizer is used to shrink a video image, this is applied to the 16:9 screen including the added video on the left and right sides. Use the crop function as required to extract the 4:3 image.

Menu operations for key shrinking, magnification, rotation, and movement

As an example, for key 1 of the M/E-1 bank, use the following procedure.

1 In the M/E-1 >Key1 >Processed Key/Resizer menu (1115), press [Resizer], turning it on.

2 Adjust the following parameters.

Parameter group [1/2]

No.	Parameter	Adjustment
1	Location X	Move key horizontally
2	Location Y	Move key vertically
3	Size	Magnify or shrink key

Parameter group [2/2]

No.	Parameter	Adjustment
1	Aspect X	Change aspect ratio horizontally
2	Aspect Y	Change aspect ratio vertically
3	Aspect Ratio	Change aspect ratio horizontally and vertically at the same time

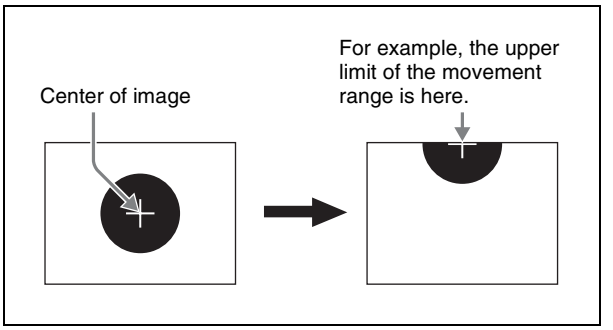
When [Rotation Enable] is turned on, the parameters change as follows.

No.	Parameter	Adjustment
1	Location X	Move key horizontally
2	Location Y	Move key vertically
3	Size	Magnify or shrink key
4[a)]	Rotation X	Rotate key horizontally
4[b)]	Rotation Y	Rotate key vertically
5	Perspective	Perspective

a) [X] is turned on in the <Rotation> group.
b) [Y] is turned on in the <Rotation> group.

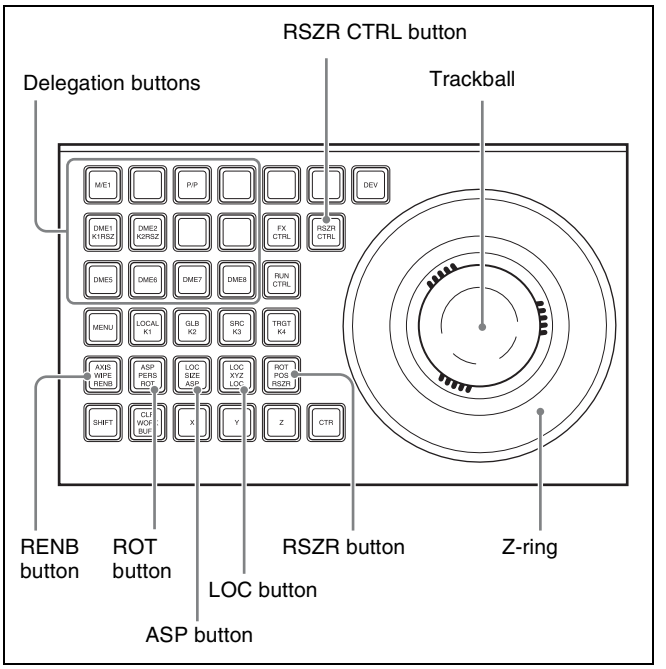
Notes

When [Rotation Enable] is turned on, the movement range of the center of the image is limited to the top and bottom edges of the image frame.



Functions that cannot be used with key rotation
When [Rotation Enable] is turned on, aspect ratio parameters (Aspect X, Aspect Y, Aspect Ratio) cannot be adjusted. In addition, defocus cannot be used.

Device control block operations for key shrinking, magnification, rotation, and movement



1 Press the [RSZR CTRL] button, turning it on.

2 Use the delegation buttons to select the key to which you want to apply a resizer function.

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

4 Carry out the following operations.

- To change the aspect ratio, turn on the [ASP] button.
- To shrink, magnify, or move the key, turn on the [LOC] button.
- To rotate the key, turn on the [RENB] button and then the [ROT] button. To specify the direction of rotation, press [X] or [Y]. To adjust perspective, press [Z].

  Hold the [ASP], [LOC], or [ROT] button down while carrying out the operation of step **5** to enable fine adjustment (fine mode).

5 Use the trackball for the operation.

Entering parameters

This operation is the same as in *"Entering Three-Dimensional Parameter Values" (☞ p. 171)*.

Resetting parameters

This operation is the same as in *"Resetting three-dimensional parameter values" (☞ p. 172)*.

Clearing resizer effects

To clear two-dimensional transform and rotation parameters only and set the initial state
In the device control block, press the [CLR WORK BUFR] button in the operation buttons.

To clear all resizer parameters, and set the initial state
In the device control block, press the [CLR WORK BUFR] button in the operation buttons, twice in rapid succession.

For the initial state, you can select either the factory default settings or user settings.

For details about the settings, ☞ "Selecting the State at Start-up" (p. 316).

Resizer Interpolation Settings

For example, to make the interpolation settings for key 1 of the M/E-1 bank, use the following procedure.

1 In the M/E-1 >Key1 >Processed Key/Resizer menu (1115), press [Resizer], turning it on.

2 In the <Resizer Effect> group, press [Resizer Process].

The Resizer Process menu (1115.3) appears.

3 In the <Video Field/Frame Mode> group and <Filter Mode> group, make the interpolation settings.

This operation is the same as the DME interpolation settings for the MKS-6570/MVE-8000A. For details, *"Interpolation Settings" (☞ p. 217)*.
However, the following points are different from the operation of the MKS-6570/MVE-8000A.

- The signal formats for which "Field/Frame Mode" can be set are 480i/59.94, 576i/50, 1080i/59.94, and 1080i/50.

- “Interpolation Mode” cannot be set.
- The anti-moiré filter cannot be set.

Resizer Crop/Border Settings

Making a crop setting for a key for which resizer is on

For example, to make the crop settings for key 1 of the M/E-1 bank, use the following procedure.

1 In the M/E-1 >Key1 >Processed Key/Resizer menu (1115), press [Resizer], turning it on.

2 In the <Resizer Effect> group, press [Border/Crop].

The Border/Crop menu (1115.2) appears.

3 Press [Crop], turning it on.

4 Set the parameters.

These settings are the same as *“Crop Settings” (☞ p. 174)*.

Notes

If mosaic is enabled, or if defocus is enabled and you select [Video/Key] in the <Defocus Mode> group, then the crop is disabled.

Applying a border to a key for which resizer is on

1 In the M/E-1 >key1 >Processed Key/Resizer menu (1115), press [Resizer], turning it on.

2 In the <Resizer Effect> group, press [Border/Crop].

The Border/Crop menu (1115.2) appears.

3 Press [Border], turning it on.

4 Set the following parameters.

No.	Parameter	Adjustment
1	H	Simultaneously adjust width of left and right borders
2	V	Simultaneously adjust width of top and bottom borders
3	All	Simultaneously adjust width of all four borders
4	Density	Border density

To apply color to a border

1 In the <Border Mode> group of the Border/Crop menu, press [Flat Color].

2 Set the following parameters.

No.	Parameter	Adjustment
1	Luminance	Luminance
2	Saturation	Saturation
3	Hue	Hue

To soften the inner edge of a border

1 In the Border/Crop menu, press [Border Soft].

2 Set the following parameter.

No.	Parameter	Adjustment
1	Inner Soft	Border inner softness

To apply a beveled light edge

1 In the <Border Mode> group of the Border/Crop menu, press [Beveled Light Edge].

2 Set the following parameters.

No.	Parameter	Adjustment
1	Top	Position of top side
2	Left	Position of the left side
3	Right	Position of the right side
4	Bottom	Position of the bottom side
5	All	Position of all four sides

3 Press [Border Soft].

4 Set the following parameters.

No.	Parameter	Adjustment
1	Inner Soft	Border inner softness
2	Bound Soft	Border boundary softness

To apply a beveled color edge

1 In the <Border Mode> group of the Border/Crop menu, press [Beveled Color Edge].

2 In the <Color Adjust> group, select the edges for adjustment among the [Top], [Left], [Right], and [Bottom] edges. To select all the four edges, press [All].

3 Set the color parameters.

For details, ☞ "To apply color to a border" (p. 97).

4 Press [Border Soft].

5 Set the following parameters.

No.	Parameter	Adjustment
1	Inner Soft	Border inner softness
2	Bound Soft	Border boundary softness

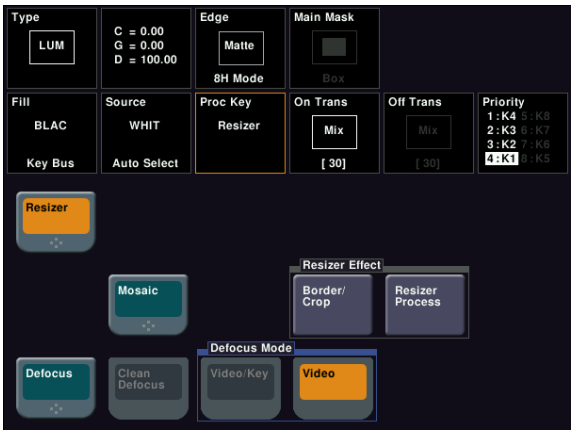
Resizer Effect Settings

For example, to make the effect settings for key 1 of the M/E-1 bank, use the following procedure.

1 In the M/E-1 >Key1 >Processed Key/Resizer menu (1115), press [Resizer], turning it on.

2 In the <Resizer Effect> group, press [Enhanced Effect].

The Enhanced Effect (1115.4) menu appears.



Applying a mosaic

1 In the Enhanced Effect menu (1115.4), press [Mosaic], turning it on.

2 Set the parameters.

These settings are the same as in *"Mosaic Settings" (☞ p. 186)*.

Notes

If mosaic is enabled, crop is disabled.

Defocusing

1 In the Enhanced Effect menu (1115.4), press [Defocus], turning it on.

2 In the <Defocus Mode> group, select the signal to which to apply the mosaic effect.

Video/Key: Video signal and key signal
Video: Video signal only

3 Set the parameters.

This procedure is the same as in *"Defocus Settings" (☞ p. 184)*.

Notes

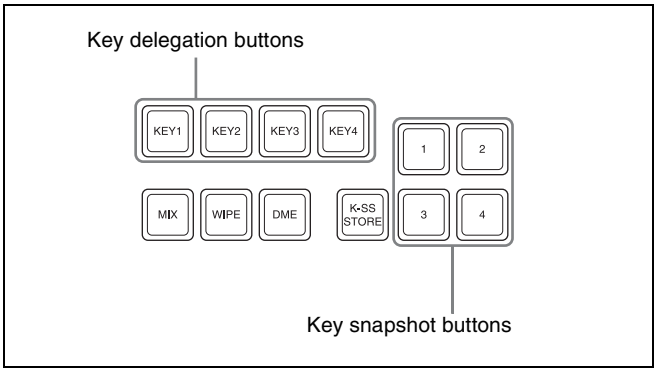
If defocus is enabled and you select [Video/Key] in the <Defocus Mode> group, then crop is disabled.

Key Snapshots

Key settings other than the key on/off status and the key priority can all be instantaneously saved in a dedicated register, for recall when required. A key snapshot comprises three values: a cross-point button number, key memory full mode, and independent key transition, and can be called in any combination.
There are four key snapshot registers for each keyer.

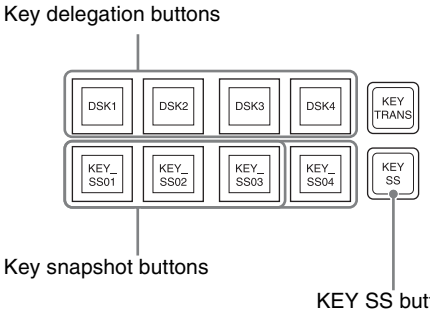
Key Snapshot Operations

Key snapshot operations are carried out in the transition control block or the Flexi Pad.



Transition control block
(ICP-6520/6530 M/E banks, ICP-3000/3016 M/E and PGM/PST banks)

Independent key transition/key snapshot control section LCD buttons



If the LCD buttons do not appear as the above, you must press the [KEY SS] button to change its display to the above.

Transition control block when connected to MVS-6520/3000A/3000 (ICP-6520/6530 PGM/PST bank)

Notes

For details about PGM/PST block operations when an ICP-6520/6530 is connected to the MVS-6530, ☞ *"8-Keyer Operation" (p. 412)*.

Saving a key snapshot

For example, the following procedure saves the state of the settings of key 1 on the M/E-1 bank.

1 Press the [KEY1] key delegation button in the M/E-1, turning it on.

2 Press one of the key snapshot buttons (1 to 4) while holding down the [K-SS STORE] (or KEY SS) button. The color of the key snapshot button indicates the following.

Off: Nothing is saved in the register.
Lit: Settings are saved in the register.
For a register holding a snapshot, the register name is shown as up to eight characters.

Notes

If you save a key snapshot to a button to which settings are already saved, the existing contents of the register will be overwritten.

The button you pressed lights yellow.

Recalling a key snapshot

For example, the following procedure recalls the state of the settings of key 1 on the M/E-1 bank.

1 Press the [KEY1] key delegation button in the M/E-1, turning it on.

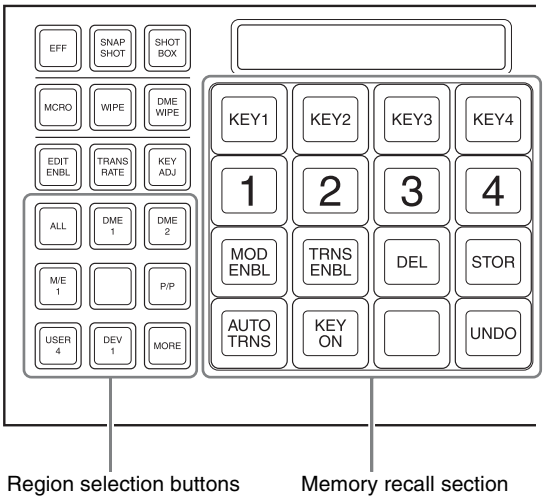
2 Press the key snapshot button (1 to 4) of the register you want to recall.

Key snapshot operations in the Flexi Pad

Notes

By default, the [KEY SS] key snapshot mode selection button does not appear in the Flexi Pad. To carry out key snapshot saving and recall in the Flexi Pad, it is first necessary in the Engineering Setup >Panel >Config >Multi Function Module >Mode Sel Assign menu (7321.21) to assign key snapshot mode to a mode selection button *(☞ p. 328)*.

Press the [KEY SS] button on the Flexi Pad to switch the memory recall section to key snapshot mode.



For example, to carry out operation on key 1 of the M/E-1 bank, select [M/E-1] using the region selection buttons and press the [KEY1] button in the memory recall section. Use the buttons in the memory recall section to save and recall key snapshots.

To save a key snapshot

Press and hold down the [STOR] button, and press a register button ([1] to [4]) for the destination where you want to save the key snapshot.

To recall a key snapshot

1 According to the information you want to recall, set the following buttons on/off.

[MOD ENBL] button: Recall the key adjustment values and key modifier settings.
[TRNS ENBL] button: Recall independent key transition settings.
If both are off, then key memory is enabled, and just the saved key fill and key source signal selections are recalled.

2 Press the button ([1] to [4]) for the register you want to recall.

The button for the selected register lights yellow, and the key snapshot is recalled.
To cancel the recall operation, press the [UNDO] button.

To delete a key snapshot

Press and hold down the [DEL] button, press the button ([1] to [4]) of the register to which the key snapshot you want to delete is saved.

To carry out an auto transition execution during key snapshot operation

Press the [AUTO TRNS] button.

To instantly insert/remove a key

Press the [KEY ON] button.
To remove the key, while the key is inserted press the [KEY ON] button.

Chapter 5 Wipes

Overview

A wipe is a transition from the current video stream to a new video stream, using a wipe pattern.
Changing the background by means of a wipe is referred to as a "background wipe," and inserting or deleting a key with a wipe is termed a "key wipe."
There are two types of wipe: those that can be selected in a common transition, and those that can be selected in an independent key transition.

Basic Wipe Setting Operations

You carry out wipe setting operations using the Wipe menu for each of the switcher banks.
This section describes an example on the M/E-1 bank.

For details about wipe settings for independent key transitions, ☞ "Basic Wipe Setting Operations for Independent Key Transitions" (p. 105).

Wipe Pattern Selection

1 Open the M/E-1 >Wipe >Main Pattern menu (1151).

For details about wipe patterns, ☞ "Wipe Pattern List" (p. 381).

2 Press the button to select the desired pattern.

The pattern appears on the screen.

Setting Wipe Modifiers

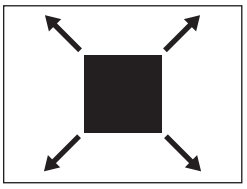
You can apply various modifiers to the wipe pattern: setting the wipe direction, pattern position, etc.

Note that the available modifiers may depend on the pattern you are using *(☞ p. 105)*.

Specifying the wipe direction (Direction)

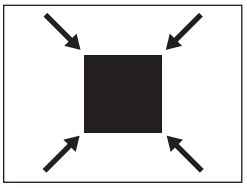
Specify the direction of the wipe effect.

Normal



Wipe in the normal direction.

Reverse



Wipe in the opposite direction of the normal direction.

Normal/reverse

The wipe direction alternates between normal and reverse after each transition.

To specify the wipe direction in a menu

1 Open the M/E-1 >Wipe >Edge/Direction menu (1154).

2 In the <Direction> group, select the wipe direction.

To specify the wipe direction with a button in the transition control block

In the transition control block of each switcher bank, press the following direction selection buttons.
NORM: Normal
NORM/REV: Normal/reverse
REV: Reverse

Modifying the wipe pattern edge (Edge)

You can apply a border to the pattern or soften the edges.

Border

Applies a border to the pattern.

Soft

Softens the pattern edges.

Soft Border

Softens the border applied to the pattern.

When a border or soft border is selected, the signal filling the border is called edge fill. For the edge fill, you can use a matte generated by the dedicated color matte generator, or the signal selected on the utility bus. A matte can include color 1 and color 2, and a combination of the two colors (a “color mix”).

1 Open the M/E-1 >Wipe >Edge/Direction menu (1154).

2 Select the edge type in the <Edge> group.

3 Depending on the selection in step **2**, set the following parameters.

When Border is selected

No.	Parameter	Adjustment
1	Width	Border width

When Soft (edge) is selected

No.	Parameter	Adjustment
1	Soft	Edge softness

When Soft Border is selected

No.	Parameter	Adjustment
1	Width	Border width
2	Inner Soft	Border inner softness
3	Outer Soft	Border outer softness

4 When you selected Border or Soft Border, select the edge fill signal in the <Edge Fill> group.

Utility 1 Bus: Signal selected on the utility bus
Matte: Signal from the dedicated color matte generator

5 Depending on the selection in step **4**, carry out the following operation.

When [Utility 1 Bus] is selected: Hold down the [UTIL1] button in the 1st row of the cross-point control block, and select the signal in the 2nd row.
When [Matte] is selected: In the Edge/Direction menu, press [Matte Adjust] to display the Matte Adjust menu (1154.1), then adjust the single-color or two-color combination color matte. Select whether to use a single-color matte or a two-color combination in the <Edge Matte> group.
Flat Color: Adjust color 1 with the following parameters.

No.	Parameter	Adjustment
1	Luminance	Luminance
2	Saturation	Saturation
3	Hue	Hue

Carrying out a color mix for the edge fill matte

If you selected [Matte] for the border or soft border edge fill, you can combine color 1 and color 2.
For the combination, you can use not only a normal wipe generator pattern, but also the dedicated color mix pattern.

1 In the <Edge Fill> group of the Edge/Direction menu, select [Matte], and press [Matte Adjust].

The Matte Adjust menu (1154.1) appears.

2 In the <Edge Matte> group, press [Mix Color], turning it on.

3 In the <Mix Pattern> group, make one of the following selections.

Wipe: Use the wipe pattern selected for the transition.
Pattern: Use the dedicated pattern.

4 Depending on the selection in step **3**, set the following parameters.

When Wipe is selected

No.	Parameter	Adjustment
1	Size	Pattern size
2	Soft	Edge softness

When Pattern is selected

No.	Parameter	Adjustment
1	Size	Pattern size
2	Soft	Edge softness
3	Pattern	Pattern number[a)]

a) *"Wipe Pattern List" (☞ p. 381).*

You can also select the pattern in the Matte Adjust menu by pressing [Mix Pattern Select] and selecting the pattern in the Mix Ptn Select menu (1154.2). Press the desired pattern (1 to 24) to select it, and set the Size and Soft parameters.

5 If you selected Pattern in step **4**, if required, the following modifiers can be added.
If a wipe mix was set, skip to step **6**.

When turning [Position] on and setting the pattern position

No.	Parameter	Adjustment
1	Position H	Horizontal position[a)]
2	Position V	Vertical position[a)]

a) ☞ *p. 103.*

When turning [Multi] on and using replications of the same pattern

No.	Parameter	Adjustment
1	H Multi	Number of repetitions of pattern horizontally
2	V Multi	Number of repetitions of pattern vertically
3	Invert Type	Replication layout[a)]

a) ☞ *p. 105.*

When turning [Aspect] on and setting the aspect ratio of the pattern

No.	Parameter	Adjustment
1	Aspect	Aspect ratio[a)]

a) ☞ *p. 105.*

When turning [Angle] on in the <Rotation> group and slanting the pattern

No.	Parameter	Adjustment
1	Angle	Rotation angle of pattern[a)]

a) ☞ *p. 104.*

When turning [Speed] on in the <Rotation> group and rotating the pattern at a constant rate

No.	Parameter	Adjustment
1	Speed	Rotation speed of pattern[a)]

a) ☞ *p. 104.*

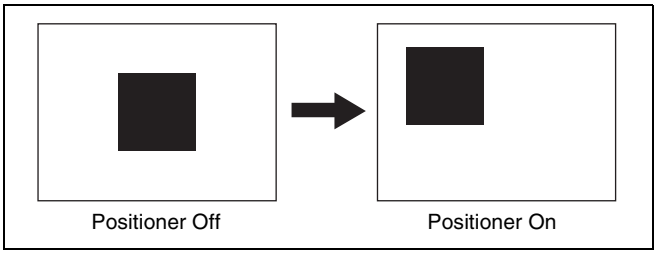
6 To adjust colors 1 and 2, turn on [Color1] or [Color2] respectively, then adjust the following parameters.

No.	Parameter	Adjustment
1	Luminance	Luminance
2	Saturation	Saturation
3	Hue	Hue

7 To interchange color 1 and color 2, press the [Color Invert] button, turning it on.

Setting the wipe position (Positioner)

Move the pattern to a desired position.



1 Open the M/E-1 >Wipe >Main Modify menu (1155).

2 Press [Position] in the <Position> group, turning it on.

3 Set the following parameters.

No.	Parameter	Adjustment
1	Position H	Horizontal position • Negative values move to the left. • Positive values move to the right.
2	Position V	Vertical position • Negative values move down. • Positive values move up.

To return the pattern position to the center of the screen

In the <Position> group, press [Center].

To move the pattern from its current position to the center through the course of a transition

In the <Position> group, press [Auto Center], turning it on.

To set the wipe position using the trackball

You can also set the wipe position using the trackball in the device control block.

1 Press the [M/E1] button in the device control block, turning it on.

The buttons in the device control block are assigned to the wipe position setting as follows.

Table 1: Buttons and assigned settings

Button name	Setting
WIPE	Wipe position for common transition

Table 2: Buttons assigned to functions

Button name	Function
POS	Toggle Position On/Off.
X, Y	Fix the operating direction.
CTR	Return the pattern position to the center of the screen.

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

3 Press the [POS] button, turning Position on.

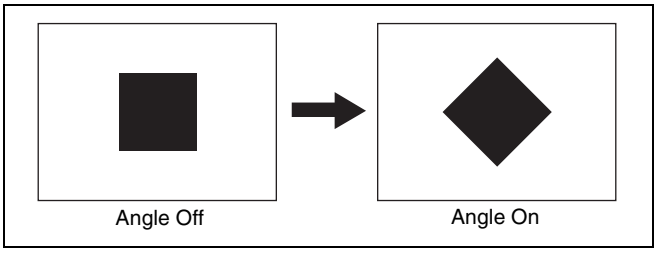
4 Move the trackball to set the wipe position.

By pressing the [X] button, turning it on, you can restrict movement to the horizontal direction, and by pressing the [Y] button, turning it on, you can restrict movement to the vertical direction.

Rotating the wipe pattern (Rotation)

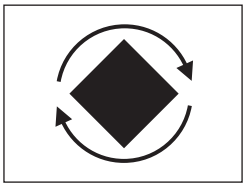
You can rotate the pattern.

Angle



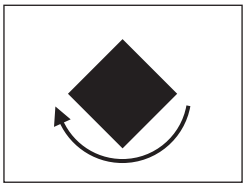
This carries out a wipe with the pattern in a fixed angle.

Speed



Through the course of the transition the wipe pattern rotates at a fixed specified speed.

Magnitude



Through the course of the transition the wipe pattern rotates through the specified angle.

1 Open the M/E-1 >Wipe >Main Modify menu (1155).

2 In the <Rotation> group, select the rotation type.

3 Depending on the selection in step **2**, set the following parameters.

When Angle is selected

No.	Parameter	Adjustment
1	Angle	Angle of pattern rotation • A value of –100.00 corresponds to a rotation of one turn counterclockwise. • A value of +100.00 corresponds to a rotation of one turn clockwise. • A value of 0.00 corresponds to no rotation.

When Speed is selected

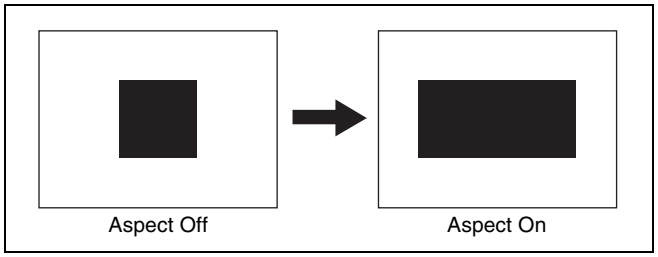
No.	Parameter	Adjustment
1	Speed	Rotation rate of pattern • A value of –100.00 corresponds to one counterclockwise rotation per second. • A value of +100.00 corresponds to one clockwise rotation per second. • A value of 0.00 corresponds to pause.

When Magnitude is selected

No.	Parameter	Adjustment
1	Angle	Angle of pattern at start of transition • A value of –100.00 corresponds to a rotation of one turn counterclockwise. • A value of +100.00 corresponds to a rotation of one turn clockwise. • A value of 0.00 corresponds to no rotation.
2	Magnitude	Amount of rotation through course of transition • A value of –200.00 corresponds to a rotation of two turns counterclockwise. • A value of +200.00 corresponds to a rotation of two turns clockwise. • A value of 0.00 corresponds to no rotation.

Setting the wipe pattern aspect ratio (Aspect ratio)

You can freely change the aspect ratio of the pattern.



1 Open the M/E-1 >Wipe >Main Modify menu (1155).

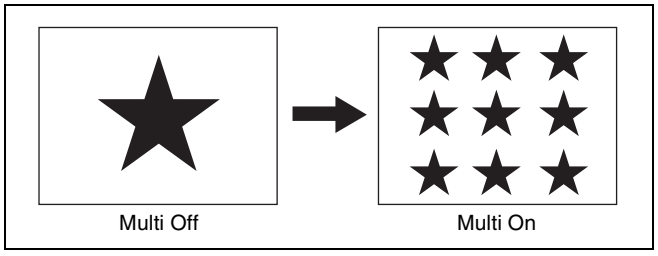
2 Press [Aspect], turning it on.

3 Set the following parameter.

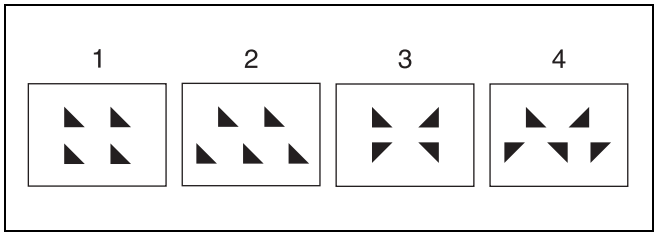
No.	Parameter	Adjustment
1	Aspect	Aspect ratio • Negative values expand vertically. • Positive values expand horizontally.

Replicating the wipe pattern (Multiplication)

The same pattern can be repeated horizontally and vertically or both, up to 63 times.



The [Invert Type] parameter allows you to select one of the following four replication layouts.



1: All replications in the same orientation
2: Even-numbered rows staggered
3: Even-numbered columns and rows inverted
4: Even-numbered columns and rows inverted, and even-numbered rows staggered

1 Open the M/E-1 >Wipe >Main Modify menu (1155).

2 Press [Multi], turning it on.

3 Set the following parameters.

No.	Parameter	Adjustment
1	H Multi	Number of repetitions of pattern horizontally
2	V Multi	Number of repetitions of pattern vertically
3	Invert Type	Replication layout

Possible combinations of wipe patterns and modifiers

Modifier	Wipe pattern (pattern number)	
	Available	Not available
Direction	1 to 24	–
Edge	1 to 24	–
Positioner	17, 18, 21 to 24	1 to 16, 19, 20
Rotation	1 to 24	–
Aspect ratio	9 to 16, 19 to 24	1 to 8, 17, 18
Multiplication	1 to 24	–

Wipe Modify Clear

Press [Default Recall] at the lower left of the menu screen, turning it on, then press the [Wipe] VF5 button to return the wipe settings to their initial status.

For details about initial status, ☞ "Saving User-Defined Settings" (p. 317).

Basic Wipe Setting Operations for Independent Key Transitions

You carry out independent key transition wipe setting operations using the Wipe Adjust menu for each keyer. This section describes an example using key 1 on the M/E-1 bank.

Open the M/E-1 >Key1 >Transition menu (1116), select [Wipe Adjust], and display the Key1 Wipe Adjust menu (1116.1).

For an overview of independent key transitions, ☞ "Independent Key Transitions" (p. 74).

Independent Key Transition Wipe Pattern Selection

1 In the Key1 Wipe Adjust menu, select [Pattern Select].

The Pattern Select menu (1116.2) appears.

2 Press the button to select the desired pattern.

Setting Independent Key Transition Wipe Modifiers

Available modifiers

You can use the following modifiers with an independent key transition wipe.
However, the available modifiers may depend on the pattern you are using.

- Direction
- Soft edge
- Positioner
- Rotation
- Aspect ratio
- Multiplication

Setting the wipe direction (Direction)

In the <Direction> group of the Key1 Wipe Adjust menu, make one of the following selections.
Normal: Regular direction
Normal/Reverse: Alternate between regular and reverse for each transition
Reverse: Opposite direction of normal

Softening the wipe pattern edge (Soft edge)

1 In the Key1 Wipe Adjust menu, press [Soft], turning it on.

2 Set the following parameter.

No.	Parameter	Adjustment
1	Soft	Edge softness

Setting the wipe position (Positioner)

There are two methods of setting the wipe position: using the device control block, or in a menu.

To set the wipe position using the trackball

1 Press the [M/E1] button in the device control block, turning it on.

The buttons in the device control block are assigned to the wipe position setting as follows.

Table 1: Buttons and assigned settings

Button name	Setting
K1	Wipe position for independent key 1 transition
K2	Wipe position for independent key 2 transition
K3	Wipe position for independent key 3 transition
K4	Wipe position for independent key 4 transition

Table 2: Buttons assigned to functions

Button name	Function
POS	Toggle Position On/Off.
X, Y	Fix the operating direction.
CTR	Return the pattern position to the center of the screen.

2 Press the [K1] button, and select the setting item (key 1).

Notes

You can also enable simultaneous selection of multiple keys in the Setup menu.

3 Press the [POS] button, turning Position on.

4 Move the trackball to set the wipe position.

By pressing the [X] button, turning it on, you can restrict movement to the horizontal direction, and by pressing the [Y] button, turning it on, you can restrict movement to the vertical direction.

To set the wipe position by a menu operation

1 In the Key1 Wipe Adjust menu, press [Position], turning it on.

2 Set the following parameters.

No.	Parameter	Adjustment
1	Position H	Horizontal position[a)]
2	Position V	Vertical position[a)]

a) ☞ p. 103.

To move the pattern from its current position to the center through the course of a transition

Press [Auto Center], turning it on.

Rotating the wipe pattern (Rotation)

1 In the <Rotation> group of the Key1 Wipe Adjust menu, select the rotation type.

Angle: Incline the pattern through a fixed angle.
Speed: Rotate at a speed rate.
Magnitude: Rotate the pattern through a fixed angle during the course of the transition.

2 Depending on the selection in step **1**, set the following parameters.

When Angle is selected

No.	Parameter	Adjustment
1	Angle	Rotation angle of pattern[a)]

a) ☞ p. 104.

When Speed is selected

No.	Parameter	Adjustment
1	Speed	Rotation speed of pattern[a)]

a) ☞ p. 104.

When Magnitude is selected

No.	Parameter	Adjustment
1	Angle	Angle of pattern at start of transition[a)]
2	Magnitude	Amount of rotation through course of transition[a)]

a) ☞ p. 104.

Setting the wipe pattern aspect ratio (Aspect ratio)

1 In the Key1 Wipe Adjust menu, press [Aspect], turning it on.

2 Set the following parameter.

No.	Parameter	Adjustment
1	Aspect	Aspect ratio[a)]

a) ☞ p. 105.

Replicating the wipe pattern (Multiplication)

1 In the Key1 Wipe Adjust menu, press [Multi], turning it on.

2 Set the following parameters.

No.	Parameter	Adjustment
1	H Multi	Number of repetitions of pattern horizontally
2	V Multi	Number of repetitions of pattern vertically
3	Invert Type	Replication layout[a)]

a) ☞ p. 105.

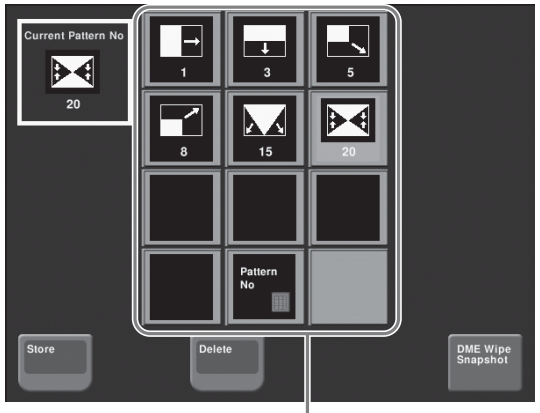
Wipe Snapshots

You can snapshot and save a wipe pattern together with the current settings of its modifiers and pattern limit in a dedicated register for recall when required. There are 10 wipe snapshot registers on each bank.
Wipe snapshots can be saved or recalled using the Flexi Pad or a menu operation.

For details about Flexi Pad operations, ☞ *"Wipe Pattern Operations in the Flexi Pad" (p. 108).*

Wipe Snapshot Operations with the Menus

Use the Wipe Adjust menu in each switcher bank.
When operating from the M/E-1 bank, for example, open the M/E-1 >Wipe >Wipe Snapshot menu (1157).



Button displays

In the Setup menu, you can select whether the memory recall buttons show the pattern number or register name.

For details, ☞ *"Settings for the Flexi Pad and Wipe Snapshot Menus" (p. 341).*

Saving a wipe snapshot from the menu

1 Make the wipe settings that you want to save.

2 In the Wipe Snapshot menu, press [Store], lighting it orange.

3 Press the memory recall button for the register in which you want to save.

Notes

If you press a button which is already lit, this overwrites the contents of the register.

Recalling a wipe snapshot from the menu

In the Wipe Snapshot menu, press the memory recall button for the wipe snapshot you want to recall.
This recalls the wipe snapshot, and the button you pressed lights orange.
In the upper left is shown the currently recalled register name or number.

Notes

A setting in the Setup menu determines whether register names or pattern numbers appear.

Deleting a wipe snapshot from the menu

1 In the Wipe Snapshot menu, press [Delete].

2 Press the memory recall button for the wipe snapshot you want to delete.

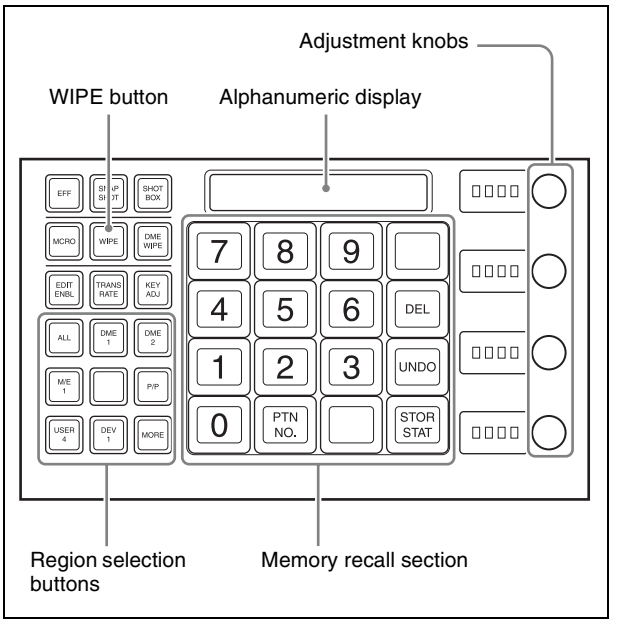
Wipe Pattern Operations in the Flexi Pad

Recalling a Wipe Snapshot

To recall a wipe snapshot in the Flexi Pad, use the following operation.

1 Press the [WIPE] button in the Flexi Pad.

This switches the memory recall section to wipe snapshot mode.



You can change the indications for buttons [0] to [9] in the memory recall section to pattern images, using the Engineering Setup >Panel >Operation >Flexi Pad Mode menu (7326.3).

2 Select the region for the wipe snapshot to be recalled with the region selection buttons.

3 Press the button (lit orange) in the memory recall section corresponding to the register in which the desired wipe snapshot is stored.

The button you pressed lights yellow, and this recalls the saved wipe snapshot.
The alphanumeric display shows the corresponding pattern number or register name.

Selecting the Wipe Pattern

1 Press the [WIPE] button, and select the region with the region selection buttons.

2 Press the [PTN NO.] button in the memory recall section.

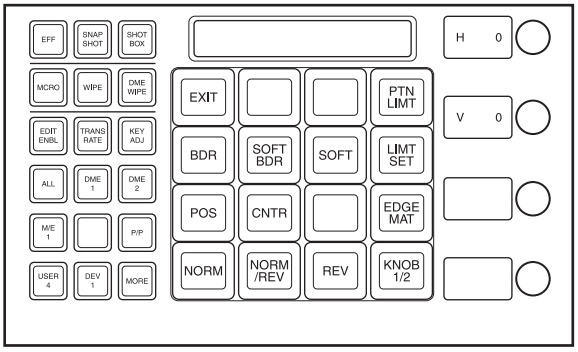
The [PTN NO.] button lights green.

3 Use the numeric keypad to enter the pattern number consisting of up to three digits, and press the [ENTR] button.

This confirms the input, and the pattern number *(☞ p. 381)* appears in the alphanumeric display.
The [PTN NO.] button light changes to orange, and the system returns to wipe snapshot mode.

Editing the Wipe Pattern

By pressing the [EDIT ENBL] button to switch the memory recall section to editing mode, you can edit the selected wipe pattern.
To exit from the editing mode, press the [EDIT ENBL] button again, or press the [EXIT] button.



Wipe pattern edge setting buttons

BDR (border): Applies a border to the wipe pattern.
SOFT BDR (soft border): Softens the applied border.
SOFT (soft edge): Softens the edge.
EDGE MAT (edge matte): Selects whether to fill the edge with a color matte, or insert an image from the utility bus. By default a color matte is selected.
You can adjust the parameters selected with these buttons using the adjustment knobs, when the button is lit green.

When border is selected

No.	Parameter	Adjustment
1	W	Border width
2	L	Luminance
3	S	Saturation
4	H	Hue

When soft border is selected

Parameter group [1/2]

No.	Parameter	Adjustment
1	W	Border width
2	I	Border inner softness
3	O	Border outer softness

Parameter group [2/2]

No.	Parameter	Adjustment
1	L	Luminance
2	S	Saturation
3	H	Hue

When soft edge is selected

No.	Parameter	Adjustment
1	S	Edge softness

When edge matte is selected

No.	Parameter	Adjustment
1	L	Luminance
2	S	Saturation
3	H	Hue

Buttons for positioning the wipe pattern

POS (positioner): Adjusts the position of the wipe pattern.
CNTR (center): Returns the wipe pattern position to the center.
When you press the [POS] button, the alphanumeric display first shows the name of the parameter, “H” or “V,” and then the value of the parameter.
When the [POS] button is lit green, you can adjust the position of the wipe pattern with the adjustment knobs.

No.	Parameter	Adjustment
1	H	Horizontal position
2	V	Vertical position

Buttons for setting the wipe direction

NORM (normal): Sets wipe to normal (forward) direction.
NORM/REV (normal/reverse): Sets the wipe direction to alternate between normal and reverse for each transition.
REV (reverse): Sets wipe to the opposite direction of normal.

Buttons for setting the wipe pattern limit

PTN LIMT (pattern limit): Enables setting of the pattern limit using the adjustment knobs.
LIMT SET (limit set): If you change the pattern size with the fader lever then press this button, this sets the current size as the pattern limit.

No.	Parameter	Adjustment
1	P	Pattern limit range

Other buttons

EXIT: Exits the editing mode, and returns the memory recall section to wipe snapshot mode.
KNOB 1/2: When the knob adjustments are on two pages, this switches between parameter group [1/2] and parameter group [2/2].

Wipe modify clear

When the [WIPE] button is held down, holding down the region selection button for the selected region together returns all the wipe settings of the region to the initial status settings.

For details about initial status, ☞ "Saving User-Defined Settings" (p. 317).

Saving, Canceling, and Deleting Edited Wipe Patterns

Saving the edited wipe pattern as a snapshot

Holding down the [WIPE] button, press the button in the memory recall section for the register in which you want to save.
The button you pressed lights yellow.
Buttons for registers in which wipe snapshots are already saved light orange.

Canceling a saved wipe snapshot

Immediately after saving, hold down the [STOR STAT] button and press the [UNDO] button.
Buttons for registers in which wipe snapshots are already saved light orange.

Canceling the recall of a wipe snapshot

Press the [UNDO] button.

Deleting the data of a saved wipe snapshot

Holding down the [DEL] button, press the button for the register in which the wipe snapshot you want to delete is saved.
The register button you pressed turns off.

DME Wipes

Chapter 6

Overview

A DME wipe is a wipe transition that uses an image transformation effect to change from one video image to the next.
There are two types of DME wipe: those that can be selected in a common transition, and those that can be selected in an independent key transition.

You can also execute a DME wipe using a resizer for transitions, with key selected for the next transition, and independent key transitions (resizer DME wipes).

The DME wipe functional limitations and conditions vary depending on the switcher processor used. On the MVS-3000A without an MKS-6570 DME board installed, the same functional limitations and conditions exist as for the MVS-3000.
For details, see *"DME Wipe Support (MVS-6520/6530/3000A)" (☞ p. 114)* and *"DME Wipe Support (MVS-3000)" (☞ p. 115)*.

Types of DME Wipe Pattern

The patterns used for a DME wipe fall into two broad classes.
Preset patterns: Predetermined fixed patterns
User programmable DME patterns: Patterns that you can create using keyframe effects *(☞ p. 121)*

Notes

User programmable DME patterns are not supported on the MVS-3000.

DME wipe pattern groups

DME wipe patterns fall into the following groups.

Pattern group	Effect
Slide	The new video slides in over the old video.
Squeeze	The new video appears squeezed over the old video, and progressively expands to cover it.
Split	The old video splits, and the new video appears in the gap.
Door	The new video moves like a door closing, and progressively covers the old video.
Flip Tumble	The old video rotates about an axis and is replaced by the new video. During the transition, the signal from the utility bus of the M/E bank appears as the background.
Mirror	The new video appears over the old video as a mirror effect slides in all four directions (up, down, left, right).
Sphere	The new video appears wrapped around a sphere over the old video, then returns to the original video while unwrapping.
Character Trail	The new video appears with a trail over the old video. Then the original video is restored gradually from the surrounding area.
Wave	The new video appears with a wave-like effect over the old video. Then the original video returns as the effect reduces.
Ripple	The new video appears over the old video like outwardly moving ripples.

Pattern group	Effect
Page Turn	The old video moves like a page turning, and the new video appears behind it.
Roll	The new video unrolls like a scroll over the old video. This is a type of page turn.
Frame I/O	Completed in two transitions. In the first transition, the new video appears, then on the second transition the new video goes out and the old video returns.
P in P	• In one-channel mode, this completes in two transitions. - In the first transition, the old video shrinks, and the new video appears behind it. - In the second transition, the old video expands again until it is its original size. • In two-channel mode, in the first half of the transition, the old video shrinks, and the new video appears. - In the second half of the transition, the new video expands, and the old video disappears. - You can move the pattern from the current position by a relative amount. - During the transition, the signal from the utility bus of the M/E bank appears as the background.
2D Trans	The new video appears over the old video, while undergoing expansion, two-dimensional rotation and translation.
3D Trans	• In one-channel mode, the new video appears over the old video, while undergoing expansion, three-dimensional rotation and translation. • In two-channel mode, the old video changes to the new video while both undergo expansion, three-dimensional rotation and translation.
Sparkle	The new video appears over the old video with a nonlinear effect applied, such as broken glass, explosion, or melt. Then the original video returns as the effect gradually reduces.
Split Slide	The new video appears in strip form while sliding interleaved in the opposite direction over the old video.
Mosaic	In the first half of the transition, a mosaic is gradually applied to the old video, then at the 50% point the inner image changes to the new video. In the second half, the mosaic effect on the new video is gradually reduced, returning to the original image at 100%.
Defocus	In the first half of the transition, the old video is gradually defocused, then at the 50% point the inner image changes to the new video. In the second half, the defocusing effect on the new video is gradually reduced, returning to the original image at 100%.
Brick	A brick, such that the side surface is visible, slides in over the old video, then rotates so that the new video can be seen.
User Program	Using a DME keyframe effect created with a keyframe operation, this executes a DME wipe. *For details about creating keyframe effects, ☞ "Creating User Programmable DME Patterns" (p. 121).*
Resizer Slide	Performs a "Slide" DME wipe using a resizer.
Resizer Squeeze	Performs a "Squeeze" DME wipe using a resizer.
Resizer Frame I/O	Performs a "Frame I/O" DME wipe using a resizer.

DME wipe execution mode and pattern numbers that can be used

There are two DME wipe execution modes, depending on the number of DME channels available: one-channel mode (1ch) and two-channel mode (2ch).

Notes

2-channel mode patterns are not supported on the MVS-3000.

The channel mode and pattern number supported in each pattern group is given below.

For details about pattern images (excluding user programmable DMEs), ☞ "DME Wipe Pattern List" (p. 381) and ☞ "Resizer DME Wipe Pattern List" (p. 385).

DME wipe pattern		MVS-6520/6530/3000A			MVS-3000		
Group	Execution mode	DME wipes in common transitions		DME wipes in independent key transitions	DME wipes in common transitions		DME wipes in independent key transitions
		Background	Key		Background	Key	
Slide	1ch	1001 to 1008			1001 to 1008		–
	2ch	2601 to 2608	–		–		–

DME wipe pattern		MVS-6520/6530/3000A			MVS-3000		
Group	Execution mode	DME wipes in common transitions		DME wipes in independent key transitions	DME wipes in common transitions		DME wipes in independent key transitions
		Background	Key		Background	Key	
Squeeze	1ch	1021 to 1031			1021 to 1031		–
	2ch	2621 to 2628	–		–		–
Split	1ch	1011 to 1013[a]			–		–
Door	1ch	1041 to 1048			1041 to 1044		–
Flip Tumble	1ch	1101 to 1104, 1109, 1110, 1121, 1122, 1124, 1131 to 1133, 1135	–		1101, 1102		–
Mirror	1ch	1355 to 1358[a]			–		–
Sphere	1ch	1365[a]			–		–
Character Trail	1ch	1371, 1372[a]			–		–
Wave	1ch	1378, 1379[a]			–		–
Ripple	1ch	1381[a]			–		–
Page Turn	1ch	1301 to 1313, 1315 to 1318, 1341 to 1345[a]			–		–
	2ch	2701 to 2713, 2715 to 2718, 2741 to 2745[b]			–		–
Roll	1ch	1321 to 1333, 1335 to 1338, 1346 to 1350[a]			–		–
	2ch	2721 to 2733, 2735 to 2738, 2746 to 2750[b]			–		–
Frame I/O	1ch	1201 to 1208, 1221 to 1224			1201 to 1208, 1221 to 1224		–
	2ch	2851 to 2854, 2861 to 2864	–		–		–
P in P	1ch	1251	–		1251		–
	2ch	2651, 2652	–		–		–
2D Trans	1ch	1051 to 1058, 1061 to 1064, 1068			–		–
3D Trans	1ch	1071, 1072, 1074, 1076, 1077, 1088, 1091 to 1094			–		–
	2ch	2631 to 2634, 2642, 2644	–		–		–
Sparkle	1ch	1391, 1393, 1394, 1396, 1398, 1399[a]			–		–
Split Slide	1ch	1384 to 1389[a]			–		–
Mosaic	1ch	1701	–		1701		–
Defocus	1ch	1702	–		1702		–
Brick	2ch	2801 to 2804, 2811 to 2814	–		–		–
User Program	1ch	1901 to 1999			–		–
	2ch	2901 to 2999	–		–		–
Resizer Slide	1ch	–	7001 to 7008		–	7001 to 7008	
Resizer Squeeze	1ch	–	7021 to 7031		–	7021 to 7031	
Resizer Frame I/O	1ch	–	7201 to 7208, 7221 to 7224		–	7201 to 7208, 7221 to 7224	

a) Cannot be selected for DME channel 2 in an HD system.
b) Cannot be selected in an HD system.

DME Wipe Pattern Variations and Modifiers

You can modify the selected DME wipe pattern in the same way as an ordinary wipe pattern, as follows.

For details about the method of operation, ☞ "Setting DME Wipe Modifiers" (p. 116).

Direction: You can set the DME wipe direction to normal, reverse, or alternating normal/reverse *(☞ p. 116)*. However, a key transition can only be specified when the following patterns are selected.

- 1204, 1207, 1221 to 1224, 7204, 7207, 7221 to 7224

Notes

If pattern number 1201, 1202, 1203, 1205, 1206, 1208, 1251, 1701, or 1702 is selected, direction cannot be used.

Edge: You can apply a border or soft border *(☞ p. 116)*. In the case of user programmable DME patterns for keys in which an edge has already been applied to the effect, the behavior is as follows.

- When the DME wipe edge setting is on, only part of the edge applied in the effect is enabled, and that portion can be adjusted *(☞ p. 116)*.
- When the DME wipe edge setting is off, the edge applied in the effect is enabled as is.

Notes

If pattern number 1011, 1012, 1013, 1701 or 1702 is selected, edge cannot be used.

Positioner: You can move the DME wipe pattern or center of the effect to an arbitrary position. Using the position select function, you can also instantaneously move the pattern.

- 1031, 7031
  When this pattern number is selected, with the progress of the transition the pattern center automatically moves initially from the set position toward the center of the screen *(☞ p. 117)*. In other words, the effect obtained is the same as in a normal wipe with the positioner set to [Auto Center].
- 1201 to 1208, 1221 to 1224, 1251, 7201 to 7208, 7221 to 7224
  When these pattern numbers are selected, you can set the pattern position when the first transition completes.
- 1381, 1391, 1393, 1394, 1396
  When these pattern numbers are selected, you can set the center of the transition effect.
- 2651, 2652
  When these pattern numbers are selected, you can move the pattern for each channel separately, or the two channels simultaneously with values relative to the current position.
- 2801 to 2804, 2811 to 2814
  When the these pattern numbers are selected, you can set the vertical position as the brick slides in.
- 2851 to 2854, 2861 to 2864
  When these pattern numbers are selected, you can set the pattern position for each channel setting when the first transition completes.

Pattern limit: You can restrict the range of the transition as desired. However, this is not available for independent key DME wipes.

For details, ☞ "Pattern Limits" (p. 70).

Size: You can set the size of the image. This can only be used when one of the following pattern numbers is selected.

- 1201 to 1208, 1221 to 1224, 1251, 2651, 2652, 2851 to 2854, 2861 to 2864, 7201 to 7208, 7221 to 7224

Crop: You can crop the image. It is also possible in 16:9 mode to crop both sides and convert the image to a 4:3 aspect ratio.
For the execution of the transition, you can select from the following three possibilities.

- Cut
- Last 5%
- Linear

When [Last 5%] is selected, you can set the [Release Transition] as follows.

- Last 30%
- Last 5%
- Off

Notes

When pattern numbers 1701 and 1702 are selected, crop cannot be used.

DME Wipe Support (MVS-6520/6530/3000A)

- DME wipes cannot be performed using the MVE-8000A/MVE-9000.
- DME wipes are not supported on the MVS-6520/6530 without an MKS-6570 installed. Only resizer DME wipes are supported. On the MVS-3000A without an MKS-6570 installed, the DME wipe function is identical to that on the MVS-3000 *(☞ p. 115)*.
- Resizer DME wipes can only be set for keys that support resizer/key edge.
- When the screen aspect ratio is 4:3 in HD format, using a resizer DME wipe to shrink the video to fit on a 16:9 screen adds video to the left and right sides. Use the crop function to extract the 4:3 image.

Relation to ordinary wipes

- DME wipes do not use the wipe generator built into the switcher. Therefore, during the execution of a DME wipe, you can still use a pattern produced by the wipe generator as the source for a pattern key or mask.
- A DME wipe pattern cannot be used as the source for a pattern key or mask.

Relation to processed keys

- When using the DME for a processed key, if you select a DME wipe, an available DME is automatically allocated to the DME wipe. If all of the DME channels are in use, then it is not possible to select a DME wipe. If a setting has been made for DME allocation in a Setup menu, that setting takes precedence.

  For details, ☞ "Setting the Assignments of DME Channels" (p. 346).

- Resizer DME wipes cannot be used on keys that have a processed key enabled.

Relation to resizer

DME wipes and resizer DME wipes cannot be used on keys that have resizer enabled.

Number of DME wipes that can be used simultaneously on a single M/E bank

DME wipes can be used in five places, including the four independent key transitions.
The number of keys to which DME effects (including DME wipes) can be applied simultaneously for one M/E bank varies as follows depending on the execution mode of the DME wipe pattern selected for the background.

Key to which DME effects are applied	DME wipe pattern for background	Number of keys to which DME effects can be applied simultaneously
Keys 1 to 4	DME wipes not used	2
	One-channel mode	1
	Two-channel mode	0

DME Wipe Support (MVS-3000)

- DME wipes cannot be performed using the MVE-8000A/MVE-9000.
- DME wipes on transitions, with key selected for a next transition, and independent key transitions can be executed using resizer DME wipes only.
- Resizer DME wipes can only be set for keys that support resizer/key edge.
- A setting in the Setup menu is required in order to use DME wipes with a background selected for a next transition. In this case, Key1 cannot be used on the corresponding bank. The setting is configured in the Engineering Setup >Switcher >Config menu (7331) *(☞ p. 346)*.
- When the screen aspect ratio is 4:3 in HD format, the video shrinks to fit on a 16:9 screen, with added video on the left and right sides. Use the crop function to extract the 4:3 image.

Relation to ordinary wipes

- DME wipes do not use the wipe generator built into the switcher. Therefore, during the execution of a DME wipe, you can still use a pattern produced by the wipe generator as the source for a pattern key or mask.
- A DME wipe pattern cannot be used as the source for a pattern key or mask.

Relation to resizer

Resizer DME wipes cannot be used on keys that have resizer enabled.

Basic DME Wipe Setting Operations

You carry out DME wipe setting operations using the DME Wipe menu for each bank.
This section describes an example on the M/E-1 bank.

For details about independent key transition DME wipe settings, ☞ "Basic DME Wipe Setting Operations for Independent Key Transitions" (p. 119).

DME Wipe Pattern Selection

For details about patterns and pattern groups that can be selected, ☞ "DME wipe execution mode and pattern numbers that can be used" (p. 112). Other patterns cannot be selected, even if displayed on the screen. Also, patterns cannot be used in two-channel mode on the MVS-3000.

1 In one-channel mode, open the M/E-1 >DME Wipe >1ch menu (1161). In two-channel mode, open the M/E-1 >DME Wipe >2ch menu (1162).

2 Press the button of the desired DME wipe pattern group to select it.

The patterns from the selected pattern group appear on the screen.

To perform a DME wipe using the resizer
Select [Resizer Slide], [Resizer Squeeze], or [Resizer Frame I/O] in the DME wipe group.
Resizer DME wipes can only be used where the next transition is a key.

3 Press the button to select the desired pattern number.

Adjusting DME wipe pattern parameters

Of the DME wipe patterns, the following have parameters that can be adjusted.

When Brick (for two channels) is selected (pattern numbers 2801 to 2804, 2811 to 2814)

No.	Parameter	Adjustment
1	Side V Size X	Horizontal magnification
2	Side V Size Y	Vertical magnification
3	Height	Height of brick
4	Center X	Horizontal center position[a)]
5	Center Y	Vertical center position[b)]

a) The horizontal center position of the video pasted on Side V. At –100.00 the center is at the left edge of the screen, and at +100.00 the center is at the right edge of the screen.

b) The vertical center position of the video pasted on Side V. At –100.00 the center is at the bottom edge of the screen, and at +100.00 the center is at the top edge of the screen.

When Frame in-out (for two channels) is selected

- **Pattern numbers 2851 to 2854**

No.	Parameter	Adjustment
5	Delay	Timing for video selected on a utility bus to appear on the screen

- **Pattern numbers 2861 to 2864**

No.	Parameter	Adjustment
1	Rot X	Rotation on the Y axis (horizontal direction)
2	Rot Y	Rotation on the X axis (vertical direction)
3	Rot Z	Rotation on the Z axis
5	Delay	Timing for video selected on a utility bus to appear on the screen

Setting DME Wipe Modifiers

You can apply various modifiers to the DME wipe pattern: setting the DME wipe direction, pattern position, etc.

For an overview of modifiers, ☞ *"DME Wipe Pattern Variations and Modifiers" (p. 114)*.

Specifying the DME wipe direction (Direction)

You can specify the DME wipe direction (normal/reverse).

To specify the DME wipe direction in a menu

1 Open the M/E-1 >DME Wipe >Edge/Direction menu (1164).

2 In the <Direction> group, specify the DME wipe direction.

Normal: Regular direction
Normal/Reverse: Alternate between regular and reverse for each transition
Reverse: Opposite direction of normal

To specify the DME wipe direction with a button in the transition control block

In the transition control block of each switcher bank, press the following direction selection buttons.
NORM: Normal
NORM/REV: Normal/reverse
REV: Reverse

Modifying the DME wipe pattern edge (Edge)

1 Open the M/E-1 >DME Wipe >Edge/Direction menu (1164).

2 If the selected pattern is in 2-channel mode, in the <Ch Select> group, select the corresponding channel.

You can select more than one channel at the same time.

3 Select the edge type in the <Edge> group.

Border: Border
Soft Border: Soft border

4 Set the parameters according to the selection in step **3**.

When Border is selected

No.	Parameter	Adjustment
1	Width	Border width
3	Luminance	Luminance of border color
4	Saturation	Saturation
5	Hue	Hue

When Soft Border is selected

No.	Parameter	Adjustment
1	Width	Border width
2	Inner Soft	Border inner softness
3	Luminance	Luminance of border color
4	Saturation	Saturation
5	Hue	Hue

Display indications when multiple channels are selected at the same time

The indications for the parameters show the settings on channel 1. When you adjust the settings, this changes the settings on channel 2 by the same amount.

Setting the DME wipe position (Positioner)

1 Open the M/E-1 >DME Wipe >Modify menu (1165).

2 If the selected pattern is in 2-channel mode, in the <Ch Select> group, select the corresponding channel.

You can select more than one channel at the same time.

3 Press [Position] in the <Position> group, turning it on.

4 Set the following parameters.

No.	Parameter	Adjustment
1	H	Horizontal position
2	V	Vertical position

Display indications when multiple channels are selected at the same time
The indications for the parameters show the settings on channel 1. When you adjust the settings, this changes the settings on channel 2 by the same amount.

To return the DME wipe pattern position to the center of the screen

In the <Position> group, press [Center].

Displaying and moving the position of DME wipe patterns

1 Open the M/E-1 >DME Wipe >Modify menu (1165).

Among the [Top Left], [Top Right], [Bottom Left], and [Bottom Right] buttons in the <Position Select> group, the button that is on indicates the current display position of the DME wipe pattern.

2 Press [Position] in the <Position> group, turning it on.

3 If the selected pattern is in 2-channel mode, in the <Ch Select> group, select the corresponding channel.

You can select more than one channel at the same time.

4 In the <Position Select> group, press the button of the destination, turning it on.

The DME wipe pattern displayed on the screen moves to the position of the specified button.

Moving the relative position of DME wipe patterns

In 2-channel mode, patterns are available whose relative position can be moved.

1 Open the M/E-1 >DME Wipe >Modify menu (1165).

2 In the <Ch Select> group, select the target channels.

3 Press [Position] in the <Position> group, turning it on.

4 Set the following parameters.

No.	Parameter	Adjustment
4	Relative H	Relative movement in the horizontal direction
5	Relative V	Relative movement in the vertical direction

Setting the DME wipe pattern size (Size)

1 Open the M/E-1 >DME Wipe >Modify menu (1165).

2 If the selected pattern is in 2-channel mode, in the <Ch Select> group, select the corresponding channel.

You can select more than one channel at the same time.

3 Press [Size], turning it on.

4 Set the following parameter.

No.	Parameter	Adjustment
1	Size	Effect size[a)]

a) The effect size when [Size] is off is taken as 100.00%.

Display indications when multiple channels are selected at the same time
The indications for the parameters show the settings on channel 1. When you adjust the settings, this changes the settings on channel 2 by the same amount.

Adjusting the DME wipe pattern cropping (Crop)

1 Open the M/E-1 >DME Wipe >Modify menu (1165).

2 If the selected pattern is in 2-channel mode, in the <Ch Select> group, select the corresponding channel.

You can select more than one channel at the same time. Some patterns need no selection, as the setting in the <Ch Select> group is fixed.

3 In the <Crop Mode> group, press [Crop], turning it on.

4 Set the following parameters.

Parameter group [1/2]

No.	Parameter	Adjustment
1	H	Crop the left and right of the image (“Left” value is displayed)
2	V	Crop the top and bottom of the image (“Top” value is displayed)
3	All	Crop the left, right, top, and bottom of the image (“Left” value is displayed)

Parameter group [2/2]

No.	Parameter	Adjustment
1	Top	Crop the top of the image
2	Left	Crop the left of the image
3	Right	Crop the right of the image
4	Bottom	Crop the bottom of the image

Display indications when multiple channels are selected at the same time

The indications for the parameters show the settings on channel 1. When you adjust the settings, this changes the settings on channel 2 by the same amount.

To crop to 4:3 aspect ratio in 16:9 mode

In the <Crop Mode> group, press [4:3 Crop], turning it on.

To set the action when a DME wipe crop transition is executed

1 Open the M/E-1 >DME Wipe >Modify menu (1165).

2 If the selected pattern is in 2-channel mode, in the <Ch Select> group, select the corresponding channel.

You can select more than one channel at the same time.

3 In the <Crop Mode> group, press [Crop] or [4:3 Crop] (to crop from 16:9 to 4:3 aspect ratio), turning it on.

4 In the <Crop Mode> group, press [Remove From Begin].

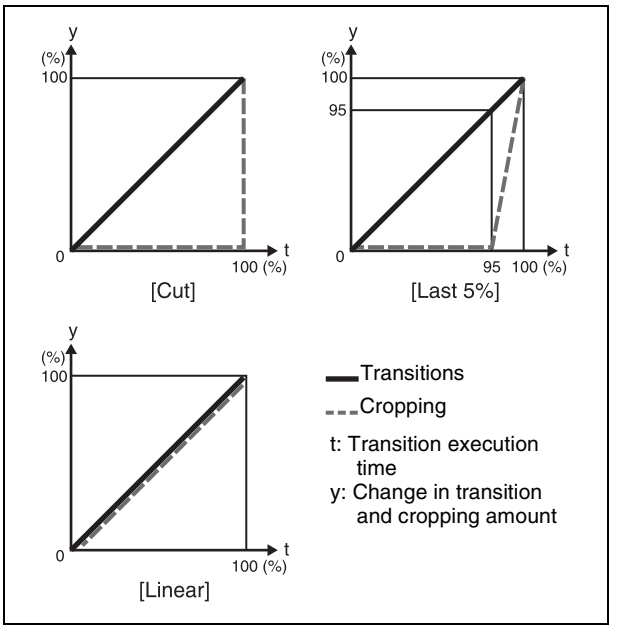
The Remove From Begin menu (1165.1) appears.

5 In the <Crop Transition> group, select the execution mode for the DME wipe crop transition.

Cut: Cut mode. The cropping does not change during the transition, but at the end point of the transition, the cropping is removed (enlarges).

Last 5%: The cropping is maintained for the first 95% of the transition, and is progressively removed during the last 5% of the transition (enlarges).

Linear: The cropping is removed linearly through the whole course of the transition (enlarges).



To set the timing of transition completion

When the execution mode for a DME wipe crop transition is set to [Last 5%], you can select the timing of transition completion from 70% ([Last 30%]), 95% ([Last 5%]), and 100% ([Off]).

1 Open the M/E-1 >DME Wipe >Modify menu (1165).

2 In the <Crop Mode> group, press [Remove From Begin].

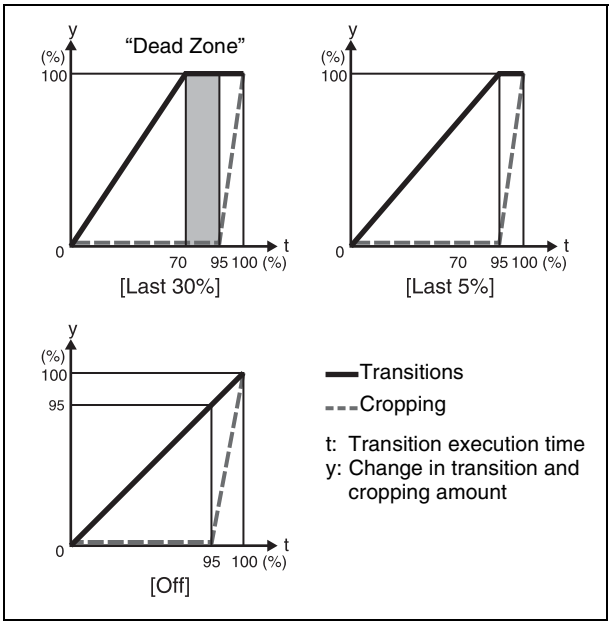
The Remove From Begin menu (1165.1) appears.

3 In the <Release Transition> group, select the timing of transition completion.

Last 30%: The transition completes at the end of 70% of the transition execution time. The transition has a dead zone from 70% to 95% of the transition time.

Last 5%: The transition completes at the end of 95% of the transition execution time. When the transition completes, the cropping is removed during the last 5% (enlarges).

Off: The transition completes at the end of the transition execution time. During the last 5% of the transition, the transition and cropping removal proceed together.



DME Wipe Modify Clear

Press [Default Recall] at the lower left of the menu screen, turning it on, then press the [DME Wipe] VF6 button to return the DME wipe settings to their initial status.

For details about initial status, ☞ "Saving User-Defined Settings" (p. 317).

Basic DME Wipe Setting Operations for Independent Key Transitions

You can set independent key transition DME wipes in the DME Wipe Adjust menu for each keyer.
This section describes an example using key 1 on the M/E-1 bank.

Open the M/E-1 >Key1 >Transition menu (1116), select [DME Wipe Adjust], and display the Key1 DME Wipe Adjust menu (1116.3).

For an overview of independent key transitions, ☞ "Independent Key Transitions" (p. 74).

Independent Key Transition DME Wipe Pattern Selection

For details about patterns and pattern groups that can be selected, *☞ "DME wipe execution mode and pattern numbers that can be used" (p. 112)*. Other patterns cannot be selected, even if displayed on the screen. Also, patterns cannot be used in two-channel mode on the MVS-3000.

1 In the Key1 DME Wipe Adjust menu, press [1ch] in the <Pattern Select> group for one-channel mode, or [2ch] for two-channel mode.

The 1ch Pattern Select menu (1116.4) or 2ch Pattern Select menu (1116.5) appears.

2 Press the button of the desired DME wipe pattern group to select it.

The selected group pattern appears on the screen.

To perform a DME wipe using the resizer
Select [Resizer Slide], [Resizer Squeeze], or [Resizer Frame I/O] in the DME wipe group.

3 Press the button to select the desired pattern.

Setting Independent Key Transition DME Wipe Modifiers

You can add modifiers such as pattern position and size for an independent key transition DME wipe.

For an overview of modifiers, ☞ "DME Wipe Pattern Variations and Modifiers" (p. 114).

Setting the DME wipe position (Positioner)

For details about applicable pattern numbers, see "Positioner" in *"DME Wipe Pattern Variations and Modifiers" (☞ p. 114)*.

1 In the <Position> group of the Key1 DME Wipe Adjust menu, press [Position], turning it on.

2 Set the following parameters.

No.	Parameter	Adjustment
1	H	Horizontal position
2	V	Vertical position

To return the pattern position to the center of the screen
In the <Position> group, press [Center].

Setting the DME wipe pattern size (Size)

For details about applicable pattern numbers, see “Size” in *“DME Wipe Pattern Variations and Modifiers” (☞ p. 114)*.

1 In the Key1 DME Wipe Adjust menu, press [Size], turning it on.

2 Set the following parameter.

No.	Parameter	Adjustment
1	Size	Effect size[a)]

a) The effect size when [Size] is off is taken as 100.00%.

Adjusting the wipe pattern cropping (Crop)

1 In the <Crop Mode> group of the Key1 DME Wipe Adjust menu, press [Crop], turning it on.

2 Set the following parameters.

Parameter group [1/2]

No.	Parameter	Adjustment
1	H	Crop the left and right of the image (“Left” value is displayed)
2	V	Crop the top and bottom of the image (“Top” value is displayed)
3	All	Crop the top, bottom, left, and right of the image (“Left” value is displayed)

Parameter group [2/2]

No.	Parameter	Adjustment
1	Top	Crop the top of the image
2	Left	Crop the left of the image
3	Right	Crop the right of the image
4	Bottom	Crop the bottom of the image

To crop to 4:3 aspect ratio in 16:9 mode

In the <Crop Mode> group, press [4:3 Crop], turning it on.

To set the operation for DME wipe crop transition execution

1 In the <Crop Mode> group of the Key1 DME Wipe Adjust menu, press [Crop], turning it on.

2 In the <Crop Mode> group, press [Crop] or [4:3 Crop] (to crop from 16:9 to 4:3 aspect ratio), turning it on.

3 In the <Crop Mode> group, press [Remove From Begin].

The Remove From Begin menu (1116.7) appears. For subsequent operations, see step **5** in *“To set the action when a DME wipe crop transition is executed” (☞ p. 118)*.

To set the timing of transition completion

1 In the <Crop Mode> group of the Key1 DME Wipe Adjust menu, press [Crop], turning it on.

2 In the <Crop Mode> group, press [Remove From Begin].

The Remove From Begin menu (1116.7) appears. For subsequent operations, see step **3** in *“To set the timing of transition completion” (☞ p. 118)*.

Modifying the DME wipe pattern edge (Edge)

1 In the <Edge> group of the Key1 DME Wipe Adjust menu, select one of the following.

Border
Soft Border

2 Set the following parameters.

When Border is selected

No.	Parameter	Adjustment
1	Width	Border width
3	Luminance	Luminance of border color
4	Saturation	Saturation
5	Hue	Hue

When Soft Border is selected

No.	Parameter	Adjustment
1	Width	Border width
2	Inner Soft	Border inner softness
3	Luminance	Luminance of border color
4	Saturation	Saturation
5	Hue	Hue

Specifying DME wipe direction

For details about the corresponding pattern number, ☞ “DME Wipe Pattern Variations and Modifiers” (p. 114).

Select one of the following in the <Direction> group of the Key1 DME Wipe Adjust menu.
Normal: Wipes in the normal direction.
Normal/Reverse: Switches between normal and reverse for each transition.
Reverse: Wipes in the opposite direction to normal.

DME Wipe Snapshots

You can snapshot and save a DME wipe pattern together with the current settings of its modifiers and pattern limit in a dedicated register for recall when required.
There are 10 DME wipe snapshot registers for each of the switcher banks.
Saving to and recalling these registers can be performed using the Flexi Pad or a menu operation.

For details about Flexi Pad operations, ☞ "DME Wipe Pattern Operations in the Flexi Pad" (p. 123).

DME Wipe Snapshot Operations with the Menus

You can save, recall, and delete in the same way as for wipe snapshots.

For details about the method of operation, ☞ "Wipe Snapshot Operations with the Menus" (p. 107).

Creating User Programmable DME Patterns

With a user programmable DME, you can use DME effects created through the use of keyframes for a transition on the switcher system.
Note the following points when creating a keyframe effect for use as a user programmable DME pattern.

Notes

User programmable DME patterns cannot be created nor used on the MVS-3000.

Register numbers and pattern numbers

When saving a keyframe effect as a user programmable DME pattern, specify the 3-digit register number that corresponds to the pattern number as shown in the following table.

Execution mode	Register number	Pattern number
One-channel mode	101 to 199	1901 to 1999
Two-channel mode	201 to 299	2901 to 2999

For details about registers, ☞ "Registers" (p. 239).

Keyframe effects in the global channel

When the effect with the same number as the reference channel is present on the DME global (GLBL) channel, executing the user programmable DME will also execute the effect on the global channel simultaneously.
When executing a user programmable DME, take note of whether the effect is present on the global channel.

User Programmable DME Transition Mode

To create a user programmable DME, it is necessary to set the transition mode (i.e., the way in which the effect moves). To set the transition mode, use the Key Frame >DME User PGM menu (6114).

For details about transition mode settings, ☞ "Transition Mode Settings for User Programmable DMEs" (p. 256).

The following transition modes are available.

Channel	Transition mode	Effect group
One-channel mode	Single transition mode	Slide, Split, Door, Page Turn, Roll, Squeeze, Mirror, Sphere, Character Trail, Wave, Ripple, 2D Trans, 3D Trans, Sparkle, Split Slide
	Flip tumble	Flip Tumble, Mosaic, Defocus
	Frame in-out	Frame in-out
	Frame in-out H[a)]	Frame in-out
	Frame in-out V	Frame in-out
	Picture-in-picture[b)]	Picture-in-picture
	Compress[c)]	Picture-in-picture
Two-channel mode	Dual transition mode	Slide, Squeeze, 3D Trans
	Two-channel frame in-out	Frame in-out
	Two-channel picture-in-picture	Picture-in-picture

a) Transition according to DME wipe patterns 1202, 1203, or 1204
b) Transition according to DME wipe pattern 1201
c) Transition according to DME wipe pattern 1251

For details, ☞ "Overview" (p. 111).

Notes

For the following group of effects available in two-channel mode, user programmable DME wipe patterns cannot be created.
Page turn, Roll, Brick

Notes on creating keyframe effects

When creating a keyframe effect to be used as a user programmable DME pattern, note the following, depending on the transition mode used.

Notes on single transition mode (one-channel mode)

- Either create the first keyframe image outside the screen area, or set the image size to zero so that it cannot be seen within the screen.
- Create the last keyframe to be a full-size image.
- In the <Transition Mode> group of the Key Frame >DME User PGM menu, select [Single].

Notes on flip tumble (one-channel mode)

- Create the first keyframe image at full size. In the <Back> group of the DME >Input/Output >Video/Key menu (4162), depending on the direction of the rotation you want during the transition, press [H Invert] or [V Invert], turning it on.
- Create the last keyframe with the image inverted so the back side is visible, and with the size at full size.
- In the <Transition Mode> group of the Key Frame >DME User PGM menu, select [Flip Tumble].

Notes on frame in-out (one-channel mode)

Create a minimum of three keyframes.

- Either create the first keyframe image outside the screen area, or set the image size to zero so that it cannot be seen within the screen.
- Create the first transition to end such that the image can be seen within the screen. At this time, press the [PAUS] button in the Flexi Pad, turning it on, to set a pause for the keyframe.
- Either create the last keyframe image outside the screen area, or set the image size to zero so that it cannot be seen within the screen.
- In the <Transition Mode> group of the Key Frame >DME User PGM menu, select [Frame I/O].

Notes on frame in-out H (one-channel mode)

Create a minimum of three keyframes.

- Either create the first keyframe image outside the screen area, or set the image size to zero so that it cannot be seen within the screen.
- As the state after completion of the first transition, move the image horizontally to make it visible within the screen. At this time, press the [PAUS] button in the Flexi Pad, turning it on, to set a pause for the keyframe.
- For the last keyframe, move the image horizontally to place it outside the screen area, or set the image size to zero so that the image is not visible within the screen.
- In the <Transition Mode> group of the Key Frame >DME User PGM menu, select [Frame I/O H].

Notes on frame in-out V (one-channel mode)

Create a minimum of three keyframes.

- Either create the first keyframe image outside the screen area, or set the image size to zero so that it cannot be seen within the screen.
- As the state after completion of the first transition, move the image vertically to make it visible within the screen. At this time, press the [PAUS] button in the Flexi Pad, turning it on, to set a pause for the keyframe.
- For the last keyframe, move the image vertically to place it outside the screen area, or set the image size to zero so that the image is not visible within the screen.
- In the <Transition Mode> group of the Key Frame >DME User PGM menu, select [Frame I/O V].

Notes on picture-in-picture (one-channel mode)

Create a minimum of three keyframes.

- Either create the first keyframe image outside the screen area, or set the image size to zero so that it cannot be seen within the screen.
- Create the first transition to end such that the image can be seen within the screen. At this time, press the [PAUS] button in the Flexi Pad, turning it on, to set a pause for the keyframe.
- Either create the last keyframe image outside the screen area, or set the image size to zero so that it cannot be seen within the screen.
- In the <Transition Mode> group of the Key Frame >DME User PGM menu, select [P In P].

Notes on compress (one-channel mode)

Create a minimum of three keyframes.

- Create the first keyframe image at full size.
- Create the first transition to end such that the image can be seen within the screen. At this time, press the [PAUS] button in the Flexi Pad, turning it on, to set a pause for the keyframe.
- For the last keyframe, set the image size to full size again.
- In the <Transition Mode> group of the Key Frame >DME User PGM menu, select [Compress].

Notes on dual transition mode (two-channel mode)

- Create the first keyframe for each channel as follows.
  - **Channel 1:** Create the image full-size.
  - **Channel 2:** Either create the image outside the screen area, or set the image size to zero so that it cannot be seen within the screen.
- Create the last keyframe for each channel as follows.
  - **Channel 1:** Either create the image outside the screen area, or set the image size to zero so that it cannot be seen within the screen.
  - **Channel 2:** Create the image full-size.
- In the <Transition Mode> group of the Key Frame >DME User PGM menu, select [Dual].

Notes on frame in-out (two-channel mode)

Create a minimum of three keyframes.

- Create the first keyframe for each channel as follows.
  - **Channel 1:** Either create the first keyframe image outside the screen area, or set the image size to zero so that it cannot be seen within the screen.
  - **Channel 2:** Either create the first keyframe image outside the screen area, or set the image size to zero so that it cannot be seen within the screen.
- As the state after completion of the first transition, move the image horizontally to make it visible within the screen. At this time, press the [PAUS] button in the Flexi Pad, turning it on, to set a pause for the keyframe.
- Create the last keyframe for each channel as follows.
  - **Channel 1:** Either create the first keyframe image outside the screen area, or set the image size to zero so that it cannot be seen within the screen.
  - **Channel 2:** Either create the first keyframe image outside the screen area, or set the image size to zero so that it cannot be seen within the screen.
- In the <Transition Mode> group of the Key Frame >DME User PGM menu, select [Frame I/O].

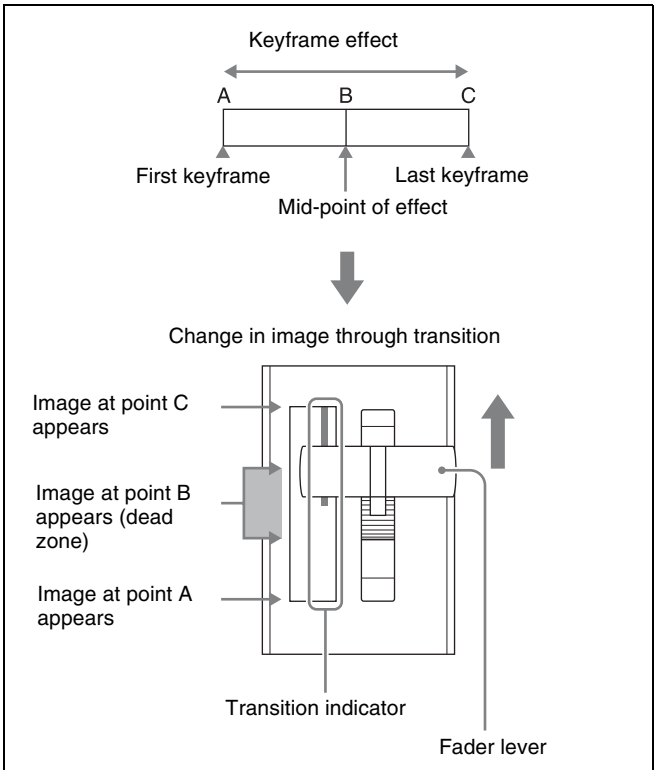
Notes on picture-in-picture (two-channel mode)

Create a minimum of three keyframes.

- Create the first keyframe for each channel as follows.
  - **Channel 1:** Create the image full-size.
  - **Channel 2:** Since the priority is low, it will not be visible on the screen, so no particular restrictions apply.

  When setting the priority of channel 1 and channel 2 in the Global Effect >Ch1-Ch2 >Combiner Priority menu (4211), set the channel 1 priority higher.
- In the intermediate part of the transition, create the two images so that both are visible within the screen. When setting the priority of channel 1 and channel 2 in the Global Effect >Ch1-Ch2 >Combiner Priority menu, set the channel 2 priority higher.

  It is recommended to make the priority settings at a keyframe point at which the two images are not overlapping.
- During the course of a transition, there is a “dead zone” corresponding to the intermediate point of the whole effect (see following figure), during which the image does not change. Therefore, it is necessary to create the effect so that the image in the intermediate part of the transition is the keyframe for the mid-point of the whole effect. The range of this “dead zone” corresponds to the central one-third or two-third of the range of the transition indicator. This also applies to an auto transition.



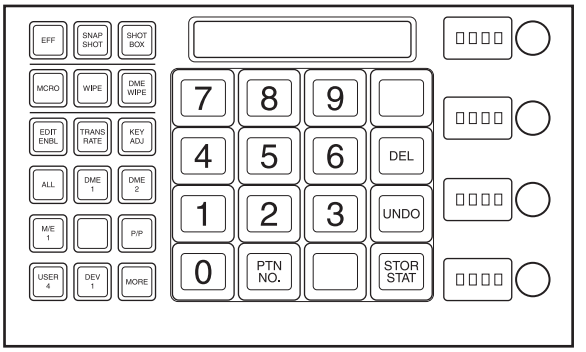
- Create the last keyframe for each channel as follows.
  - **Channel 1:** Since the priority is low, it will not be visible on the screen, so no particular restrictions apply.
  - **Channel 2:** Create the image full-size.
- In the <Transition Mode> group of the Key Frame >DME User PGM menu, select [P In P].

DME Wipe Pattern Operations in the Flexi Pad

Recalling a DME Wipe Snapshot

The operation of recalling a DME wipe snapshot in the Flexi Pad is the same as the operation of recalling a wipe snapshot *(☞ p. 108)*, except for pressing the [DME WIPE] button to select DME wipe snapshot mode.

You can change the indications for buttons [0] to [9] in the memory recall section to pattern images, using the Engineering Setup >Panel >Operation >Flexi Pad Mode menu (7326.3).



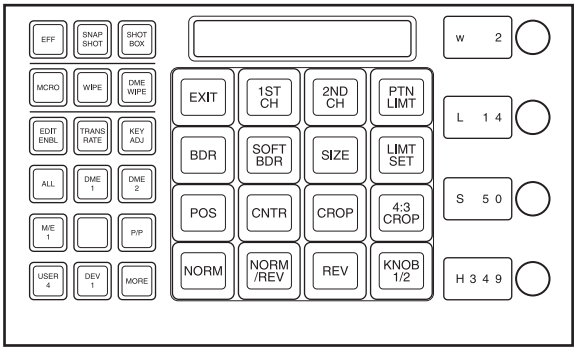
Selecting the DME Wipe Pattern

The operation of selecting the DME wipe pattern in the Flexi Pad is the same as the operation of selecting a wipe pattern *(☞ p. 108)*, except for pressing the [DME WIPE] button to select DME wipe snapshot mode.

Note, however, that the pattern numbers for DME wipe patterns have four digits *(☞ p. 381)*.

Editing the DME Wipe Pattern

By pressing the [EDIT ENBL] button to switch the memory recall section to editing mode, you can edit the selected DME wipe pattern.
To exit from the editing mode, press the [EDIT ENBL] button again, or press the [EXIT] button.



The operation of the following buttons is the same as when editing a wipe pattern.
- [EXIT] button
- [PTN LIMT], [LIMT SET] buttons
- [NORM], [NORM/REV], [REV] buttons
- [KNOB 1/2] button

For details about each button operation, ☞ "Editing the Wipe Pattern" (p. 109).

Channel selection buttons

1ST CH (channel 1): Selects channel 1.
2ND CH (channel 2): Selects channel 2.

You can also select two channels by pressing the buttons simultaneously.

Notes

The [2ND CH] button cannot be selected on the MVS-3000.

DME wipe pattern edge setting buttons

BDR (border): Applies a border to the DME wipe pattern.
SOFT BDR (soft border): Softens the applied border.
You can adjust the parameters selected with these buttons using the adjustment knobs, when the button is lit green.

When border is selected

No.	Parameter	Adjustment
1	W	Border width
2	L	Luminance
3	S	Saturation
4	H	Hue

When soft border is selected

Parameter group [1/2]

No.	Parameter	Adjustment
1	W	Border width
2	I	Border inner softness

Parameter group [2/2]

No.	Parameter	Adjustment
1	L	Luminance
2	S	Saturation
3	H	Hue

Buttons for positioning the DME wipe pattern

POS (positioner): Adjusts the position of the DME wipe pattern.
CNTR (center): Returns the DME wipe pattern position to the center.
When you press the [POS] button, the alphanumeric display first shows the name of the parameter, "H" or "V," and then the value of the parameter.
When the [POS] button is lit green, you can adjust the position of the pattern with the adjustment knobs.

No.	Parameter	Adjustment
1	H	Horizontal position
2	V	Vertical position
3	H (R)	Relative movement in the horizontal direction

No.	Parameter	Adjustment
4	V (R)	Relative movement in the vertical direction

Buttons for setting DME wipe pattern cropping

CROP: Adjusts the DME wipe pattern cropping.
4:3 CROP: Crops a 16:9 image to 4:3.
When the [CROP] button is lit green, you can set the cropping ratio of the DME wipe pattern with the adjustment knobs.

Parameter group [1/2]

No.	Parameter	Adjustment
1	H	Crop the left and right of the image
2	V	Crop the top and bottom of the image
3	A	Crop the left, right, top, and bottom of the image

Parameter group [2/2]

No.	Parameter	Adjustment
1	T	Crop the top of the image
2	L	Crop the left of the image
3	R	Crop the right of the image
4	B	Crop the bottom of the image

Button for specifying effect size

SIZE: Specifies the effect size.
When the [SIZE] button is lit green, you can specify the effect size with the adjustment knobs.

No.	Parameter	Adjustment
1	S	Effect size[a)]

a) The effect size when SIZE is off is taken as 100.

DME wipe modify clear

With the [DME WIPE] button held down, pressing and holding down the region selection button for the selected region returns the DME wipe settings to their initial status.

For details about initial status, ☞ "Saving User-Defined Settings" (p. 317).

Saving, Canceling, and Deleting DME Wipe Snapshots

The operations of saving, canceling, and deleting a DME wipe pattern snapshot you have created are the same as the operations of saving, canceling, and deleting a wipe snapshot (☞ p. 110).

Frame Memory

Chapter 7

Overview

Frame memory is a function whereby a frame of input video can be frozen and written to memory, for further use as material for editing.
You can also play recorded frame memory clips (movies).

Frame capacity

The following tables show the maximum number of images that can be written to the memory.

HD system:

Video format	Memory capacity	
	Without ancillary data	With ancillary data
1080i/50	Approx. 1000 frames	Approx. 700 frames
1080i/59.94		Approx. 800 frames
1080PsF/23.976		Approx. 600 frames
1080PsF/24		
720P/50	Approx. 2300 frames	Approx. 1400 frames
720P/59.94		Approx. 1700 frames

SD system:

Video format	Memory capacity	
	Without ancillary data	With ancillary data
480i/59.94	Approx. 5600 frames	Approx. 4700 frames
576i/50	Approx. 4800 frames	Approx. 3900 frames

For details about the method of operation, ☞ "Still Image Operations" (p. 127).

Types of image and terminology used

The following types of image are handled in frame memory.

Freeze image: An input image that has been frozen (status before being saved to memory).

Still image: A freeze frame that has been saved to memory as a file. Each file (still file) holds just one still image.

Frame memory clip: A clip consists of a sequence of still images, which appears as a movie on playback. In this manual this is also referred to simply as a "clip." The files (still files) constituting clips are referred to as a "clip file."

When the above distinctions are not being made, an image is simply referred to as an "image."

Frame memory output

There are eight frame memory channels, FM1 to FM8, and each channel independently allows a freeze image to be saved or recalled.
By allocating FM1 to FM8 to cross-point buttons you can use the still image output or clip output from each channel as input material.

Correspondence between input and output

There are two buses for capturing frame memory material: the frame memory source bus 1 and the frame memory source bus 2.
These input buses are used by allocation to one of the pairs of output, FM1&2, FM3&4, FM5&6, or FM7&8. You can freeze a frame in each channel separately, or freeze in the two channels simultaneously.
The source buses allocated to FM1 to FM8 are as follows.

Input channel	Frame memory source bus 1	Frame memory source bus 2
Output	FM1	FM2
	FM3	FM4
	FM5	FM6
	FM7	FM8

Pair mode

By enabling the pair mode, you can link FM1 and FM2, FM3 and FM4, FM5 and FM6, and FM7 and FM8. For example, when a freeze or image processing is carried out on FM1, the same operation is carried out on FM2. The same applies to the other pairs. When a pair of images are captured in pair mode, the image frozen in FM1 (3, 5, or 7) is referred to as the main file, and the other frozen in FM2 (4, 6, or 8) is referred to as the sub file.

Pair files and single files

A file that can be recalled in pair mode is termed a "pair file." A pair file can be created by setting pair mode and capturing an image, or by using the coupling function *(☞ p. 141)* to combine two single files.
A file other than a pair file is termed a "single file." A single file can be created by switching off pair mode and capturing an image, or by using the separation function *(☞ p. 141)* to split a pair file.

Operation modes

The frame memory has the following operation mode.

V/K mode: When the pair mode is active, the key signal is automatically selected on frame memory source bus 2. This is convenient for handling the video and key signals together in frame memory. For example, when you select a video signal on frame memory source bus 1, the key signal assigned to it is automatically selected on frame memory source bus 2. You can also use the signal automatically selected on frame memory source bus 2 as a key signal when processing keyframe memory 1.

To change the pair mode or operation mode, use the Frame Memory menu.

Frame memory folders

Still images and clips can be managed in a maximum of 12 groups.
Such a group is called a "frame memory folder." Folders can be added or deleted, and can be given a name of up to eight characters.

Notes

- When the system power is turned OFF, the folder names are deleted.
  The folder names must be saved onto media.
- The following names cannot be used for folders.
  Flash1, Flash2
  CON, PRN, AUX, CLOCK$, NUL
  COM0, COM1, COM2, COM3, COM4, COM5, COM6, COM7, COM8, COM9
  LPT0, LPT1, LPT2, LPT3, LPT4, LPT5, LPT6, LPT7, LPT8, LPT9
  A folder named "Default" is provided, and this folder cannot be renamed or deleted.
- Still images and clips in different frame memory folders cannot have the same name.

Interpreting the Frame Memory Menu

The menu screen consists of the following principal parts. The frame memory selection area display is the same for all except the File (excluding Pair Recombination menu), Folder, and External Device menus.

Still Image Operations

The frame memory function provides the following functions for still image creation and saving.

- Capturing and Saving an Input Image (Store) *(☞ p. 130)*
- Recalling Still Images (Recall) *(☞ p. 131)*
- Image Output *(☞ p. 132)*
- Continuously Capturing Still Images (Record) *(☞ p. 133)*
- Recalling a Continuous Sequence of Still Images (Animation) *(☞ p. 134)*

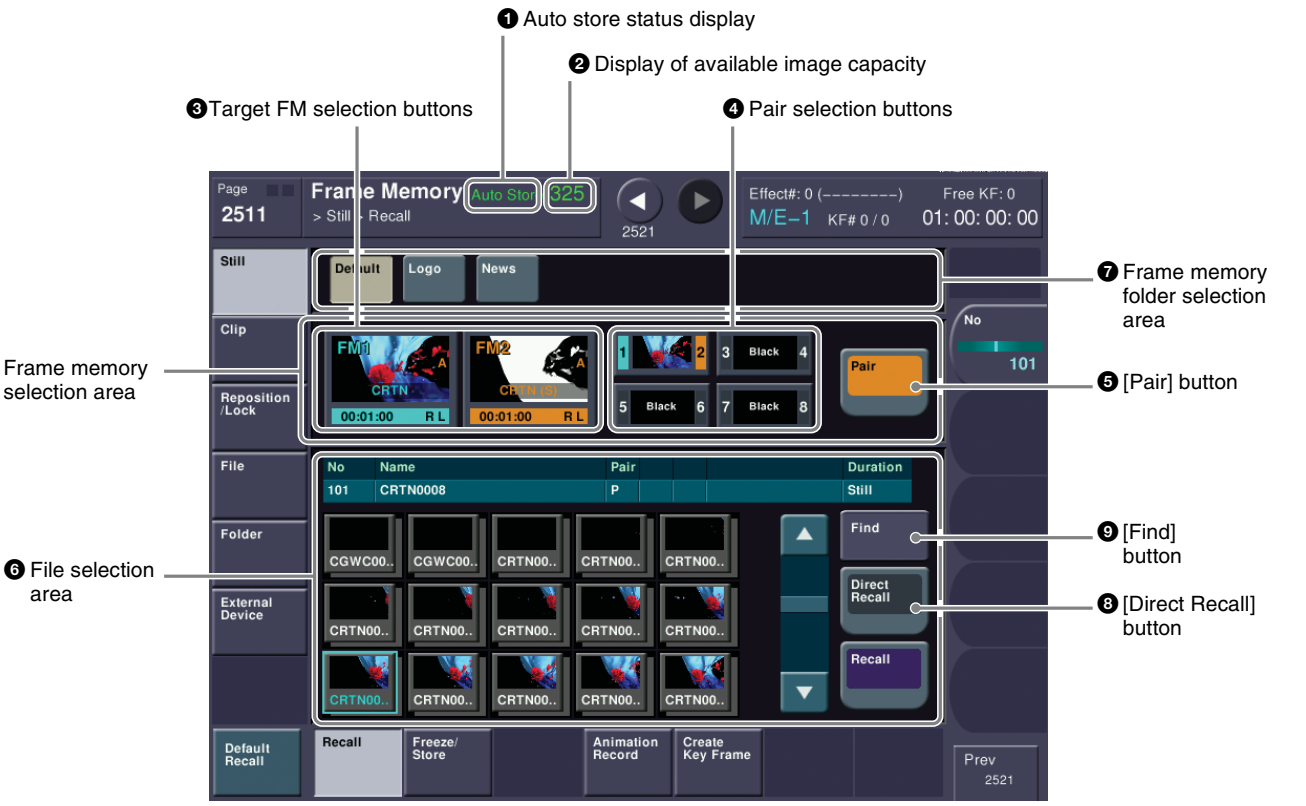
Notes

During frame memory clip playback *(☞ p. 136)* of the pair assigned to either of the target FM selection buttons, frame memory operations may not be performed properly. Carry out frame memory operations after stopping clip playback.

Preparations

Allocating the frame memory outputs (FM1 to FM8) to cross-point buttons

To output a frame memory image to a monitor, for example, the output signal from the frame memory (FM1 to FM8) must be allocated to a cross-point button. Carry out this allocation in the Setup menu.



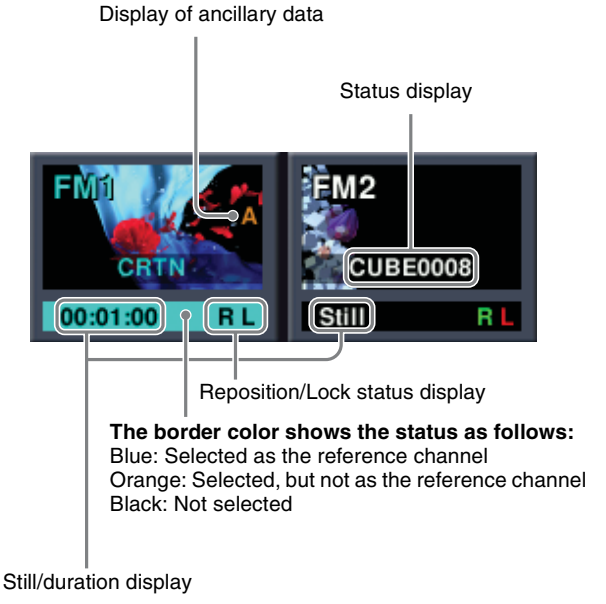
❶ Auto store status display

Depending on the Setup menu settings, this appears when the auto store function is enabled.

❷ Display of available image capacity

This shows the remaining number of frames. When no more frames can be stored, “1” or “0” appears in red in pair mode, and “0” appears in red in single mode.

❸ Target FM selection buttons



Press one of these to select which of the selected outputs (FM1 and FM2 in the example shown) the operation applies to.
The following information appears on the button.

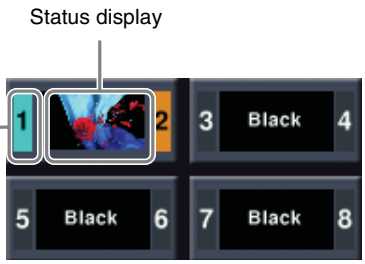
Status display
File name (e.g., image001) and thumbnail: File output in progress
Black: Black signal output in progress
Through: Input image output in progress
Freeze: Freeze in progress
Record: Continuous image capture (i.e., recording) in progress

Still/duration display
When a still image is selected, “Still” is shown. When a clip is selected, a duration indication (e.g., “00:00:10”) is shown.

Reposition/Lock status display
This shows “R” when the reposition function *(☞ p. 132)* is on, and “L” when the lock function *(☞ p. 133)* is on.

Ancillary data-attached clip display
For a clip with ancillary data attached, an “A” appears.

❹ Pair selection buttons
Select the pair to be displayed in the target FM selection buttons.
In the following figure, the FM1 and FM2 pair is selected.



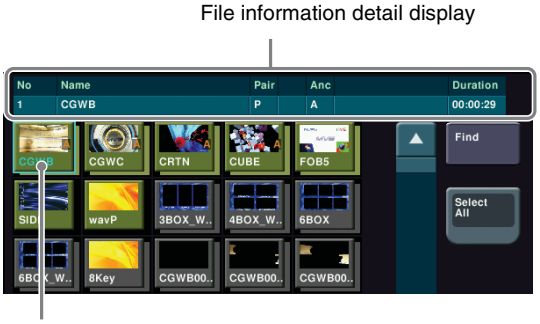
The border color shows the status as follows:
Blue: Selected as the reference channel
Orange: Selected, but not as the reference channel
Black: Not selected

The following information appears on the button.

Status display
For a pair, shows the status of the reference.
Thumbnail: File output in progress
Black: Black signal output in progress
Through: Input image output in progress
Freeze: Freeze in progress
Record: Continuous image capture (i.e., recording) in progress

❺ [Pair] button
Press this button, turning it on, to enable pair mode.

❻ File selection area
You can select from the displayed still image files or clip files.



Thumbnail indications
Still image files and clip files: Still image files are displayed as gray buttons, and clip files are displayed as yellow buttons.
Single files and pair files: Pair files are displayed with a shadow, and single files are displayed with no shadow.
Selected file: Pale blue border. When more than one file is selected, only the first is pale blue, and the remainders are orange. If a pair file is selected, each press switches the front and the back.

File information detail display
For the selected file, this shows the file name, “P” if a pair file, “A” if an ancillary data attached clip, and the duration.

❼ Frame memory folder selection area
Select the frame memory folder to be displayed.

❽ [Direct Recall] button
Toggle on and off the direct recall mode in which pressing a thumbnail immediately recalls the file.

❾ [Find] button
Pressing this button displays a popup window, in which you can enter a file name to carry out a search.

Selecting an Input Image

For the input image to be saved to frame memory, you can use either the signal selected on one of the two frame memory source buses or a dedicated color matte signal. When using the signal on frame memory source bus 1 or 2 for the input image, select the signal as described below.

Selecting the signal on a frame memory source bus

This section describes an example of selecting the signal on frame memory source bus 1.

1 In the 1st row of the cross-point control block, press the button to which frame memory source bus 1 is allocated, turning it on.

For details about 1st row bus assignments, ☞ "Assigning a Bus or Function to 1st Row Buttons" (p. 340).

2 In the 2nd row, select the signal you want to use as the input image.

Selecting Outputs and Target Frame Memory

Selecting outputs (FM) and target frame memory

This section describes an example of selecting FM1&2.

1 In the Frame Memory menu, press one of the VF1 to VF4 buttons, and select the required HF button menu.

The current status of frame memory appears *(☞ p. 127)*.

2 From the pair selection buttons, press the buttons corresponding to FM1 and FM2.

This assigns the signals to FM1 and FM2.
The FM1 and FM2 output status appears on the target FM selection buttons *(☞ p. 128)*.

3 If required, press [Pair], to select the FM operation mode (pair mode).

On: Operate on FM1 (3, 5, 7) and FM2 (4, 6, 8) as a pair.
Off: Operate on FM1 (3, 5, 7) and FM2 (4, 6, 8) individually.

For details, ☞ "Pair mode" (p. 127).

Notes

In the Pair Recombination menu, the [Pair] operation is not possible.

4 Press the target FM selection button [FM1] or [FM2] *(☞ p. 128)* to select the FM to which operations apply.

When [Pair] is On: Regardless of whether you press FM1 or FM2, the pair is selected.
When [Pair] is Off: One of the targets must be selected. However, in the Clip >Play menu, you can select both FM1 and FM2.

Selecting a frame memory folder

Press a button in the frame memory folder selection area *(☞ p. 129)*.
By pressing [More] to switch the display, you can select from a maximum of 12 folders.
Thumbnails of the files within the selected folder appear.

Capturing and Saving an Input Image

As the input material for the frame memory, you can use the signal selected on the frame memory source bus. You can use a mask for this signal.
Allocating a frame memory source bus signal to one of FM1 to FM8, then carrying out a freeze captures a still image in the corresponding frame memory output image, and saves it in temporary memory.
For a freeze, an image can be captured either as a video frame ("frame freeze") or a video field ("field freeze").

Notes

When the system power is turned OFF, any freeze images written to temporary memory are lost.

Freezing an image and writing it to memory

To freeze the signal selected as input material, and write it to memory, use the following procedure.

1 Open the Frame Memory >Still >Freeze/Store menu (2512).

2 Select the target frame memory. For the procedure, *☞ "Selecting outputs (FM) and target frame memory" (p. 130)*.

3 To use V/K mode, press [V/K Mode], turning it on.

4 Press a button in the frame memory folder selection area to select the folder to hold the freeze image *(☞ p. 130)*.

Notes

The folder selected here is the destination folder for saving the freeze image. After step **5** that follows, it will not be possible to change the selected folder.
An orange bar appears on the selection button for the destination folder.

5 Press [Freeze Enable], turning it on.

The signals of frame memory source buses 1 and 2 are assigned to the pair of FMs selected in step **2**, and a freeze is now possible.

6 If necessary, set the mask settings *(☞ p. 131)* for the selected signal.

7 Press one of the following in the <Freeze> group to write a freeze image to temporary memory.

Frame: Execute frame freeze.
Field: Execute field freeze.
Off: Release the freeze, and delete the recorded freeze image.

To return to the state immediately before the freeze after carrying out the freeze

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

Notes

- When the system power is turned OFF, any freeze images written to temporary memory are lost.
- If you change the frame memory to use as in step **2** without saving, all the freeze images in temporary memory will be lost. However, if the auto store function is set to on in the Setup menu, freeze images will be automatically saved whenever you change the selected target frame memory.
- For the following signal formats, a field freeze is not possible.
  1080PsF/23.976, 1080PsF/24, 720P/50, 720P/59.94

Saving a freeze image (Store)

You can use the freeze function to save an image that has been written to temporary memory as a file. You can save a single image to a single file.
A name of up to eight characters can be applied to a file.

Notes

When the system power is turned OFF, all the files saved in memory are lost.

To save a captured image as a still image file, use the following procedure in the Frame Memory >Still >Freeze/Store menu (2512).

1 Press [Store].

2 Enter a file name.

Notes

The following names cannot be used:
CON, PRN, AUX, CLOCK$, NUL
COM0, COM1, COM2, COM3, COM4, COM5, COM6, COM7, COM8, COM9
LPT0, LPT1, LPT2, LPT3, LPT4, LPT5, LPT6, LPT7, LPT8, LPT9

3 Press [Enter].

This saves the still image file in memory.
The destination folder is the folder selected in step **4** of *"Freezing an image and writing it to memory" (☞ p. 130)*.
If the entered folder name already exists, a message to confirm overwriting appears.
When the system power is turned OFF, all the files saved in memory are lost.

To carry out a freeze and store simultaneously (Freeze and Store)

Press [Freeze & Store], turning it on.
In this state, if you press [Frame] or [Field], this carries out a freeze, and simultaneously stores a still image file.

Setting a mask

To apply a mask to the signal selected on a frame memory source bus, use the following procedure in the Frame Memory >Still >Freeze/Store menu (2512).
Masks can be set separately for frame memory source buses 1 and 2. However, this section describes settings for frame memory source bus 1 as an example.

1 Press [Box Mask], turning it on.

2 Set the following parameters.

No.	Parameter	Adjustment
1	Top	Position of top side
2	Left	Position of the left side
3	Right	Position of the right side
4	Bottom	Position of the bottom side

3 To link the masks on frame memory source buses 1 and 2, press [Mask Link], turning it on.

Recalling Still Images (Recall)

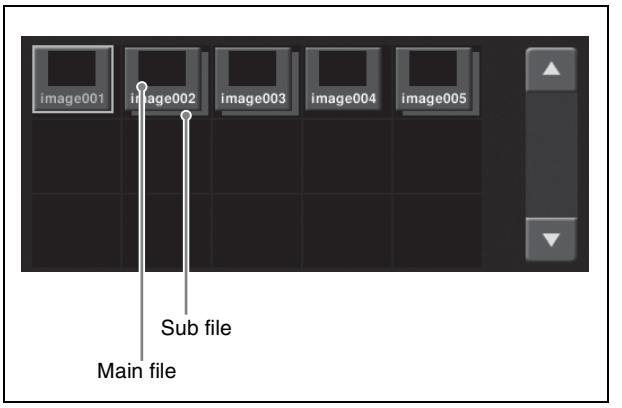
You can recall an image file saved in memory, and allocate it to any of the FM1 to FM8 outputs.

Recalling a still image

To recall a still image file saved in memory using the thumbnails, and assign it to an FM output, use the following procedure.

1 Open the Frame Memory >Still >Recall menu (2511).

When [Pair] is on, only pair files (each consisting of a main file and a sub file) are displayed.
When [Pair] is set to Off, both of single files and pair files are shown (see following figure).



2 In the frame memory selection area, select the frame memory to be assigned *(☞ p. 130)*.

3 If [Direct Recall] is on, press it to turn it off.

4 Select the desired folder in the folder selection area.

By pressing [More] to switch the display, you can select from a maximum of 12 folders.
Thumbnails of the files within the selected folder appear.

5 Press the thumbnail of the still image you want to recall.

6 Press [Recall].

This recalls the still image file, which is assigned to the FM you selected in step **2**.

To recall in direct recall mode

Direct recall means that pressing a thumbnail immediately recalls the file.
In this mode, only the front thumbnail file is recalled.

1 In step **6** of *"Recalling a still image" (☞ p. 132)*, instead of pressing [Recall], press [Direct Recall].

2 Press the thumbnail for the file you want to recall.

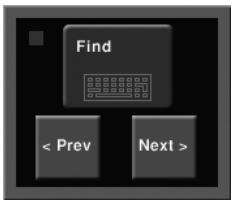
To display the sub file in front

While direct recall mode is on, press [Sub Display], turning it on.

To search by file name

1 Press [Find].

The Find window appears.



2 Press [Find].

3 Enter the string you want to search, and press [Enter].

This starts the search, and the indicator lights.
When the search ends, the found files are selected.

4 To move through the selected files, press [< Prev] or [Next >].

5 Press outside the Find window on the menu screen.

Image Output

There are two functions related to image output: the reposition function for moving the output image, and the lock function for fixing the output image.

Moving the output image (reposition function)

For up to two channels of FM1 to FM8 (one from FM1, FM3, FM5, and FM7 and the other from FM2, FM4, FM6, and FM8), you can move the output image with respect to the screen. The area of the screen around the image that has been moved is filled with black.
There are two ways of carrying out this repositioning.

Normal mode: Movement in the horizontal direction in two-pixel increments.

Black and white mode: Movement in the horizontal direction in one-pixel increments, and for each pixel moved the color is inverted.

Notes

- It is not possible to save an image moved with the reposition function directly to frame memory.
- If the frame memory save mode is set to "Save with ancillary data" on an HD system, then the reposition function cannot be used.

1 Open the Frame Memory >Reposition/Lock >Reposition menu (2531).

In this menu, you can also enable the frame memory V/K mode *(☞ p. 127)*.

2 In the frame memory selection area, select the FM output *(☞ p. 130)*.

3 In the <Reposition> group, select the movement mode.

Normal: Move in normal mode.
Black&White: Move in black & white mode.

4 Set the following parameters.

No.	Parameter	Adjustment
1	Position H	Horizontal movement[a)]
2	Position V	Vertical movement[a)]

a) *☞ p. 103*.

The surroundings of the moved image on the screen are filled with black.

To center the image

Press [Center] in the <Reposition> group.

Fixing the output image selection (lock function)

For the output of each of FM1 to FM8, this function fixes the image at the current output. When this lock is enabled, even if the output is recalled in a snapshot or keyframe, the images output to FM1 to FM8 are preserved.

1 Open the Frame Memory >Reposition/Lock >Lock menu (2532).

2 In the frame memory selection area, select the FM output *(☞ p. 130)*.

3 Press [Lock], turning it on.

This fixes the currently selected frame memory output image.
To unlock, and press [Lock] again, turning it off.

Continuously Capturing Still Images (Record)

You can continuously capture (freeze) a sequence of input video frames, and store the sequence of the still images over a specified time interval.
The name of each image recorded in this way consists of two character strings.

First character string: A common name assigned to all the still images captured in the same recording operation (up to four characters). This string can be specified using a menu before carrying out the capture. The first string is automatically used as the clip name when the images are treated as a frame memory clip.

Second character string: A four-digit number (0000 or greater), which is incremented each time a still image is captured.

Notes

When using the record function to continuously capture frames, it is not possible to use the mask function.

Continuously freezing input images and writing to memory

1 Open the Frame Memory >Still >Animation Record menu (2514).

2 Select the desired frame memory *(☞ p. 130)*.

3 To use V/K mode, press [V/K Mode], turning it on.

4 Press a button in the frame memory folder selection area to select the folder to hold the freeze image *(☞ p. 130)*.

Notes

The folder selected here is the destination folder for saving the freeze image. After step **5** that follows, it will not be possible to change the selected folder. An orange bar appears on the selection button for the destination folder.

5 Press [Record Enable], turning it on.

The signals of frame memory source buses 1 and 2 are assigned to the pair of FMs selected in step **2**, and the recording function is now possible.

6 Input the file name if required.

Press [File Name], and enter the first character string (up to four characters) of the file name in the keyboard window.

7 Set the recording time if required.

Press [Duration], and enter the recording time as a timecode in the numeric keypad window.
If you set the recording time to 0, this uses all frame memory in which storing is possible for recording.

8 Press [Record] to start recording.

If the recording time is set, recording stops once the time has elapsed.

9 Press [Stop] to stop recording.

Even if the recording time is set, you can still stop recording before the set time has elapsed.

Recalling a Continuous Sequence of Still Images (Animation)

You can use a continuous sequence of images captured with the record function as keyframes to create an effect. By executing this effect you can recall the continuous sequence (animation).

Notes

- For example, to create an effect using FM1, FM1 must be assigned to a user region.
- To execute the effect, you must assign the user region to which FM1 is assigned to a region selection button in the Flexi Pad.

  For details, ☞ "Assigning Regions to Region Selection Buttons in the Flexi Pad" (p. 327).

In the Frame Memory menu, effect creation follows the image file names. Of the characters in the file names, if files have the same characters except for the last three characters they are treated as an image file group, and the effect is created with the last three (numeric) characters in sequence.

Notes

When creating the effect in pair mode (☞ p. 127), the files used must be main files and sub files with the same last three (numeric) characters in the file name.

To recall a continuous sequence of still images, create an effect in the user region with the still image files as a keyframe, and run the created effect.

Notes

In 720P systems, you can continuously recall images using the frame memory in units of two frames only.

Creating an effect with still image files as a keyframe

1 Open the Frame Memory >Still >Create Key Frame menu (2515).

A thumbnail appears for each group of files having the same characters, except for the last three characters, in the file name.
When [Pair] is on, only pair files (each consisting of a main file and a sub file) appear.
When [Pair] is off, both single files and pair files appear.

2 In the frame memory selection area, select the frame memory to be assigned (☞ p. 130).

The effect is created in the user region to which the selected frame memory is assigned.

3 Select the desired folder in the folder selection area.

By pressing [More] to switch the display, you can select from a maximum of 12 folders.
Thumbnails of the files within the selected folder appear.

4 Select the register number of the user region.

No.	Parameter	Adjustment
5	Register	Effect register number

Notes

Use the Flexi Pad to search for an open register for the user region.

For details, ☞ "Recalling a Register" (p. 247).

5 Select the thumbnail of the files to be used for the keyframe.

6 If necessary, check the animation effect in the thumbnail display.

No.	Parameter	Adjustment
3	Viewer	Current frame position

7 Using the region selection buttons in the Flexi Pad, select the region to which the frame memory output was assigned (User1 to User8).

8 Carry out either of the following.

- To clear the effect register selected in step **4** and create a new effect, press [Create Key Frame].
- To add to the end of the effect register selected in step **4**, press [Append Key Frame].

9 Check the message, then press [OK].

If there is an invalid condition for creating the effect, an error message appears.

For details about error messages, ☞ "Error Messages" (p. 434).

The effect is created in the selected user region register.

Notes

- The effect is built with the selected files, in increasing order of the last three characters of the file name. If you do not want to include some of these files in the effect, first delete or rename them.
- A maximum of 99 keyframes can be included in a single effect.

Recalling a sequence of still images

Run the effect created in the foregoing procedure.
The procedure for doing this is the same as for any other effect.

For details, ☞ "Executing Effects" (p. 260).

Frame Memory Clip Function

What is a frame memory clip?

Movies can be read into frame memory, and recalled and played back. A movie held in frame memory is called a "frame memory clip."
A frame memory clip can be named using up to four characters *(☞ p. 133)*.

Ancillary data

In a frame memory clip, in addition to the video image, you can also record and play back ancillary data which can be used as embedded audio.
To record the ancillary data, the frame memory saving mode in the Setup menu must be set to "save with ancillary data."

For details, ☞ "Saving a Frame Memory Clip with Ancillary Data" (p. 321).

Notes

- With this setting, the saving mode for still images also changes to "save with ancillary data," but when playing back a still image the ancillary data is never played.
- When you change the saving mode, the frame memory is initialized, and any existing recorded frame memory data is lost.

Note on transferring ancillary data

Ancillary data is recorded when the frame memory saving mode is set to "save with ancillary data," and can be saved to the local disk, removable disk, or other external devices, and recalled. However, the ancillary data can only be saved or recalled when all of the following conditions are met.

- The frame memory saving mode is set to "save with ancillary data."
- Ancillary data is present in the saved or recalled frame memory file.
- The system signal format is the same as the signal format in the file.

When the frame memory saving mode is set to "save with ancillary data," the following ancillary data status information is added to a frame memory clip.

- Disable:
  In this state the ancillary data is not played. This is the status when [Ancillary Enable] in the Frame Memory >Clip >Ancillary Enable menu (2525) is set to Off.
- Enable:
  In this state, ancillary data is present, and can be played back. This is the status when [Ancillary Enable] in the Frame Memory >Clip >Ancillary Enable menu (2525) is set to On. This is the status after a clip recording operation.

This status information is saved in a file, and is followed when the file is recalled.

Frame memory clip settings

For frame memory clips, you can make the following settings using a menu or device control block.

- Start point
- Stop point
- Loop On/Off

The above settings can be saved in a snapshot register as snapshot attributes, and recalled.

Frame Memory Clip Operations

Notes

During frame memory clip playback *(☞ p. 136)* of the pair assigned to either of the target FM selection buttons, frame memory operations may not be performed properly. Carry out frame memory operations after stopping clip playback.

Preparations for Operation

The preparations for using a frame memory clip (hereafter, a "clip") are the same as for a still image operation.

For details, ☞ "Preparations" (p. 127) and ☞ "Selecting Outputs and Target Frame Memory" (p. 130).

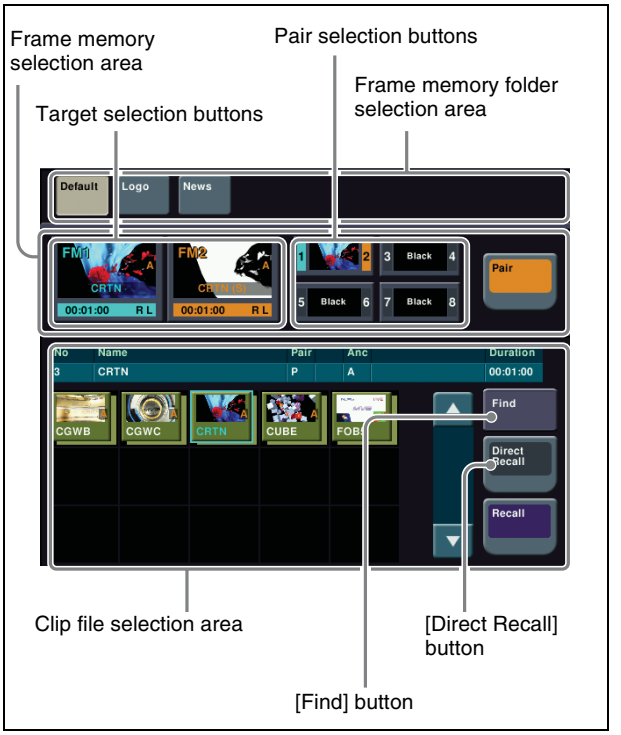
Recalling Clips

Recalling a clip

You can recall a clip from each of frame memories 1 to 8.

1 Open the Frame Memory >Clip >Recall menu (2521).

When [Pair] is on, only pair files (each consisting of a main file and a sub file) are displayed.
When [Pair] is set to off, both single files and pair files are shown.



2 In the frame memory selection area, select the frame memory to be assigned *(☞ p. 130)*.

3 If [Direct Recall] is on, press it to turn it off.

4 In the frame memory folder selection area, select the desired folder.

By pressing [More] to switch the display, you can select from a maximum of 12 folders.

5 Press the thumbnail of the clip you want to recall.

6 Press [Recall].

This recalls the clip file, which is assigned to the FM you selected in step **2**.
In pair mode, if a clip is selected, the main file is output to FM1, and the sub file to FM2. In single mode, when only one of FM1 and FM2 is selected, the front file on the thumbnail is output.

To recall in direct recall mode

Direct recall means that pressing a thumbnail immediately recalls the file.
In this mode, only the front thumbnail file is recalled.

1 In step **6** of *"Recalling a clip" (☞ p. 136)*, instead of pressing [Recall], press [Direct Recall].

2 Press the thumbnail for the file you want to recall.

To display the sub file in front

While direct recall mode is on, press [Sub Display], turning it on.

To search the clip file by file name

Press [Find]. Perform the same operation as for still images *(☞ p. 132)*.

Clip Playback

You can play a recalled clip by a menu operation or by using the device control block.

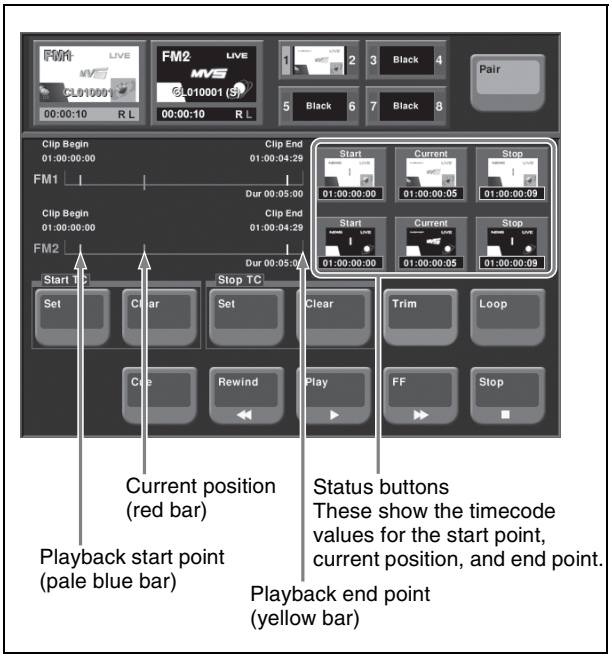
Notes

With a pair file recalled, it is possible to set [Pair] to off and carry out a single file operation, but if you then set [Pair] to on again, the output of frame memory may be black. In such cases, it is necessary to recall the pair file once more.

Playing a clip using the menu

1 Open the Frame Memory >Clip >Play menu (2522).

The status of the clip shown in the current target FM selection buttons appears.



2 When [Pair] is off, press a target FM selection button to select the target.

3 To set loop playback, press [Loop], turning it on.

4 Press [Play].

To stop playback, press [Stop].

To cue up

Press [Cue].

To play the image at the beginning of the clip (Clip Begin)

Press [Rewind].

To play the image at the end of the clip (Clip End)

Press [FF].

To specify the playback start point

To set the current position as the playback start point, press [Set] in the <Start TC> group. To set to any position, press the [Start] status button, and enter a timecode value from the numeric keypad window.

To specify the playback stop point

Start playback, press [Stop] to stop playback at the desired position, then press [Set] in the <Stop TC> group. To set to any position, press the [Stop] status button, and enter a timecode value from the numeric keypad window.

To change the current position

Press the [Current] status button, and enter a timecode value from the numeric keypad window.

To delete the parts of a clip file other than the playback part (trimming)

1 Set the playback start point and stop point.

2 Press [Trim].

3 Check the message, then press [Yes].

Using the device control block to play back clips

Notes

A frame memory clip must first be recalled with a menu operation.

1 Press the [DEV] button, and select the frame memory clip for playback (FM1 CLIP to FM8 CLIP).

If the pair mode is on, both main and subsidiary FMs light.

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

To stop playback, press [STOP] or any of the [SHTL], [JOG], [CUE], [REW], [FF], and [ALL STOP] buttons.

For details about the buttons in the device control block, ☞ "Device Control Block" (p. 38) and ☞ "Buttons used when the VTR/disk recorder/frame memory operation mode is enabled" (p. 230).

To specify the playback start point

To make the current position the playback start point, press the [START TC] button.

To specify the playback stop point

Start playback, press the [STOP] button to stop playback at the desired position, then press the [STOP TC] button.

To apply a loop to a frame memory clip

Press the [FM LOOP] button.

To carry out the variable speed playback

Press any of the [SHTL], [JOG], and [VAR] buttons, then turn the Z-ring. The image changes in the forward direction when you turn the Z-ring clockwise, and in the reverse direction when you turn it counterclockwise.

When you pressed the [JOG] button: Playback is at a speed corresponding to the turning speed of the Z-ring.

When you pressed the [SHTL] button: Playback is at a speed corresponding to the rotation angle of the Z-ring.

When you pressed the [VAR] button: Playback is at a speed corresponding to the rotation angle of the Z-ring, in the range –1 to +3 times normal speed.

Clip Creation

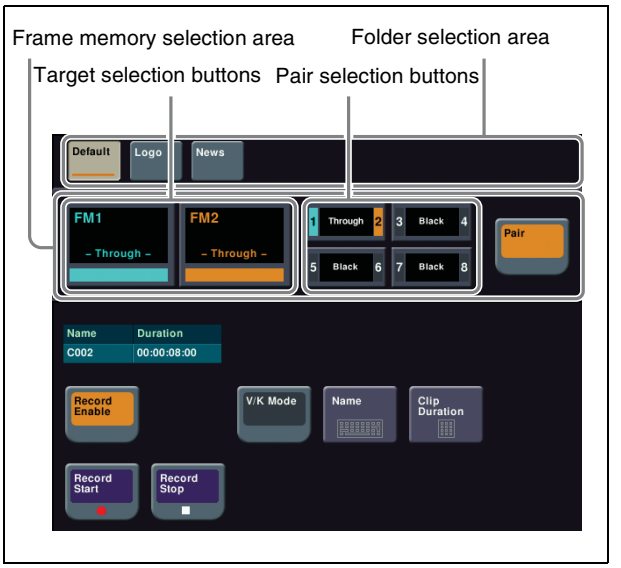
You save a movie as a clip.

Notes

If the number of frame memory clips exceeds 100 single files (50 pair files), an error appears.

Using the menu to record clips

1 Open the Frame Memory >Clip >Record menu (2523).



2 When [Pair] is off, press a target FM selection button to select the target.

3 In the folder selection area, select the folder containing the clip to be recorded.

4 Press [Record Enable], turning it on.

5 To set the clip name, press [Name].

Input the clip name, and press [Enter].

6 To start recording, press [Record Start].

7 To end recording, press [Record Stop].

To set the clip duration

Press [Clip Duration], enter a timecode value or number of frames, and press [Enter].

Creating and Handling Frame Memory Folders

You can create, rename, and delete frame memory folders.

Creating a new folder

1 Open the Frame Memory >Folder menu (2551).

2 Select [New].

3 Enter a folder name and press [Enter].

Changing the folder name

1 Select the folder in the Frame Memory >Folder menu (2551).

2 Press [Rename].

3 Enter the new folder name and press [Enter].

Notes

The following names cannot be used for folders:
Default, Flash1, Flash2
CON, PRN, AUX, CLOCK$, NUL
COM0, COM1, COM2, COM3, COM4, COM5, COM6, COM7, COM8, COM9
LPT0, LPT1, LPT2, LPT3, LPT4, LPT5, LPT6, LPT7, LPT8, LPT9

Deleting a folder

1 Select the folder in the Frame Memory >Folder menu (2551).

To select all folders, press [All].

2 Press [Delete].

3 Check the message, then press [Yes].

Notes

The “Default” folder cannot be deleted.

Clip Output

As with still image operation, you can use the reposition and lock functions.

For details about the method of operation, ☞ *“Image Output” (p. 132).*

Recording and Playback of Ancillary Data

Preparations

To record ancillary data, it is first necessary in the Setup menu to select “save with ancillary data” as the frame memory saving mode.

For details, ☞ “Saving a Frame Memory Clip with Ancillary Data” (p. 321).

Recording ancillary data

To record in a frame memory clip, use the Frame Memory >Clip >Record menu (2523).

For details about the method of operation, ☞ “Clip Creation” (p. 138).

To check ancillary data during recording

If the ancillary data to be recorded is embedded audio, by first setting the signal output to through mode, you can listen while recording.

For details about the through mode setting, ☞ “Making Vertical Blanking Interval Adjustment and Through Mode Settings” (p. 352).

Notes

When [Freeze Enable] or [Record Enable] is pressed, turning them on/off, noise may occur. Also, with these buttons in the on state, selecting the signal on the frame memory source bus may result in noise.

Playing back ancillary data

You can play ancillary data recorded in a frame memory clip by normal playback or an auto transition of the clip transition.
To play the ancillary data, you must use the following procedure to enable playback of the ancillary data.

For details about playback operations, ☞ “Clip Playback” (p. 136).

Notes

- After recording a frame memory clip, the ancillary data state is enabled for playback.
- To play back the clip, set the signal output to through mode.

  For details about the through mode setting, ☞ “Making Vertical Blanking Interval Adjustment and Through Mode Settings” (p. 352).
- When the reposition function is on, ancillary data cannot be played back.
- Switching the reposition function between on and off may cause noise.
- Only the AUX bus and edit preview bus can output ancillary data.
- Carrying out file operations on a frame memory clip may result in the ancillary data being discontinuous, or in noise occurring. However, if the first or last frame of the clip is deleted, noise will not occur.
- The audio sampling frequency is always 48 kHz.
- When you play back the recorded embedded audio, depending on the device to be used, noise may occur at the playback start point and end point. For details about devices that are used for playback, contact your Sony service or sales representative.

1 Open the Frame Memory >Clip >Ancillary Enable menu (2525).

2 Select the frame memory folder and file to be played back.

3 Press [Ancillary Enable], turning it on.

Clip Transition Operations

Linked to a mix (dissolve) or wipe transition, a frame memory clip (movie) is played back.
The following restrictions apply to the use of a clip transition.

- Key frame capture is not possible.
- It is not possible to apply a pattern limit.
- Transitions executed in two strokes, such as a preset color mix with the stroke mode set to Normal, or a DME wipe with a picture-in-picture pattern, will not execute correctly.
- It is not possible to vary the transition rate of a clip transition.
- Transition preview cannot be used.
- No instantaneous state of a clip transition can be saved as a snapshot.
- When recalling a snapshot including a clip transition during execution of another clip transition, the follow-up transition does not operate properly. Be sure to complete the transition before recalling a snapshot.

Notes

When a clip transition is selected as the transition type, if one of the wipe direction selection buttons in the transition control block is lit, it indicates the direction of clip playback.

Setting a clip transition

This section describes a clip transition using FM1&2 Clip on the M/E-1 bank as an example.

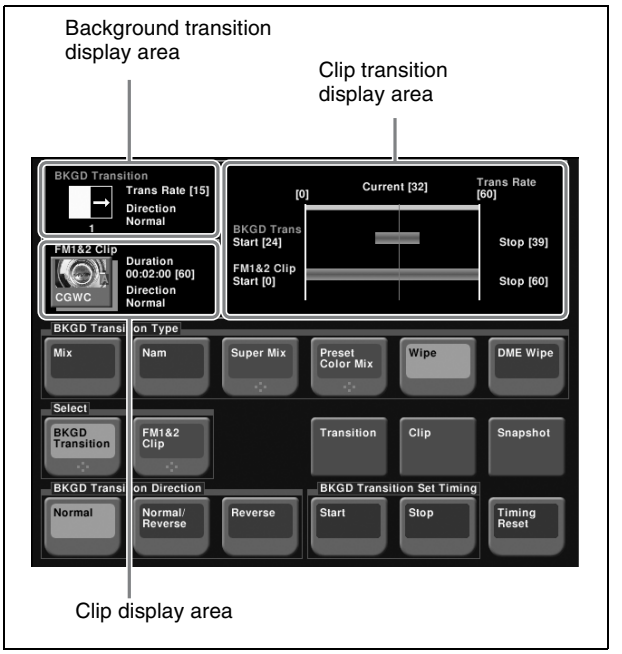
Notes

To use a clip transition effectively, the image from the frame memory clip being played back during the clip transition should be applied to the M/E-1 program output. For example, inserting a key using frame memory output 1 and frame memory output 2.

1 In the M/E-1 >Misc >Transition menu (1171), and select [FM1&2 Clip] in the <Transition Type> group.

2 Press [Clip Transition].

The Clip Transition menu (1176) appears.



3 Press [Clip].

The status area shows a list of clips.

4 Select the clip to use in the clip transition.

5 Return to the Clip Transition menu, and in the <BKGD Transition Type> group, select the background transition type.

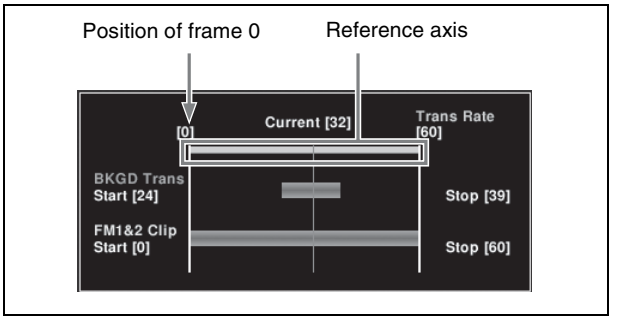
Notes

For details about the background transition selected here, see the various adjustments in the M/E-1 >Misc >Transition menu.

6 In the <Select> group, press [BKGD Transition].

7 Use either of the following methods to set the background transition start point independently of the clip playback timing.

- Move the fader lever to the desired position, and in the <BKGD Transition Set Timing> group, press [Start].
- Set the number of frames in the [BKGD Trans Start] parameter. (The left end of the reference axis (see following figure) is the position of frame 0.)



8 Using either of the following methods, set the end point of the background transition.

- Move the fader lever to the desired position, and in the <BKGD Transition Set Timing> group, press [Stop].
- Set the number of frames in the [BKGD Trans Stop] parameter.

9 If [Wipe] or [DME Wipe] is selected in the <BKGD Transition Type> group, in the <BKGD Transition Direction> group, select the background transition direction.

10 In the <Select> group, press [FM1&2 Clip].

11 Using either of the following methods, set the start point of the clip.

- Move the fader lever to the desired start point, and in the <Clip Transition Set Timing> group, press [Start].
- Set the number of frames in the [Clip Start] parameter. (The left end of the reference axis (see previous figure) is the position of frame 0.)

Notes

It is not possible to set the clip end point.

12 In the <Clip Transition Direction> group, select the playback direction of the clip.

To reset the start point and end point

Press [Timing Reset].
The background transition start point and end point, and the clip start point are all reset.

Image Data Management

You can carry out the following operations on the files that were created when images were saved.
- Pair File Processing *(☞ p. 141)*
- Moving Files *(☞ p. 141)*
- Deleting Files *(☞ p. 141)*
- Renaming Files *(☞ p. 142)*

Notes

During frame memory clip playback *(☞ p. 136)* of the pair assigned to either of the target FM selection buttons, frame memory operations may not be performed properly. Carry out frame memory operations after stopping clip playback.

Pair File Processing

You can create a pair file from two single files. In the reverse direction, you can split a pair file into two single files.

Couple: You can create a pair file from two single still image files or clip files.

Separate: You can also separate a pair file into two single still image files or clip files.

Creating a pair file from two single files

Notes

Carrying out the following operation automatically switches [Pair] to on.

This section describes FM1 and FM2 as an example.

1. In the Frame Memory >Still >Recall menu (2511) or Frame Memory >Clip >Recall menu (2521), recall the two single files you want to convert to a pair file, to FM1 and FM2.
2. Open the Frame Memory >File >Pair Recombination menu (2541).
3. Press [Couple].

Splitting a pair file into two single files

Notes

Carrying out the following operation automatically switches [Pair] to off.

This section describes FM1 and FM2 as an example.

1. In the Frame Memory >Still >Recall menu (2511) or Frame Memory >Clip >Recall menu (2521), recall the pair file.
2. Select the folder in which the file to be moved is stored.
3. Open the Frame Memory >File >Pair Recombination menu (2541).
4. Press [Separate].

Moving Files

1. Open the Frame Memory >File >Move menu (2544).

   The status area shows files to be moved in the upper area, and destination files in the lower area.
2. Select the folder and file to be moved.
3. Select the destination folder and file.
4. Press [Move].

Deleting Files

1. Open the Frame Memory >File >Delete menu (2545).

   In the status area, regardless of whether pair mode is on or off, all of the saved files appear as thumbnails.
2. Select the folder which contains the file to be deleted.
3. Select the file to be deleted.

   To select all folders, press [Select All], turning it on. When a clip thumbnail is selected, the still image files making up the clip are also selected for deletion.
4. If necessary, check the contents of the frame memory clip in the thumbnail display.

No.	Parameter	Adjustment
3	Viewer	For a movie, the current frame position. For a still image, no effect.

5. Press [Delete].
6. Check the message, then press [Yes].

Renaming Files

1 Open the Frame Memory >File >Rename menu (2546).

In the status area, regardless of whether pair mode is on or off, all of the saved files appear as thumbnails.

2 Select the file to be renamed.

3 If necessary, check the contents of the frame memory clip in the thumbnail display.

No.	Parameter	Adjustment
3	Viewer	For a movie, the current frame position. For a still image, no effect.

4 Press [Rename].

5 Enter the new file name and press [Enter].

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

Using an External HDD

You can connect an HDD to the USB port of the switcher processor, to carry out the following operations.
Format: Format the HDD.
Backup: Batch save files from frame memory to the HDD.
Restore: Restore frame memory from files saved on the HDD.
Since image data saved in memory is lost when the system power is turned OFF, using an external HDD allows required data to be preserved.

Notes

- Only one HDD can be connected to a single switcher processor.
- While the HDD is being accessed, frame memory operations are not possible. This applies to all operations for frame memory, including frame memory recall by a snapshot operation.
- During frame memory clip playback *(☞ p. 136)* of the pair assigned to either of the target FM selection buttons, frame memory operations may not be performed properly.
  Carry out frame memory operations after stopping clip playback.

For details about HDDs that can be connected, contact your Sony service or sales representative.

HDD Formatting

When you connect an HDD for the first time, it is necessary to format the HDD. This partitions the HDD, creating 15 logical areas (FMHDD1 to FMHDD15).

1 Open the Frame Memory >External Device >Ext HDD Format menu (2561).

To get the HDD information
Press [Refresh Status].
The capacity of the connected HDD is displayed in the "Device" field.

2 Press [Format].

Notes

Carrying out formatting erases any existing data on the HDD.

3 Check the message, then press [Yes].

HDD formatting starts.

4 Check the message, then press [OK].

Saving Files

You can save all of the files from frame memory to the external HDD.

Notes

When performing this operation for the first time, format the HDD beforehand *(☞ p. 142)*.

1 Open the Frame Memory >External Device >Ext HDD Backup/Restore menu (2562).

For each partition, a list of the directory names and number of files appears.

To get the HDD information
Press [Refresh Status].
The capacity and partition information of the connected HDD is displayed.

2 Select a logical drive (FMHDD1 to FMHDD15).

3 In the <Backup> group, perform one of the following.

- To replace the existing data, press [Replace].
- To save in addition to the existing data, press [Append].

Notes

When you execute [Replace], all of the saved files in the logical drive are erased immediately before the saving operations.

4 Check the message, then press [Yes].

This starts the file saving operation. If there is no directory, a directory is automatically created, and the files are saved within it.

5 Check the message, then press [OK].

To rename a directory

Select a directory in the list, and press [Rename].
In the keyboard window, enter the new directory name, and press [Enter]. The name of a directory is limited to eight characters.

Notes

The following names cannot be used:
CON, PRN, AUX, CLOCK$, NUL
COM0, COM1, COM2, COM3, COM4, COM5, COM6, COM7, COM8, COM9
LPT0, LPT1, LPT2, LPT3, LPT4, LPT5, LPT6, LPT7, LPT8, LPT9

Recalling Files

You can recall all of the saved files on the HDD into frame memory.

1 Carry out steps **1** and **2** in *"Saving Files" (☞ p. 142)*.

Notes

It is not possible to select a partition (FMHDD1 to FMHDD15) of an HDD in which no file is saved.

2 In the <Restore> group, perform one of the following.

- To replace the existing data with the recalled data, press [Replace].
- To add the recalled data to the existing data, press [Append].

Notes

When you execute [Replace], any existing data in frame memory is lost immediately before the recalling operations.

3 Check the message, then press [Yes].

This starts the file recall operation.

4 Check the message, then press [OK].

Managing Images Using a DDR/VTR

Using a DDR/VTR for High-speed Backup and Restoring

You can save all files currently held in frame memory as a single backup data set, by high-speed recording on video tape or other medium.
To restore the folder structure, it is necessary to save the automatically generated file list (of file name, length of clip, and so on) in memory.

Notes

At the beginning of this backup data a red or blue image is automatically inserted when the data is created. Do not delete this image, as it is required for restoring the data.

High-speed recording of backup data to DDR or VTR

Notes

Before starting the backup, it is necessary to select the FM output to record on an AUX bus, for example, and input the AUX output to the DDR/VTR.

1 Open the Frame Memory >External Device >Backup to DDR/VTR menu (2564).

2 To save with ancillary data, output the frame memory output signal to the AUX bus.

3 Press [Backup Enable], turning it on.

4 Press [Backup Start].

5 Start recording on the external device, and immediately after that press [Yes].

This starts the backup, and when completed a message appears.

6 Stop the recording on the external device, and press [OK].

7 To save the file list in memory, press [File >File Name Data].

The File >Frame Mem >File Name Data menu (7153) appears.
The name of the file that is saved is fixed (FM_Bkup).

For details, ☞ *"Overview of File Operations" (p. 302).*

Restoring backup data from DDR or VTR

Notes

Before starting the restore operation, it is necessary to select the DDR/VTR output on the FM input bus.

1 Open the Frame Memory >External Device >Restore from DDR/VTR menu (2565).

2 Press [File >File Name Data], to read the file list from the File >Frame Mem >File Name Data menu (7153).

For details, ☞ *"Overview of File Operations" (p. 302).*

3 To restore the ancillary data, select any of FM1, FM3, and FM5.

4 Press [Restore Enable], turning it on.

5 In the <Restore Type> group, select either of the following.

Replace: Replace the existing frame memory data.
Append: Add to the existing frame memory data.

6 Press [Restore Start].

7 Start playback on the external device, and immediately after that press [Yes].

Notes

Make sure that the red or blue image inserted at the beginning when the backup was made is included. If this image is not found, the clip or still image will not be played back correctly.

This starts the restore operation, and when completed a message appears.

8 Stop the playback on the external device, and press [OK].

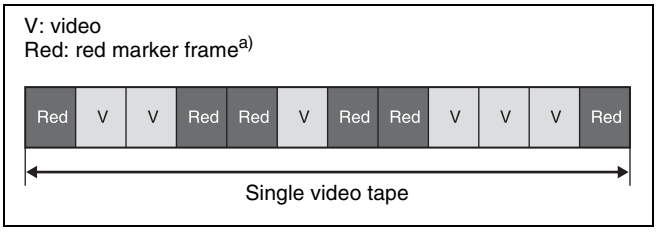
Extracting Images from a Video Tape

By recording a clip or still image stored on a video tape as a single clip (single file) under certain rules, you can automatically extract an image from the clip, and save as a separate frame memory file.

Relation between recorded state of video tape and files after extraction

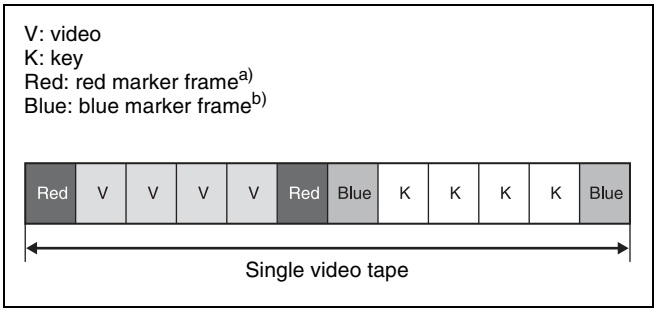
The extraction is carried out according to the following rules.

Example 1: When only video signal clips and a still images are recorded (single files)



Result of extraction:
Each section surrounded by red marker frames is extracted as a clip (main file). If the red markers surround a single frame, then it is extracted as a still image.
In the case above, two clip files (main files) and one still image file are extracted.

Example 2: When a video signal clip is followed by a key signal clip with the same number of frames (pair file)



Result of extraction:
The section surrounded by red marker frames is extracted as the main file, and the section surrounded by blue marker frames is extracted as the sub file.
In the case above, one clip file (pair file) is extracted.

a) A red marker frame is a monochrome frame with the RGB signal levels at 100%, 0%, 0% respectively.
b) A blue marker frame is a monochrome frame with the RGB signal levels at 0%, 0%, 100% respectively.

Notes

For extraction as a pair file, the main file and sub file must have the same number of frames.

1. In the Frame Memory >Clip >Record menu (2523), record the tape image as a clip *(☞ p. 138)*.
2. Open the Frame Memory >File >Auto Extraction menu (2542).
3. Select a clip (single file) recorded from the tape.
4. Press [Extraction Start].
5. Check the message, then press [Yes].

   This starts the extraction, analyzes the currently selected single clip, and automatically extracts a movie (Clip) or still image (Still). When there is key data, a pair file is created.

To check the details of the images (still image/ clip)

Set and check the following parameters.

No.	Parameter	Adjustment
1	No	File number
3	Viewer	Timecode for selected image

Color Backgrounds, Copy and Swap, and Other Settings

Chapter 8

Color Background

The dedicated generators generate color signals, and these can be used as color backgrounds in video effects.

Color background selection

There are two color backgrounds, color background 1 and color background 2, which you use by assigning to cross-point buttons.

Color mix

The color generators can output the result of combining two colors (color 1 and color 2).
Using a pattern from a dedicated pattern generator, color 1 and color 2 can be combined in the boundary region, forming a color gradation. This is referred to as "color mix."
You can also apply modifiers to the selected pattern.
When the color mix function is not used, the result is a flat color, and color 1 is always output.
You carry out color background settings in the Color Bkgd menu.
This section describes settings for color background 1 as an example.

Basic Color Background Setting Operations

Setting a single-color matte (Flat Color)

If you are not using the color mix function to combine two colors, use the following procedure.

1 In the Color Bkgd >Color Bkgd1 menu (2210), press [Flat Color] in the <Matte> group, turning it on.

2 Set the following parameters.

No.	Parameter	Adjustment
1	Luminance	Luminance
2	Saturation	Saturation
3	Hue	Hue

Setting a color mix

To combine color 1 and color 2, use the following procedure.

1 In the Color Bkgd >Color Bkgd1 menu (2210), press [Mix Color] in the <Matte> group, turning it on.

2 Set the following parameters.

No.	Parameter	Adjustment
1	Size	Pattern size
2	Soft	Edge softness of the pattern
5	Pattern	Pattern number[a)]

a) The patterns are the same as for a wipe (☞ *"Wipe Pattern List" (p. 381)*).

For the pattern selection, you can also press [Mix Pattern Select] in the Color Bkgd1 menu, then use the Mix Ptn Select menu (2210.1).
Press the desired pattern (1 to 24) to select it, and set the Size and Soft parameters.

3 To adjust colors 1 and 2, turn on [Color1] or [Color2] respectively, then adjust the following parameters.

No.	Parameter	Adjustment
1	Luminance	Luminance
2	Saturation	Saturation
3	Hue	Hue

4 If required, set the pattern modifiers.

When turning [Position] on and setting the pattern position

No.	Parameter	Adjustment
1	Position H	Horizontal position[a)]
2	Position V	Vertical position[a)]

a) ☞ *p. 103*.

When turning [Multi] on and using replications of the same pattern

No.	Parameter	Adjustment
1	H Multi	Number of repetitions of pattern horizontally
2	V Multi	Number of repetitions of pattern vertically
3	Invert Type	Replication layout[a)]

a) ☞ p. 105.

When turning [Aspect] on and setting the aspect ratio of the pattern

No.	Parameter	Adjustment
1	Aspect	Aspect ratio[a)]

a) ☞ p. 105.

When turning [Pairing] on and making a wipe pattern like a Venetian blind

No.	Parameter	Adjustment
1	Width	Width

When turning [Angle] on in the <Rotation> group and slanting the pattern

No.	Parameter	Adjustment
1	Angle	Rotation angle of pattern[a)]

a) ☞ p. 104.

When turning [Speed] on in the <Rotation> group and rotating the pattern at a constant rate

No.	Parameter	Adjustment
1	Speed	Rotation speed of pattern[a)]

a) ☞ p. 104.

When selecting [H] (horizontal) or [V] (vertical) in the <Modulation> group and applying waviness to the pattern

Notes

When using 1080PsF mode in an HD system, the modulation function is not available.

No.	Parameter	Adjustment
1	Amplitude	Amplitude of modulation
2	Frequency	Frequency of modulation
3	Speed	Speed of waves • Negative values create waves in the down, left, and counterclockwise directions. • Positive values create waves in the up, right, and clockwise directions.

5 To interchange color 1 and color 2, press the [Color Invert] button, turning it on.

Copy and Swap

Overview of Copy and Swap

You can copy or swap the settings among the switcher banks or between keyers.
The following settings can be copied or swapped.

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

You can carry out keyer copy operations by a simple button operation.

M/E copy and M/E swap

You can copy and swap the overall bank settings among the switcher banks.

Target bank	Target data
M/E-1 PGM/PST	Bank settings excluding the following data items: • Setup data • Snapshots • Keyframe effects • Key snapshots • Key memory

Notes

If a DME is being used on the source M/E bank, then if for example there are insufficient DME channels, it may not be possible to select the DME.
There are no such restrictions on a swap.

Keyer copy and keyer swap

You can carry out copy and swap operations among the following keyers.

Target bank	Target keyer	Target data
M/E-1	Keys 1 to 4	Key settings excluding the following data items: • Setup data • Key snapshots • Key memory
PGM/PST	Downstream keys 1 to 4	

Notes

If a DME is being used on the source keyer for a copy or either keyer for a swap, then if for example there are insufficient DME channels, or the limit on using DME channels within an M/E bank is exceeded, it may not be possible to select the DME.

Wipe copy and wipe swap

You can copy and swap the wipe settings among the banks as follows.

Target bank	Target data
M/E-1 PGM/PST	Wipe settings. However, it is not possible to carry out copy or swap involving independent key transition wipe settings.

Wipe copy and wipe swap in the independent key transition control block

You can copy and swap the wipe settings among the following keyers.

Target bank	Target keyer	Target data
M/E-1	Keys 1 to 4	Wipe settings in the independent key transition control block.
PGM/PST	Downstream keys 1 to 4	

DME wipe copy and DME wipe swap

You can copy and swap the DME wipe settings among the banks as follows.

Target bank	Target data
M/E-1 PGM/PST	DME wipe settings. However, it is not possible to carry out copy or swap involving independent key transition DME wipe settings.

DME wipe copy and DME wipe swap in the independent key transition control block

You can copy and swap the DME wipe settings among the following keyers.

Target bank	Target keyer	Target data
M/E-1	Keys 1 to 4 (MVS-6520/6530/3000A) Keys 1, 2 (MVS-3000)	DME wipe settings in the independent key transition control block.
PGM/PST	Downstream keys 1 to 4 (MVS-6520/6530/3000A) Downstream keys 1, 2 (MVS-3000)	

Matte data copy and swap

You can copy or swap the matte data among the following color generators.

Target bank	Target keyer and data	
M/E-1 PGM/PST	Keys 1 to 4 and downstream keys 1 to 4 in each bank	• Matte data for key fill • Matte data for key edge fill[a)]
	Matte data for wipe border edge	
Color background	• Matte data for color background 1 • Matte data for color background 2	

a) Only among keyers that support resizer and key edge.

Color data copy and swap

You can copy or swap the color data among the following color generators.

Target bank	Target keyer and data	
M/E-1 PGM/PST	Keys 1 to 4 and downstream keys 1 to 4 in each block	• Colors 1 and 2 for key fill • Colors 1 and 2 for key edge fill[a)] • "Zabton" color data[a)]
	Colors 1 and 2 for wipe border	
	Color data for preset color mix	
Color background	• Colors 1 and 2 for color background 1 • Colors 1 and 2 for color background 2	
DME ch1, ch2, ch5 to ch8[b)]	• Background • Border • Sepia • Light • Shade[c)] • Drop shadow[d)] • Trail	

a) Only among keyers that support resizer and key edge.
b) DME ch1 and ch2 are enabled when using the MKS-6570 only. DME ch5 to ch8 are enabled when using the MVE-8000A/9000 only.
c) Not possible for DME ch2 in an HD system.
d) Not displayed for DME ch5 to ch8.

DME channel copy and swap

You can copy and swap the channel data among DME channels 1 to 2 (MKS-6570) or DME channels 5 to 8 (MVE-8000A/9000).
It is not possible to copy or swap the channel data between DME channels 1 to 2 and DME channels 5 to 8.

Copying format converter data

You can copy data between format converter inputs. Similarly, you can copy format converter data between outputs.

Notes

The copy source and destination data must be in the same signal format.

Copy and Swap Operations

Copy and Swap Using Menus

Copy and swap operations are performed using the Copy/Swap menu.
Select the following targets for operation in the Copy/Swap >Copy/Swap menu. For format converter operations, use the Copy/Swap >Copy menu.
This section describes copy and swap operations for wipe data as an example.

- M/E: Copying and swapping M/E data
- Key: Copying and swapping key data
- Wipe: Copying and swapping wipe data
- DME Wipe: Copying and swapping DME wipe data
- Matte: Copying and swapping matte data
- Color: Copying and swapping color data
- DME: Copying and swapping data by DME channels
- Format Converter: Copying format converter data

For an overview of copy and swap operations, *☞ "Overview of Copy and Swap" (p. 147).*

Copy and swap menu operations

To copy or swap wipe data, use the following procedure.

1 Open the Copy/Swap >Copy/Swap >Wipe menu (3113).

The status area shows lists for the copy/swap source on the left, and the copy/swap destination on the right.

2 In the <Data Select> group, select either of the following.

Wipe: Applies operations to wipes in the transition control block.
Key Wipe: Applies operations to wipes in the independent key transition control block.

3 Select the copy/swap source data and copy/swap destination data *(☞ p. 147).*

4 Press [Copy] to copy, or press [Swap] to swap.

To undo a copy or swap

Press [Undo] to return to the state before the copy or swap was carried out.

Copying using button operations

You can copy keyer data using the key delegation buttons in the transition control block.

Basic button operation

The basic button operation is to hold down the copy source button, then press the destination button.
You can undo the last operation using [Undo] in the menu *(☞ p. 149).*

To copy from M/E-1 key 1 to PGM/PST key 2

While holding down the [KEY1] transition control block button in the M/E-1 bank, press the [DSK2] transition control block button in the PGM/PST bank.

Misc Menu Operations

In the Misc menu, you can carry out the following operations.

- Enabling or disabling control from an external device or the System Manager.
- Enabling or disabling side flags for each background bus of each of the switcher banks.

  For details about the side flag function, *☞ "Side Flags" (p. 154).*

- Switching the safe title function on or off for each switcher output.
- Displaying the transition rate, independent key transition rate, and fade-to-black transition rate for each of the switcher banks, and changing the settings.
- Enabling or disabling the AUX mix function (ON/OFF) and setting the transition rate.

Port Settings for Control from an External Device

Enabling or disabling control from an external device

1 Open the Misc >Enable >Port Enable menu (3211).

The status area shows the setting status of each of the following ports.
- Switcher Remote S1 to Remote S2 ports (RS-422A, D-sub 9-pin)
- Switcher GPI port (parallel, 25-pin)
- DME2 GPI port (parallel, 25-pin)

2 In the <Switcher> or <DME2> group, press the name of the port for which you want to disable control from an external device, turning it off.

To enable control for the port, press the name again.

Notes

For AUX bus operations from the Remote S1 to Remote S2 ports of the switcher, the setting (Enable/Disable/Manual) in the Setup menu takes precedence. The settings made in the Port Enable menu only apply when the setting is set to [Manual].

For details, ☞ "Enabling or Disabling AUX Bus Control" (p. 362).

DME override mode

1 Open the Misc >Enable >Port Enable menu (3211).

2 In the <DME Override> group, select the DME override mode.

DME Override: When a switcher snapshot or effect using a DME is recalled, forcibly select the DME that was used when saving.

On Air Protect: The operation is the same as the DME override function, except that a DME being used by an M/E bank or PGM/PST bank that is on air will not be forcibly selected.

Notes

- If effects using the same DME channel are selected simultaneously in two or more regions, the DME is selected with the order of precedence P/P >M/E-1.
- This function is disabled on the MVS-3000.

Enabling/disabling control from the System Manager

You can perform some switcher data management and control functions remotely by installing the BZPS-8000/8000L system management software (System Manager) on a networked computer.

1 Open the Misc >Enable >Port Enable menu (3211).

2 Press [System Manager].

The setting is enabled/disabled each time the button is pressed.

Safe Title Settings

Turning the safe title function on/off

1 Open the Misc >Safe Title menu (3221).

2 Select the signal to set.

Notes

- It is not possible to change the setting for the output for which the safe title is set off in the Setup menu.
- The safe title function cannot be used for output signals for which through mode is set to Enable in a Setup menu.

For details, ☞ "Signal Output Settings" (p. 351).

3 Press [Safe Title], turning it on or off.

Displaying a List of Transition Rates and Changing the Settings

In the Misc >Transition >Key/ME/FTB menu (3231), for each bank you can display a list of the M/E (or PGM/PST) transition rates and independent key (or DSK) transition rates, and change the settings.
These settings are linked to the other transition rate setting operations.
You can also display and set the fade-to-black transition rate.

Menu display

The display of the independent key transition rate in the Misc >Transition >Key/ME/FTB menu (3231) depends on the selection in the <Key Transition> group of the Engineering Setup >Switcher >Transition menu (7334) for each of the switcher banks.

When [Same] (On direction and Off direction settings are the same) is selected in the <Key Transition> group: Only "Key" (or "DSK" in the PGM/PST bank) appears.

When [Independ] (On direction and Off direction settings are independent) is selected in the <Key Transition> group: "Key(On)" and "Key(Off)" each appear. In the PGM/PST bank, "DSK(On)" and "DSK(Off)" appear.

For details, ☞ "Settings Relating to Video Switching" (p. 355).

Setting the transition rate

To set the M/E transition rate

For example, to make the settings for the M/E-1 bank, use the following procedure.

1. In the status area if the Misc >Transition >Key/ME/FTB menu (3231), press [M/E-1].
2. In the <Transition Rate> group, press [Transition].
3. Set the number of frames.

No.	Parameter	Adjustment
1	Transition Rate	Transition rate

Notes

When a clip transition is selected as the transition type, it is not possible to change the transition rate in this menu.

To set the independent key transition rate

For example, to make the settings for keys 1 to 4 in the M/E-1 bank, use the following procedure.

1. In the status area if the Misc >Transition >Key/ME/FTB menu (3231), press [M/E-1].
2. In the <Transition Rate> group, press [Key K1-K4]. To insert (on) or remove (off) keys individually, press [Key(On) K1-K4] or [Key(Off) K1-K4].
3. Set the number of frames.

No.	Parameter	Adjustment
1	Key1 Trans Rate	Key 1 transition rate
2	Key2 Trans Rate	Key 2 transition rate
3	Key3 Trans Rate	Key 3 transition rate
4	Key4 Trans Rate	Key 4 transition rate

Setting the fade-to-black transition rate

1. In the Misc >Transition >Key/ME/FTB menu (3231), press [FTB].
2. Set the number of frames.

No.	Parameter	Adjustment
1	Transition Rate	Transition rate

AUX Mix Transition Settings

For details about AUX mix transition operations, ☞ *"AUX Mix Transitions" (p. 78).*

Enabling AUX mix transitions

1. Open the Misc >Transition >Aux Mix menu (3232).
2. Select the AUX bus (odd-numbered bus) to be configured.
3. Press [Aux Mix], turning it on.

   To disable, press again to turn it off.

Setting the AUX mix transition rate

1. Open the Misc >Transition >Aux Mix menu (3232).
2. Select the target AUX bus (odd-numbered bus).
3. Set the number of frames.

No.	Parameter	Adjustment
2	Transition Rate	Transition rate

AUX Menu Operations

AUX Bus Settings

In the AUX menu, you can make color corrector settings for an AUX bus.

Setting the AUX bus color corrector

In the Engineering Setup >Switcher >Key/Wipe/FM/CCR >CCR menu (7335.3), you can make settings for an AUX bus for which color correction is enabled.

Notes

The target even-numbered buses cannot be selected when AUX mix transitions are enabled.

1. In the Aux >Aux Bus menu (2311), select the AUX bus to which the settings apply.
2. In the <CCR> group, press [CCR], turning it on.
3. Make the following settings, as required.

To set video processes: Turn on [Video Process] in the <Video Process> group.
To set primary color correction: Turn on [Primary CCR] in the <Primary CCR> group, and select the item to set in the <Primary CCR Adjust> group.
To set an RGB clip: Turn on [RGB Clip] in the <RGB Clip> group, and select the item to set in the <RGB Clip Adjust> group.

4 Set the parameters.

For details about the parameters, ☞ *"Configuring the Color Corrector" (p. 347).*

To disable color correction

In the <CCR> group, press [CCR], turning it off.

To return the parameters to their default settings

Press [Unity].

Status Menu

You can view the DME operating status in the Status menu.

Viewing the DME operating status

Open the Status >DME Status menu (3311).

DME status display

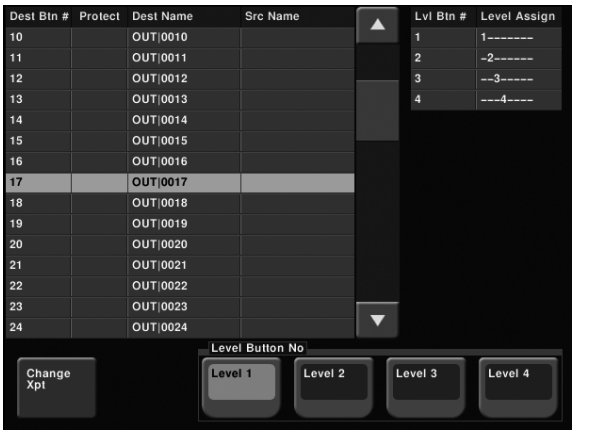
For each DME channel, you can see how the DME is being used in the corresponding operation block.
The display background color also indicates the following differences in the way a DME is being used.
Blue: The DME is currently being used in an operation other than the final program output.
Red: The DME is currently being used in the final program output.

Router Control Menu Operations

You can control router switching in the Router Control menu.

Checking the List of Inputs for Each Destination

Open the Router >Router Control >Router Control menu (5111).
A list of destination assignments appears on the left side of the status area.



If in the Engineering Setup >Panel >Router Remote >RTR Mode Setting menu (7323.1), [Inhibit] is set to On for a destination, the corresponding line appears in gray. Also, if [PROT] (protect) is set to ON for a source, using a BKS-R3xxx or R1xxx series Router remote control, a padlock icon appears.
The level assigned to the level selection buttons ([Level 1] to [Level 4]) in the <Level Button No> group are displayed on the right side of the status area.

Selecting the level

In the <Level Button No> group at the lower right in the above illustration, press the level for switching.

Switching the Source for Each Destination

You can switch the source for each destination with a menu operation.
For the assignment of destinations and sources to buttons, use the Engineering Setup >Panel >Router Remote >RTR Mode Setting menu (7323.1).

For details, ☞ "Router Remote Control Settings" (p. 333).

1 In the Router >Router Control >Router Control menu (5111), press [Change Xpt].

The Change Xpt menu (5111.1) appears.
Destination Select buttons appear in groups of 16.
Source Select buttons appear by group (maximum 24 buttons).

2 Press one of the Destination Select buttons, to select the destination for which you want to switch the source.

To change the group
Press one of the [1-16], [17-32], [33-48], and [49-64] buttons.

3 Press one of the Source Select buttons, to select the source you want to switch.

To change the group
Press one of the [1-24], [25-48], ... [97-120], and [121-128] buttons.

Special Functions

Chapter 9

Side Flags

Overview

The term “side flags” refers to the areas to left and right of an image with aspect ratio 4:3 embedded within a 16:9 frame, when these areas are filled with a separate image selected from the utility bus.
You can adjust the width of the side flag area.

Side Flag Settings

Input source aspect ratio, auto side flags, and auto crop settings

Aspect ratio 4:3 setting
Set the input signal to aspect ratio 4:3. If set to 16:9, the side flags are disabled.

Auto side flag setting
This function automatically applies side flags when a 4:3 signal is selected in the cross-point control block.

Auto crop setting
When carrying out a DME wipe, this function automatically crops the image during transition to 4:3.

Adjusting the width of the side flag area
You can set the left and right sides separately.

For details about the above setting, ☞ “Setting the Side Flag Video Material and Operation” (p. 347).

Enabling and disabling side flags with a menu operation

You can enable or disable side flags for the backgrounds (A and B) of each of the M/E and PGM/PST banks.
As an example, to enable side flags for background B row on the M/E-1 bank, use the following procedure.

1 Open the Misc >Enable >Side Flags menu (3213).

The status area shows the buttons for Bkgd A and Bkgd B for each of the banks.

2 In the <M/E-1 Side Flags> group, press [Bkgd B].

To display a menu for the aspect ratio 4:3, auto side flags, and auto crop settings
Press [Setup >SWER Side Flags].

To display a menu for assigning the side flags on/off function to a cross-point button
Press [Side Flags Button Assign].

Enabling and disabling side flags with a button operation

For example, to enable side flags for the background B row of the M/E-1 bank, use the following procedure.

1 In the Setup menu, assign the rightmost cross-point button to the [SIDE FLAG] button beforehand.

For details about the assignment, ☞ “Assigning a Cross-Point Button to Enable/Disable Side Flags” (p. 333).

2 Press the [SIDE FLAG] button at the right end of the background B row of the M/E-1 bank.

The button you pressed lights amber, and this enables the side flags.

Notes

- The operations of enabling or disabling the side flags by menu operation and by control panel button operation are linked.
- When the auto side flags are on, selecting 4:3 video material automatically lights the [SIDE FLAG] button, but if you press this button, turning it off, the side flags are temporarily disabled.
  However, when you select different 4:3 video material, the [SIDE FLAG] button automatically lights once again, enabling the side flags.

Creating an image with side flags

For example, to create an image with side flags in the background B row of the M/E-1 bank, use the following procedure.

1 In the 1st row of the cross-point control block of the M/E-1 bank, hold down the [UTIL1] button, and in the 2nd row, select the signal (utility bus signal) you want to insert in the side flag areas.

2 In the background B row, press the cross-point button corresponding to the 4:3 video material.

At this point, if auto side flags are on, this automatically adds side flags to the 4:3 video material.

For details, ☞ "Setting the Side Flag Video Material and Operation" (p. 347).

3 Use either of the following methods to turn the side flags on.

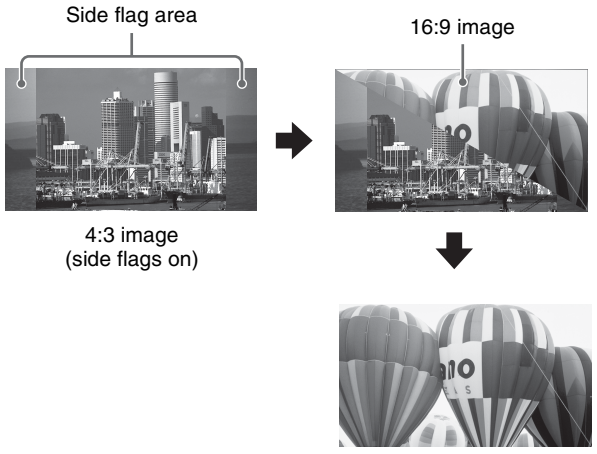
- Use the Misc >Enable >Side Flags menu (3213) (☞ p. 154).
- Use a cross-point button operation (☞ p. 154).

This adds side flags to the 4:3 video material.

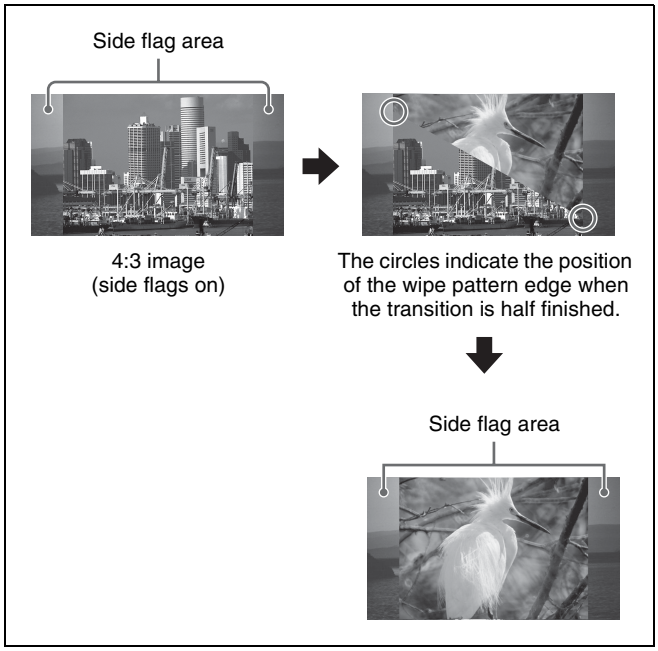
Wipe Action on Images with Side Flags

When a wipe is carried out on an image with side flags, all wipe patterns can be used.
The following show the action in a wipe.

Wipe from a 4:3 image to a 16:9 image



Wipe from a 4:3 image to another 4:3 image (when side flags are on for both images)



DME Wipe Action for an Image with Side Flags

When a DME wipe is carried out on an image with side flags, all wipe patterns can be used.
Depending on the on/off setting of [Auto Crop] in the Engineering Setup >Switcher >Config menu (7331), the appearance of the 4:3 image changes.

Notes

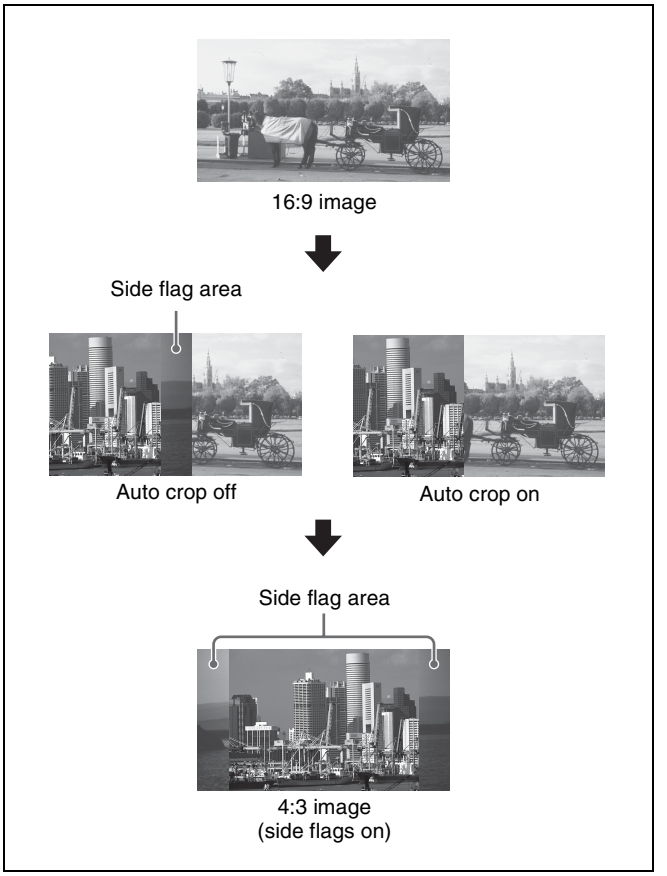
On the MVS-6520/6530/3000A, side flags are not applied when auto side flags is turned off for signals with the following DME wipe pattern selected on the DME external video bus (gray part shown in the pattern illustration).

- Two-channel frame in-out
- Two-channel brick

The following show the action in a DME wipe.

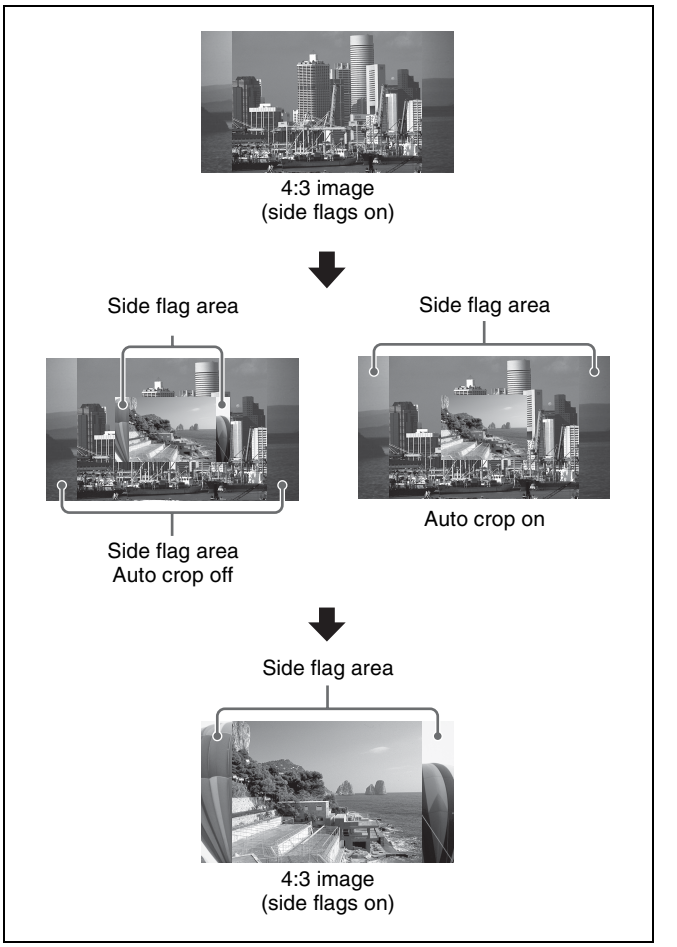
DME wipe from a 4:3 image to a 16:9 image

Wipe action using slide (No. 1001)



DME wipe from a 4:3 image to another 4:3 image (when side flags are on for both images)

Wipe action using squeeze (No. 1031)



DME Operations

Chapter 10

Overview

DME (Digital Multi Effects) allows you to add three-dimensional effects such as image movement, rotation, magnification and shrinking, as well as a wide variety of special effects. DME is the general name for all of these effects.
Up to six channels (MVS-6520/6530/3000A) or four channels (MVS-3000) can be used as dedicated DME channels.
Each channel can be used on its own or in combination with other channels, which allows you to create advanced effects with more complexity.

Devices that Support DME

The following boards and processors support DME.

The available functions depend on the device.

For details, ☞ "Functional Differences with DME Models" (p. 420).

MKS-6570 DME board

When installed in the MVS-6520/6530/3000A, enables the DME to be used like part of the switcher.

Notes

The MKS-6570 is not supported on the MVS-3000.
The control buttons and menu items for DME channels 1 and 2 corresponding to the MKS-6570 are disabled.

MVE-8000A Multi Format DME Processor

The MVE-8000A is a "Digital Multi Effects" with multi-format support.
For the MVE-8000A, an optional MKE-8021A Input/Output Board is available as a dedicated interface for integrated use with the switcher.

Notes

You must set the input signals from the switcher to the MVE-8000A (AUX bus outputs) and the signals returned to the switcher (reentry inputs) beforehand. However, "Ext In" cannot be set for the DME channel.

For details, ☞ "Setting the AUX Bus Output and Reentry Input" (p. 362).

MVE-9000 Multi Format DME Processor

The MVE-9000 is a "Digital Multi Effects" with multi-format support.
For the MVE-9000, an optional MKE-9021M Input/Output Board is available as a dedicated interface for integrated use with the switcher.

Notes

You must set the input signals from the switcher to the MVE-9000 (AUX bus outputs) and the signals returned to the switcher (reentry inputs) beforehand.

For details, ☞ "Setting the AUX Bus Output and Reentry Input" (p. 362).

Three-Dimensional Transformations

Transformation is the process of placing a video image in a three-dimensional DME coordinate space and subjecting it to manipulations such as movement, rotation, magnification or shrinking.

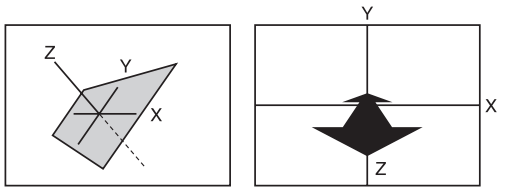
Three-dimensional coordinate space

Source coordinate space and target coordinate space

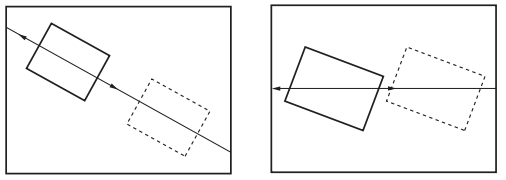
Images are placed in one of two types of coordinate space: source coordinate space and target coordinate space.

- The source coordinate space is a three-dimensional coordinate space with reference to the image itself. The X- and Y-axes are defined parallel to the plane of the image, and the Z-axis is defined perpendicular to the plane of the image. When you move the image, the coordinate axes also move.

- The target coordinate space is a three-dimensional coordinate space with reference to the output monitor screen. The X- and Y-axes are defined parallel to the plane of the monitor screen, and the Z-axis is defined perpendicular to the plane of the monitor screen. The coordinates do not move even if the image moves.

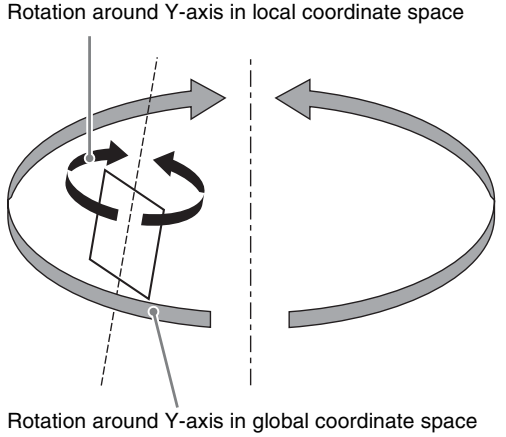


For example, as shown in the following figure, the image moves in a different direction when you move it along the X-axis of the source coordinate space and along the X-axis of the target coordinate space.



Local coordinate space and global coordinate space

The coordinates of an individual DME channel are called its local coordinate space. The coordinates common to all channels are called the global coordinate space.
By switching from local to global coordinate space, you can add new movement to the movement of images in individual channels, and also apply transformation effects to multiple channels that have been combined by Global effects.

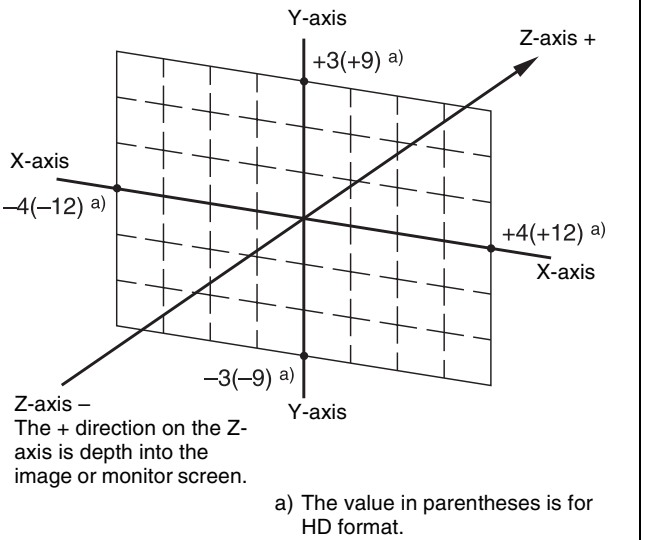


Three-dimensional parameters

Three-dimensional parameters are X, Y, and Z values which define the position of an image, its axis of rotation, the position of an imaginary point of view on the image, and so on.
The standard values of parameters are as follows, depending on the aspect ratio of your monitor (4:3 or 16:9).

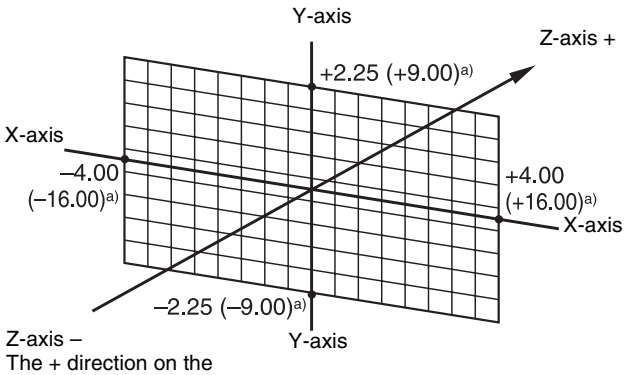
Values for 4:3 mode

- Origin at center of image (source coordinate space) or center of monitor (target coordinate space)
  X = 0.00, Y = 0.00, Z = 0.00
- Upper right corner of image or monitor
  When using SD format signals: X = 4.00, Y = 3.00, Z = 0.00
  When using HD format signals: X = 12.00, Y = 9.00, Z = 0.00
- Lower left corner of image or monitor
  When using SD format signals: X = –4.00, Y = –3.00, Z = 0.00
  When using HD format signals: X = –12.00, Y = –9.00, Z = 0.00



Values for 16:9 mode

- Origin at center of image (source coordinate space) or center of monitor (target coordinate space)
  X = 0.00, Y = 0.00, Z = 0.00
- Upper right corner of image or monitor
  When using SD format signals: X = 4.00, Y = 2.25, Z = 0.00
  When using HD format signals: X = 16.00, Y = 9.00, Z = 0.00
- Lower left corner of image or monitor
  When using SD format signals: X = –4.00, Y = –2.25, Z = 0.00
  When using HD format signals: X = –16.00, Y = –9.00, Z = 0.00



a) The value in parentheses is for HD format.

Limits of three-dimensional parameters

The following table shows the limits of three-dimensional transformation parameters. The three-dimensional parameters of an image change when you use the trackball or Z-ring to execute a transformation. You can also execute a transformation by entering parameter values from the Flexi Pad.

Operation mode	Limits of three-dimensional transformation parameters		
Image movement (Location XYZ)	HD format		–999.9999 to +999.9999
	SD format	4:3	–333.3333 to +333.3333
		16:9	–250.0000 to +250.0000
Image rotation (Rotation) (Spin)	–999.9999 to +999.9999		
Rotation axis movement (Axis Location)	HD format		–999.9999 to +999.9999
	SD format	4:3	–333.3333 to +333.3333
		16:9	–250.0000 to +250.0000
Image shrinking/ magnification (Location Size)	0.0000 to +999.9999		
Changing image aspect ratio (Aspect)	0.0000 to +2.0000		
Changing image perspective (Perspective (X,Y))	HD format		–999.9999 to +999.9999
	SD format	4:3	–333.3333 to +333.3333
		16:9	–250.0000 to +250.0000
Changing image perspective (Perspective (Z))	0.0000 to 999.9999		
Changing image skew (Skew)	–9.9999 to +9.9999		

Detents

The system defines points called detents at regular intervals on the three-dimensional space. Pressing the [CTR] button in the device control block sets the current three-dimensional parameter values to the closest detent points.
The following shows the interval between successive detents for each transformation operation mode *(☞ p. 160)*.

Operation mode	Detent interval
Image movement (Location XYZ)	1.0000
Image rotation (Rotation) (Spin)	0.2500
Rotation axis movement (Axis Location)	1.0000
Image shrinking/magnification (Location Size)	0.2500
Changing image aspect ratio (Aspect)	1.0000a)
Changing image perspective (Perspective (X,Y))	1.0000
Changing image perspective (Perspective (Z))	1.0000a)
Changing image skew (Skew)	0.1000

a) When a value is smaller than 1, 1/Aspect or 1/Perspective (Z) is adjusted to an integral value.

Three-dimensional parameter default values

Each of the transformation operation modes has default values for three-dimensional parameters. If required, you can return the current value to the defaults by pressing the [CTR] button in the device control block twice in rapid succession.
The following shows the default parameter values for each transformation operation mode.

Operation mode	Default value
Image movement (Location XYZ)	0.0000
Image rotation (Rotation) (Spin)	0.0000
Rotation axis movement (Axis Location)	0.0000
Image shrinking/magnification (Location Size)	1.0000
Changing image aspect ratio (Aspect)	1.0000
Changing image perspective (Perspective (X,Y))	0.0000
Changing image perspective (Perspective (Z))	1.0000
Changing image skew (Skew)	0.0000

Resetting of parameter values set in the source coordinate space

In some transformation operation modes, if you switch to the target coordinate space after setting up a three-dimensional transformation in the source coordinate space,

the setting values in the source coordinate space (three-dimensional parameter values) are converted to values in the target coordinate space (source/target conversion). Once a conversion has taken place, the original source coordinate space parameters do not return to their original values when you switch back to the source coordinate space. They are reset to zeros.
Source/target conversion occurs in the following operation modes:

- Image movement (Location XYZ)
- Image rotation (Rotation)

Transformation Operation Modes

The following operation modes are available for three-dimensional DME transformations. These operations are carried out in the device control block *(☞ "Three-Dimensional Transformation Operations" (p. 169))*.

Image movement (Location XYZ)

Moves the image on the X-axis, Y-axis, or Z-axis. The direction of movement differs depending on whether you are manipulating the image in the source coordinate space or the target coordinate space.

Image movement in the source coordinate space

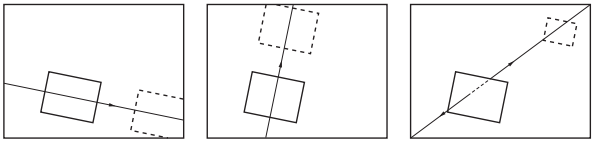


Image movement in the target coordinate space

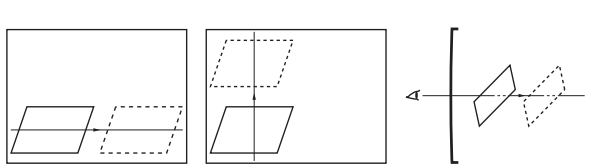


Image rotation (Rotation)

Rotates the image on the X-axis, Y-axis, or Z-axis. The type of rotation differs depending on whether you are manipulating the image in the source coordinate space or the target coordinate space.

Image rotation in the source coordinate space

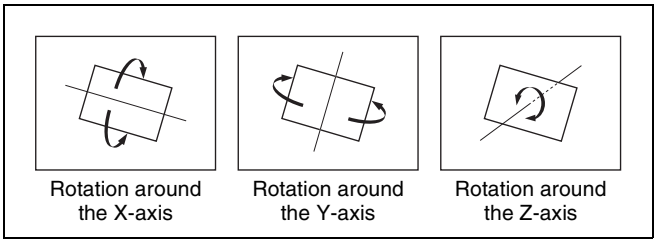


Image rotation in the target coordinate space

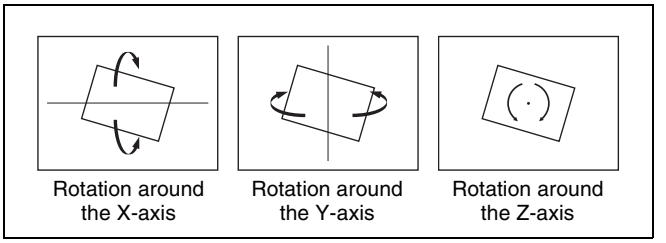


Image rotation (Spin)

When rotating the image in Rotation mode, it may not always be possible to achieve the kind of rotation around an axis that you want. Combining Rotation mode with Spin mode creates an effect that rotates the image around a specified axis. The type of rotation differs depending on whether you are manipulating the image in the source coordinate space or the target coordinate space. The way the image rotates around an axis is the same as in Rotation mode.

Rotation axis movement (Axis Location)

Moves an axis of rotation in the source coordinate space.

Rotation axis movement

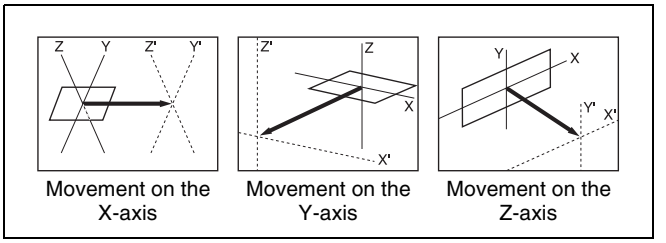
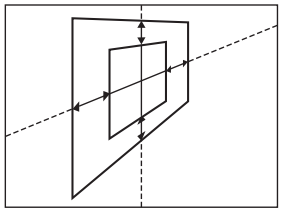


Image shrinking/magnification (Location Size)

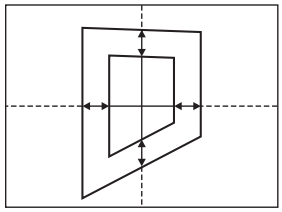
Changes the size of the whole image.

- Because shrinking and magnification of the image in the source coordinate space is done in three-dimensional space, magnifying the image emphasizes the sense of perspective.
- Because shrinking and magnification of the image in the target coordinate space is a conversion of the two-dimensional image displayed on the monitor, shrinking

and magnification does not change the shape of the image.



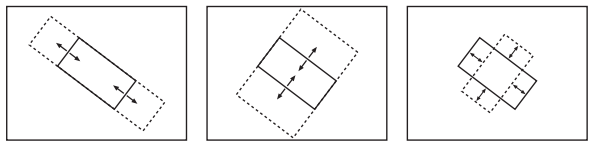
Magnification and shrinking in the source coordinate space



Magnification and shrinking in the target coordinate space

Changing image aspect ratio (Aspect)

In the source coordinate space, this changes the aspect ratio in the X-axis direction and Y-axis direction, either independently or simultaneously.



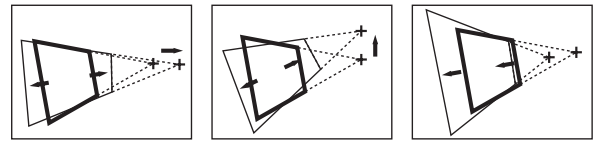
Change of aspect ratio in X-axis direction

Change of aspect ratio in Y-axis direction

Simultaneous change of aspect ratio in X-axis and Y-axis directions

Changing image perspective (Perspective)

In the target coordinate space, this changes the perspective on the image by changing an imaginary viewpoint, without changing the position of the image.
The X-axis and Y-axis values define the position of the viewpoint. The Z-axis value defines its distance from the image.



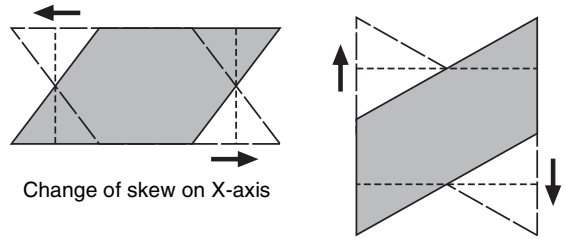
Change of viewpoint on X-axis

Change of viewpoint on Y-axis

Change of distance from viewpoint to image

Changing image skew (Skew)

In the source coordinate space, this changes the skew of the image on the X-axis or Y-axis.



Change of skew on X-axis

Change of skew on Y-axis

Graphics Display

Graphics display is a function that allows you to display wire frames, coordinate axes and a grid over the current DME image, to make it easier to create effects in three-dimensional coordinate space.
Graphics displayed by this function can also be output to the monitor output connector.

To make graphics display settings, use the DME menu *(☞ "Graphics Display Operation" (p. 172))*.
You can display the following kinds of graphics.

Wire frames

A wire frame displays an image enclosed in a frames, so that you can check the position and size of the image. If there is a shadow, a frame is shown for the shadow as well.

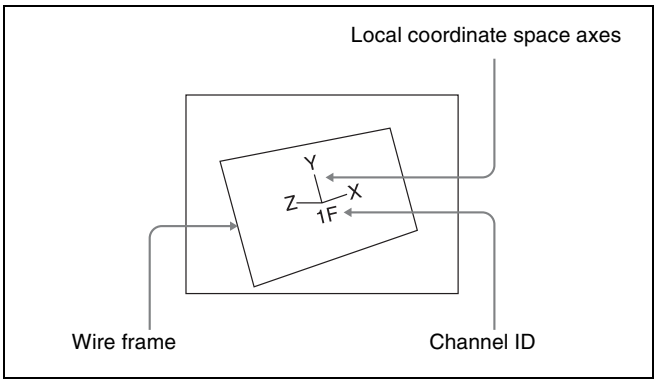
Coordinate axes

This is a three-dimensional display of coordinates in local or global coordinate space.
You can check the origin of the axes and the directions of the X-, Y-, and Z-axes.

Channel ID

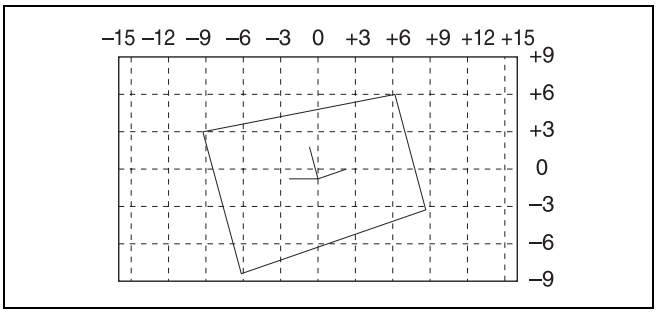
This displays the channel number so that you can check which channel you are using. This is a useful feature when you are working with multiple channels.
Channel IDs are displayed differently in local and global coordinate space.

- In local coordinate space, the channel number is displayed along with "F" or "B" to indicate whether you are looking at the front (F) or back (B) of the current wire frame. For example, "1F" means the front of the wire frame on channel 1 in local coordinate space.
- In global coordinate space, the channel number is displayed along with "G" to indicate global. For example, "G2" means channel 2 in global coordinate space.



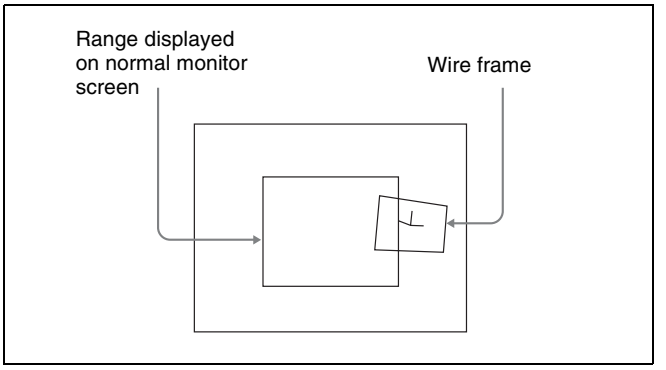
Grid

This is a grid pattern representing the whole of the monitor screen.
The grid makes it easy to set the position of an image in two-dimensional coordinates.



Shrinking the graphics display

You can shrink the graphics display so that you can see beyond the range displayed on the normal monitor screen. This makes it possible to visually set the location of images in a larger space. The range displayed on a normal monitor screen is indicated by a frame.



To automatically erase the graphic display

Turn [Auto Erase] on. The graphic display is erased automatically whenever a keyframe is executed. It is displayed again after the keyframe ends, after the time set in Recover Time.

Flex Shadow center axis

When using the flex shadow function *(☞ p. 178)*, turn on [Flex Shadow Axis] to display the Flex Shadow center axis. This is an effective function for making Flex Shadow settings.

Notes

The Flex Shadow center axis function is not supported by the MKS-6570 and the MVE-8000A.

Three-Dimensional Parameter Display

You can display a three-dimensional parameter list for the currently controlled image.
When more than one DME channel is selected, the status of the reference channel is displayed.

For details about how to display a parameter list and an example display, ☞ "Viewing the three-dimensional parameter details" (p. 171).

Special Effects

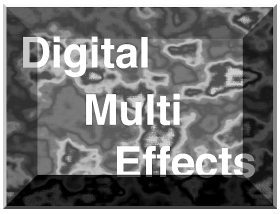
You can use DME to add a variety of special effects.
The following special effects can be applied.

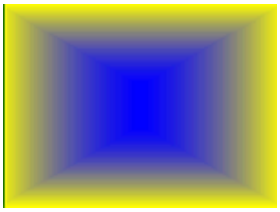
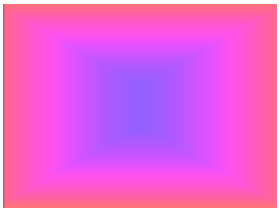
Functions that can be used differ with the models of DME.

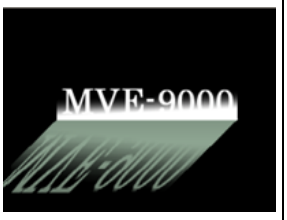
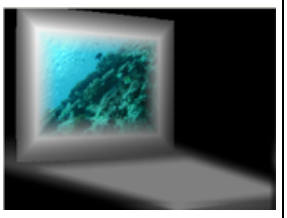
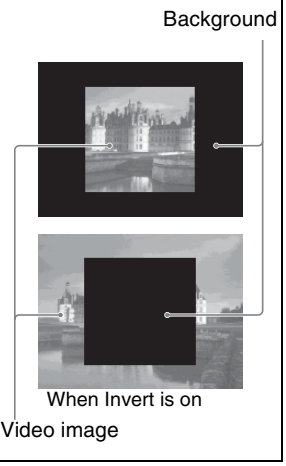
For details, ☞ "Functional Differences with DME Models" (p. 420).

Edge effects

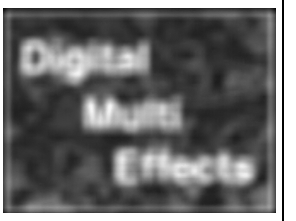
Effect	Description/image
Border *(☞ p. 173)*	Adds a border to the image frame. You can adjust the width (or thickness) of the border, its color, and the softness of the border edges. 
Crop *(☞ p. 174)*	Crops away the edges of the image. You can crop the top, bottom, left, and right sides individually or all together. You can also soften the cropped edges. 

Effect	Description/image
Beveled Edge (☞ p. 174)	Gives an image a beveled edge. You can set the edge width and color. The inner edge softness and edge boundary softness can also be set.  Color  Lights
Key Border (☞ p. 175)	Adds borders to keys or gives a key consisting of an outline only. 

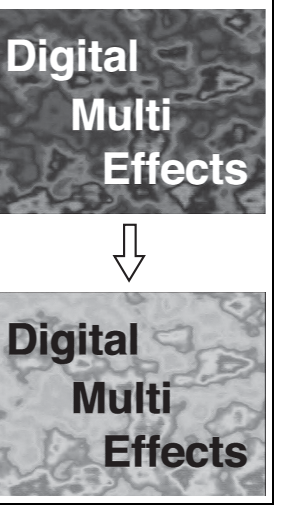
Effect	Description/image
Art Edge (☞ p. 175)	Adds edges to the inner and outer side of the input image. The following items can be set. • Art edge width and position • Separate softening of the art edge inner and outer sides • Color of art edges **Examples of Art Edge source**  Gradation Matte  Rainbow Matte  Radial Gradation  Radial Rainbow **Effect example using [Rainbow Matte] Art Edge source** 

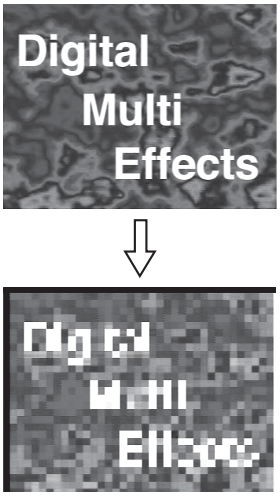
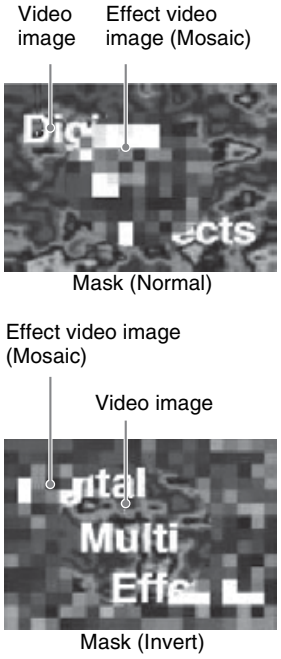
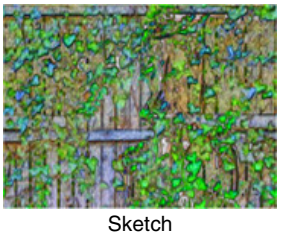
Effect	Description/image
Flex Shadow *(☞ p. 178)* / Drop Shadow *(☞ p. 181)*	Allows a shadow to be added to the image using only one channel. **<Flex Shadow (using MVE-9000)>** Generate shadow using an input key signal or an internally generated, full-size signal. You can adjust the magnification/ shrinking, position, color and density, center axis of deformation, skew, and perspective of the shadow. **<Drop Shadow (using MKS-6570)>** Add a drop shadow to the image. You can adjust the position, color, and density of the shadow, and turn edge softness on/ off.  Flex Shadow Source = External  Flex Shadow Source = Internal
Wipe Crop *(☞ p. 182)*	Crops the video image to be visible inside or outside a wipe pattern. 

Effects for entire image

Effect	Description/image
Defocus *(☞ p. 184)*	Defocuses the whole image. The degree of defocusing can be set simultaneously or separately for video and key signals. (However, when the MKS-6570 is used, the degree of defocusing can be set for video signals only.) 
Blur *(☞ p. 185)*	Applies a rounded blurring to the whole image.
Multi Move *(☞ p. 185)*	Shrinks the image and lines up a number of copies vertically and horizontally. You can specify the center point of the shrinking, the shrinking ratio, and the aspect ratio of the image screen. 

Effects for video images

Effect	Description/image
Sepia *(☞ p. 185)*	Overlays a specified color onto the image. You can adjust the sepia color that is overlaid, and specify the degree of mixing between the original image and the sepia image.
Mono *(☞ p. 185)*	Converts the image into a monochrome image.
Posterization *(☞ p. 186)*	Coarsens the luminance gradations of the image, for a painting-like effect.
Solarization *(☞ p. 186)*	Coarsens the chroma gradations of the image, for a painting-like effect.
Nega *(☞ p. 186)*	Reverses the luminance or chroma of the image. 

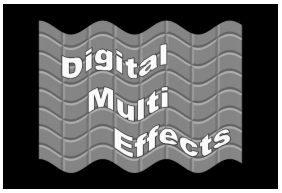
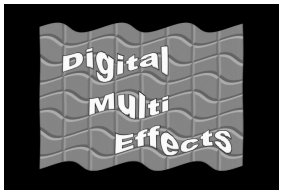
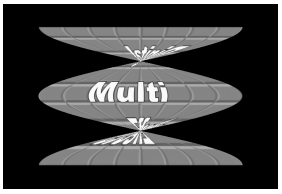
Effect	Description/image
Contrast *(☞ p. 186)*	Changes the contrast of the luminance and chroma of the image.
Mosaic *(☞ p. 186)*	Divides the image into small tiles so that it looks like a mosaic. You can specify the size and aspect ratio of the tiles. 
Mask *(☞ p. 189)*	Masks part of the picture, so that special effects are applied only inside a selected pattern. 
Sketch *(☞ p. 187)*	Provides a sketch-like effect based on the outlines of the image, using different touches such as sketch, edge color, drawing, relief, and sharp.  Sketch
Metal *(☞ p. 188)*	Provides a metallic gloss, similar to that from gold, silver, or a rainbow colored surface. A metallic gloss can also be given to a freely selected color. 

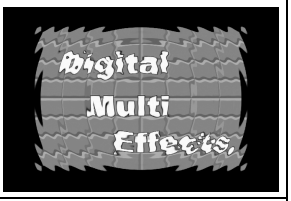
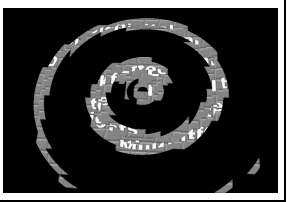
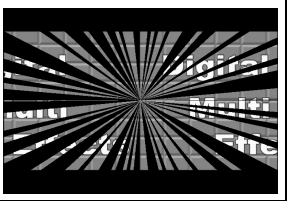
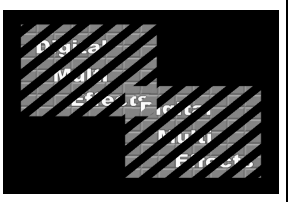
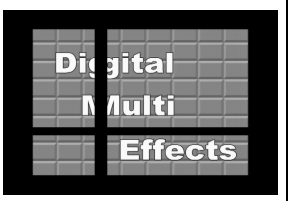
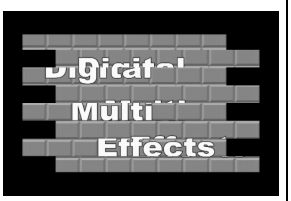
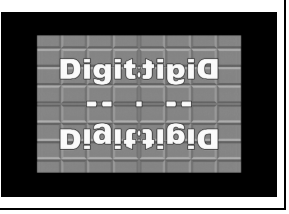
Effect	Description/image
Dim and Fade *(☞ p. 188)*	The Dim effect makes the image darker as it recedes into the distance. The Fade effect makes the image fade into the background as it recedes into the distance.  Fade
Glow *(☞ p. 188)*	Softens the edges of highlights, giving an effect like being struck by a soft light. 

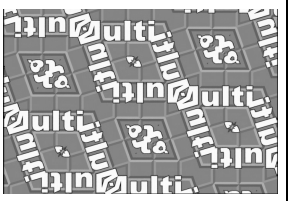
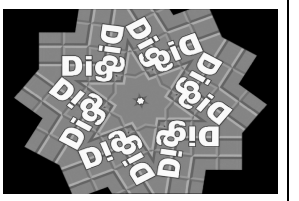
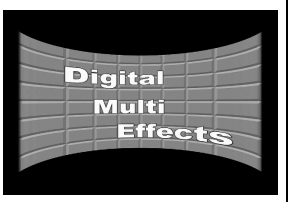
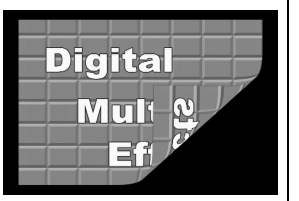
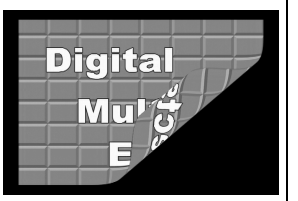
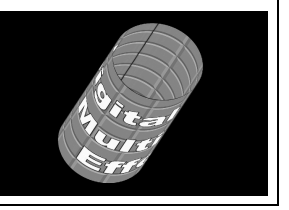
Freeze effects

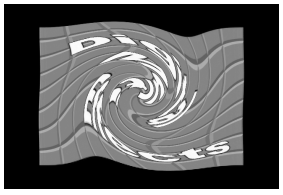
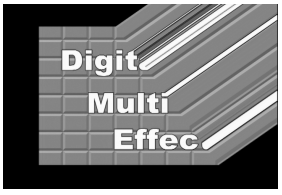
Freezes the input video. The video can also be frozen at a specified interval *(☞ p. 190)*.

Nonlinear effects

Effect	Description/image
Wave *(☞ p. 191)*	Produces a wave-like effect in the image. 
Mosaic Glass *(☞ p. 192)*	Makes the image rougher and finer at a specified interval. 
Flag *(☞ p. 192)*	Applies an effect like a flag waving in the wind. 
Twist *(☞ p. 193)*	Twists the image. 

Effect	Description/image	
Ripple (☞ p. 193)	Applies an effect like ripples moving across the image.	
Rings (☞ p. 195)	Partitions the image into rings that rotate while moving in the same direction.	
Broken Glass (☞ p. 195)	Partitions the image like broken glass, with shards flying outward.	
Flying Bar (☞ p. 195)	Divides the image into bars which peel off in two blocks as they move.	
Blind (☞ p. 196)	Divides the image into bars or wedges, with blocks rotating like the slats of Venetian blinds.	
Split (☞ p. 196)	Splits the image in the vertical and horizontal directions.	
Split Slide (☞ p. 197)	Divides the image into bars which slide alternately in reverse directions.	
Mirror (☞ p. 197)	Partitions the image vertically and horizontally, creating an image like a reflection in a mirror.	

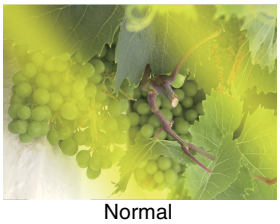
Effect	Description/image	
Multi Mirror (☞ p. 197)	Divides the image into originals and reflections, lining them up vertically and horizontally.	
Kaleidoscope (☞ p. 198)	Creates an image like a view into a kaleidoscope.	
Lens (☞ p. 198)	Creates an image like a view through a lens.	
Circle (☞ p. 199)	Makes a circle with the image.	
Panorama (☞ p. 199)	Curves the upper and lower edges of the image to emphasize the sense of perspective.	
Page Turn (☞ p. 199)	Turns the image like a turning page.	
Roll (☞ p. 200)	Rolls the image up.	
Cylinder (☞ p. 200)	Rolls the whole image onto a cylinder.	

Effect	Description/image
Sphere (☞ p. 200)	Rolls the whole image onto a sphere. 
Explosion (☞ p. 200)	Divides the image into fragments which expand as they fly out. 
Swirl (☞ p. 201)	Swirls the image. 
Melt (☞ p. 201)	Melts the image away from a specified part. 
Character Trail (☞ p. 202)	Extends the edge of the image like a trail. 

Corner Pinning effects

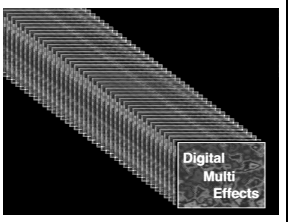
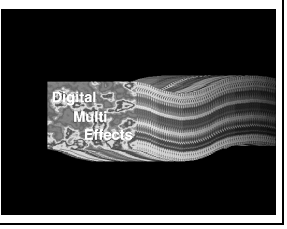
Effect	Description/image
Corner Pinning (☞ p. 218)	Provides the effect of inserting the foreground in the background, allowing the four corners to be positioned freely, so that the image fills the quadrilateral outlined by the corners.  Background  Foreground (in cropped state)  Corner Pinning (when Crop Link is on)

Lighting effects

Effect	Description/image
Lighting (☞ p. 202)	Provides the effect of light striking the image.  Normal  Specular  Mat

Effect	Description/image
Spotlighting *(☞ p. 208)*	Creates the effect of a spotlight striking the surface of the image.

Recursive effects

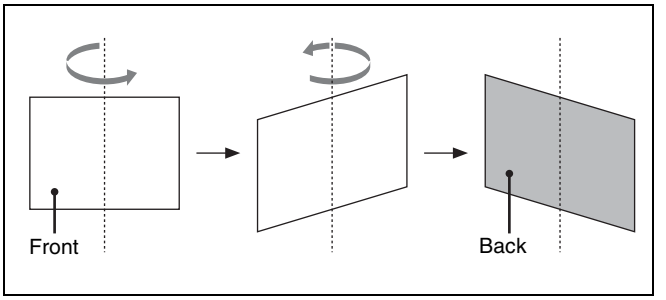
Effect	Description/image
Trail *(☞ p. 204)*	Recursively freezes the input video at regular intervals so that a trail of afterimages is created. You can make the afterimages stardust trails. 
Motion Decay *(☞ p. 206)*	Blurs the motion of a moving video by creating afterimages of the moving video. You can make the afterimages stardust trails. 
Keyframe Strobe *(☞ p. 206)*	Freezes the video each time the effect passes a keyframe. You can make the afterimages stardust trails.
Wind *(☞ p. 207)*	Strobes the image at regular intervals, and moves the frozen image in a fixed direction, leaving an afterimage. 

Background color

Adds a color or inputs an external signal to the background of the image *(☞ p. 215)*.

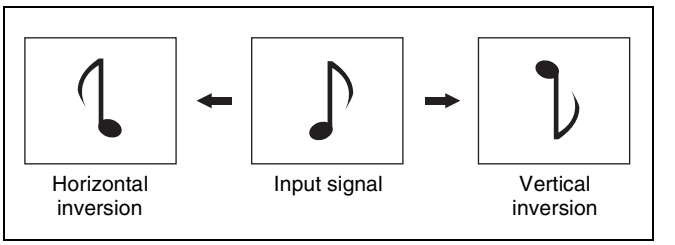
Separate sides (effects for front and back sides)

Applies separate video signals and key signals to the front and back of the image *(☞ p. 215)*.



Signal inversion (Invert effect)

Inverts the input video signal and/or key signal horizontally or vertically. You can make separate settings for the front and back *(☞ p. 216)*.



Key density adjustment

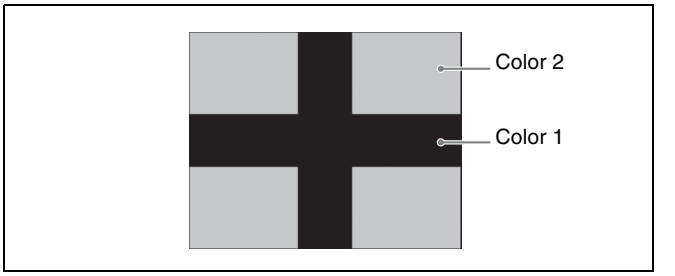
Adjusts the key density for the key signal input to the DME *(☞ p. 217)*.

Key source selection

Selects either the key signals received from the switcher or the key signals generated in the DME for application to the front and back *(☞ p. 168)* of the image *(☞ p. 217)*.

Color mix setting

This is a combination of two colors with a pattern generator. This color mix signal can be used to fill parts such as a background or border *(☞ p. 183)*.



Global Effects

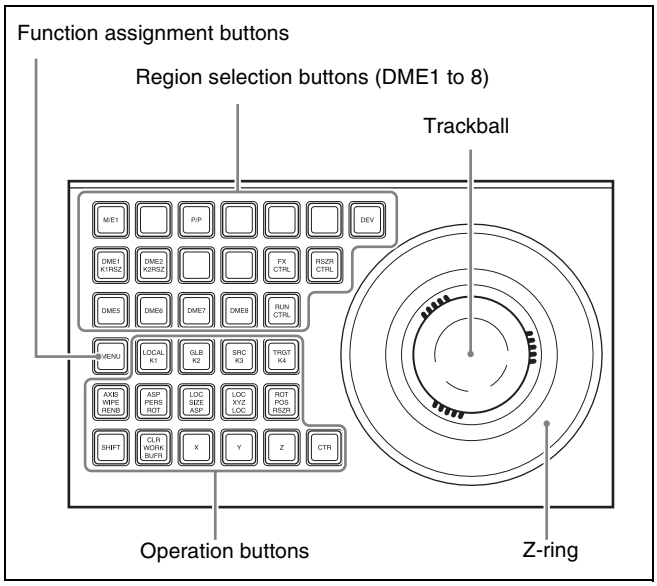
Global effects are special effects created by combining the images of successive channels. The following types of global effects are available.

- Combiner
- Brick
- Shadow

Three-Dimensional Transformation Operations

Use the device control block to carry out three-dimensional DME transformations.

Basic Operations



Device control block

Buttons used when the three-dimensional transform operation mode is enabled

LOCAL: Enable operations in the local coordinate space.

GLB (global): Enable operations in the global coordinate space.
The [LOCAL] and [GLB] buttons can be selected at the same time.

SRC (source): Enable operations in the DME source coordinate space.

TRGT (target): Enable operations in the DME target coordinate space.
The [SRC] and [TRGT] buttons cannot be selected at the same time. When these buttons are held down, trackball and Z-ring operation is switched to a finer control (fine mode).

AXIS: When this button is lit, the trackball moves the rotational axis of the image in the X-axis and Y-axis directions, and the Z-ring moves the axis in the Z-axis direction.

ASP PERS (aspect/perspective): When the [SRC] button is lit, pressing this button enables the trackball to control the X-axis and Y-axis directions independently, and the Z-ring controls the X-axis and Y-axis directions together, to vary the aspect ratio.
When the [SHIFT] button is held down and this button is pressed, the trackball controls the skew of the image in the X-axis and Y-axis directions.
When the [TRGT] button is lit, pressing this button enables the trackball to control the perspective of the image in the X-axis and Y-axis directions. The Z-ring controls the distance to the viewpoint.

LOC (location) SIZE: When this button is lit, the Z-ring controls the image size. The trackball moves the image in the X-axis and Y-axis directions.

LOC (location) XYZ: When this button is lit, the trackball moves the image in the X-axis and Y-axis directions, and the Z-ring moves the image in the Z-axis direction.

SHIFT: While holding down this button, pressing the [ASP PERS] button or [ROT] button switches to the shifted version of the corresponding function.

CLR WORK BUFR (clear work buffer): Press this button once to clear only the three-dimensional transform parameters of the information held in the work buffer. Press twice in rapid succession to clear all of the parameters, and return to the default state.

ROT (rotation): When this button is lit, the trackball rotates the image about the X- and Y-axes, and the Z-ring rotates the image about the Z-axis.
Pressing this while holding down the [SHIFT] button enables rotation of the image in the "Spin" mode. The trackball and Z-ring operate in the same manner.

X, Y, Z: These restrict which axes that the trackball and Z-ring can control. You can select more than one axis. When one of these buttons is selected, you can enter the parameter value for the corresponding axis using the Flexi Pad.

CTR (center): Pressing this button changes the values of the three-dimensional parameters currently controlled by the trackball and Z-ring to the closest detent values. Pressing twice in rapid succession returns the parameter values to their defaults.

Transforming an image in three-dimensional coordinate space

1 With the region selection buttons, select the target channel of the operation.

You can press several of the buttons simultaneously to select several channels.
In this case, the button that you pressed first lights in green, while buttons pressed subsequently light in amber.

2 With the following operation buttons, select the three-dimensional coordinate space in which to perform the transformation.

LOCAL button: Selects local coordinate space.

GLB button: Selects global coordinate space. You can select this button and the [LOCAL] button simultaneously.
SRC button: Selects the source coordinate space.
TRGT button: Selects the target coordinate space.
The [SRC] and [TRGT] buttons cannot be selected at the same time.

3 Press the button for the operation you want to do, turning it on, to select the transformation mode *(☞ p. 160)*.

The trackball and Z-ring are assigned to the selected three-dimensional coordinate space transformation mode.

To move the image: Press the [LOC XYZ] button, turning it on.
You can move the image on the X- and Y-axes with the trackball and move it on the Z-axis with the Z-ring. Pressing the [LOC SIZE] button, turning it on, also makes it possible to move the image on the X- and Y-axes.

To rotate the image: Press the [ROT] button, turning it on.
You can rotate the image on the X- and Y-axes with the trackball and rotate it on the Z-axis with the Z-ring.
To rotate the image in Spin mode, press the [ROT] button, turning it on, while holding down the [SHIFT] button. You can operate in the same way with the trackball and Z-ring.

To move an axis of rotation: With the [SRC] button selected in step **2**, press the [AXIS LOC] button, turning it on.
You can move the axis of rotation of the image on the X- and Y-axes of the image with the trackball, and on the Z-axis with the Z-ring.

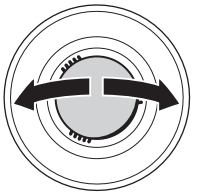
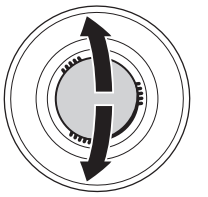
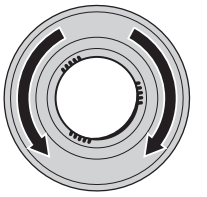
To magnify or shrink the image: Press the [LOC SIZE] button, turning it on.
You can magnify and shrink the image with the Z-ring. Rotate counterclockwise to shrink, and clockwise to magnify.

To change the aspect ratio of the image: With the [SRC] button selected in step **2**, press the [ASP PERS] button, turning it on.
You can change the aspect ratio independently on the X- and Y-axes with the trackball, and change it simultaneously on both the X- and Y-axes with the Z-ring.

To change the perspective on the image: With the [TRGT] button selected in step **2**, press the [ASP PERS] button, turning it on.
You can change the perspective of the image on the X- and Y-axes with the trackball, and change the distance to the view point with the Z-ring.

To change the skew of the image: With the [SRC] button selected in step **2**, press the [ASP PERS] button, turning it on, while holding down the [SHIFT] button.
You can change the skew of the image along the X- and Y-axes with the trackball.

4 Depending on the intended operation, operate the trackball and Z-ring as follows.

Operation	Rotation direction
To change on the X-axis, rotate the trackball horizontally. Parameter values increase as you rotate to the right, and decrease as you rotate to the left.	
To change on the Y-axis, rotate the trackball vertically. Parameter values increase as you rotate upward, and decrease as you rotate downward.	
To change on the Z-axis, rotate the Z-ring. Parameter values increase as you rotate clockwise, and decrease as you rotate counterclockwise. However, when you have pressed the [LOC XYZ] button to move the image, Z-axis parameters increase as you rotate counterclockwise, and decrease as you rotate clockwise.	

To reduce the rate of change of the parameters (fine mode)
Carry out the trackball or Z-ring operations while holding down the [SRC] or [TRGT] button.

5 To restrict the change in the transformation to a specific axis, press the [X], [Y], or [Z] button, tuning it on.

This enables the trackball and Z-ring operations on the selected axes only.

Functions assignable to trackball and Z-ring operations

Button	Usable coordinate space	Trackball X-direction	Trackball Y-direction	Z-ring
LOC XYZ	Source, target	Move image on X-axis	Move image on Y-axis	Move image on Z-axis
ROT	Source, target	Rotate image on Y-axis	Rotate image on X-axis	Rotate image on Z-axis

Functions assignable to trackball and Z-ring operations

Button	Usable coordinate space	Trackball X-direction	Trackball Y-direction	Z-ring
SHIFT + ROT	Source, target	Rotate image on Y-axis (Spin mode)	Rotate image on X-axis (Spin mode)	Rotate image on Z-axis (Spin mode)
AXIS	Source	Move X-axis of rotation	Move Y-axis of rotation	Move Z-axis of rotation
LOC SIZE	Source, target	Move image on X-axis	Move image on Y-axis	Shrink and magnify image
ASP PERS	Source	Change aspect ratio on X-axis	Change aspect ratio on Y-axis	Change aspect ratio on X- and Y-axes simultaneously
	Target	Shift viewpoint on X-axis	Shift viewpoint on Y-axis	Change distance from viewpoint to image
SHIFT + ASP PERS	Source	Change skew on X-axis	Change skew on Y-axis	Change aspect ratio on X- and Y-axes simultaneously

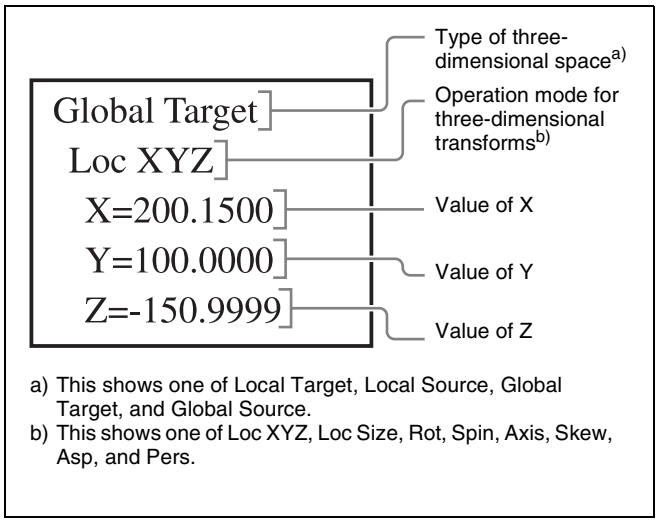
Three-Dimensional Parameter Display

You can check the values of the three-dimensional parameters in the DME menu.

Displaying the three-dimensional parameters in the DME menu

In the menu panel, select the [DME] top menu selection button.
The DME menu appears. The status area shows the three-dimensional parameters currently controlled by the device control block.

- When multiple DME channels are selected, this shows the parameters for the reference channel.
- When both “Global” and “Local” are selected, the three-dimensional parameters are shown for the channel (or reference channel) for which the button is lit green.



a) This shows one of Local Target, Local Source, Global Target, and Global Source.
b) This shows one of Loc XYZ, Loc Size, Rot, Spin, Axis, Skew, Asp, and Pers.

Example three-dimensional parameter display (DME menu)

Viewing the three-dimensional parameter details

In the DME menu, press the menu title button (the [DME] in the upper left part of the screen).
The Status menu appears. This menu shows the three-dimensional parameters for the DME reference channel currently selected in the device control block.

Example three-dimensional parameter details

Entering Three-Dimensional Parameter Values

In addition to setting three-dimensional parameter values with the trackball and Z-ring, you can enter them directly from the Flexi Pad.

Entering three-dimensional parameter values

1 In the device control block, press the [X], [Y], or [Z] button, turning it on.

The Flexi Pad enters a mode in which you can enter parameters for the selected axis.

2 Enter a parameter value with the numeric keypad in the memory recall section.

The number of significant digits after a decimal point is 4.

3 Press the [ENTR] button.

To enter a difference from the current value

You can enter difference values by pressing the [+/–] button, entering the difference from the current value, and pressing the [TRIM] button to confirm. The [+/–] button toggles between "+" (plus) and "–" (minus) each time it is pressed.

Resetting three-dimensional parameter values

Pressing the [CTR] button in the device control block sets the current three-dimensional parameter values to the closest detent points *(☞ p. 159)*.
To reset three-dimensional parameter values to the defaults *(☞ p. 159)* for the current transformation operation mode, press the [CTR] button twice in rapid succession.

Clearing the working buffer

The working buffer is memory that holds the instantaneous state of an effect. To clear (initialize) only the three-dimensional transform parameters in the working buffer, press the [CLR WORK BUFR] button in the device control block.
To clear all of the parameters in the working buffer and initialize the DME system, press the [CLR WORK BUFR] button twice in rapid succession.
It is necessary to do this for both the local coordinate space and global coordinate space.
As the initial DME state, you can specify whether to use the factory default settings or user settings in the Setup menu.

For details, ☞ "Selecting the State After Power-on" (p. 315).

Graphics Display Operation

Use the DME menu to make graphics display settings. You can make separate settings for separate channels. To select a target DME channel, use the device control block.

For details about graphic types, ☞ "Graphics Display" (p. 161).

Displaying graphics

1 Open the DME >Input/Output >Graphic menu (4164).

2 Turn on [Graphic].

The system enters graphics display mode, enabling graphics to be displayed in the monitor screen.

3 Turn on the buttons of the graphics you want to show.

To show axes: Turn [Axis] on.
To show axis names: Turn [Axis Name] on.
To show the channel ID: Turn [Ch ID] on.
To show a wire frame: Turn [Wire Frame] on.
To display a grid: Turn [Grid] on.
To show the flex shadow axis: Turn [Flex Shadow Axis] on.

The selected graphics appear in the monitor screen.

Notes

The Flex Shadow center axis function is not supported by the MKS-6570 and the MVE-8000A.

4 If you want to shrink the graphics display to show the range not displayed on a normal monitor, turn [Scale] on and set the following parameters.

No.	Parameter	Adjustment
1	Scale	Degree to which the graphics display is shrunk

As the value of the setting grows, the monitor shrinks further toward the center point.

5 To automatically erase the graphic display while the keyframes are executing, press [Auto Erase], turning it on, and then set the following parameter.

No.	Parameter	Adjustment
1	Recover Time	Time until graphic display appears again after keyframe execution

Outputting graphics to the monitor output connector

In the Graphic menu (4164), press [Monitor Out] to turn it on.
Graphics are displayed on the device connected to the monitor output connector.

Notes

It is necessary to assign the monitor output signals of the MKS-6570 to the processor output connectors in advance.

For details, ☞ "Assigning Output Signals" (p. 351).

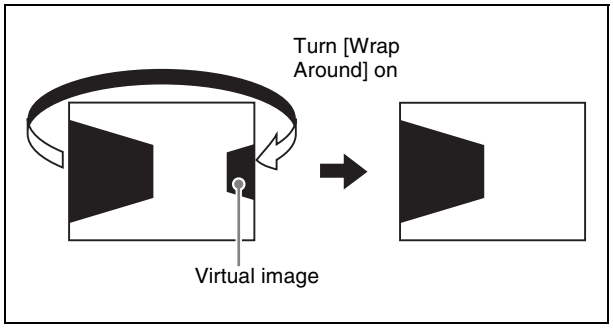
Canceling Virtual Images

When a transformation is executed with an extreme degree of perspective, the part of the image which is beyond the imaginary view point can wrap around and show on the other side. The wrapped-around portion is referred to as a "virtual image."
Using the DME menu, you can make a setting to not show the virtual images.

Canceling virtual images

1 Open the DME >Input/Output >Video/Key menu (4162).

2 Press [Wrap Around], turning it on.



Applying Special Effects (Operations Common to Special Effects)

In this section, explanations of the operating procedures for individual special effects begin with selections from the DME menu.
The following are common operations that you must do prior to selecting from the DME menu.

1 In the device control block, select the target DME channel.

2 In the menu panel, select the [DME] top menu selection button.

The DME menu appears.

Applying Special Effects (Edge Effects)

Border Settings

Adding a border

1 Open the DME >Edge >Border/Crop menu (4111).

2 Press [Border], turning it on.

3 Set the following parameters.

Parameter group [1/2]

No.	Parameter	Adjustment
1	H	Simultaneously adjust width of left and right borders
2	V	Simultaneously adjust width of top and bottom borders
3	All	Simultaneously adjust width of all four borders
5	Density	Border density

Parameter group [2/2]

No.	Parameter	Adjustment
1	Top	Border width on top side
2	Left	Border width on left side
3	Right	Border width on right side
4	Bottom	Border width on bottom side
5	Density	Border density

Setting the border color

The operation differs depending on whether the MKS-6570 or MVE- 8000A is used, or whether the MVE-9000 is used.

When the MKS-6570 or MVE-8000A is used

In the Border/Crop menu (4111), press [Border Color], turning it on, and set the following parameters.

No.	Parameter	Adjustment
1	Luminance	Luminance
2	Saturation	Saturation
3	Hue	Hue

When the MVE-9000 is used

In the <Border Fill> group of the Border/Crop menu (4111), select the signal to insert in the border.

Flat Color: Single color

Mix Color: Mix color signal set in the Color Mix menu *(☞ p. 183)*

Ext Video: An external video signal input to the Ext IN connector

If Flat Color is selected, adjust the following parameters.

No.	Parameter	Adjustment
1	Luminance	Luminance
2	Saturation	Saturation
3	Hue	Hue

Softening the border edges

In the Border/Crop menu (4111), press [Border Soft], turning it on, and set the following parameter.

No.	Parameter	Adjustment
1	Soft	Border inner softness

Crop Settings

Cropping the image

1 Open the DME >Edge >Border/Crop menu (4111).

2 Press [Crop], turning it on.

3 Set the following parameters.

Parameter group [1/2]

No.	Parameter	Adjustment
1	H	Crop positions on left and right sides
2	V	Crop positions on top and bottom sides
3	All	Crop positions on all sides

Parameter group [2/2]

No.	Parameter	Adjustment
1	Top	Crop position on top side
2	Left	Crop position on left side
3	Right	Crop position on right side
4	Bottom	Crop position on bottom side

Signs of numeric settings

For H, V, and All settings, the sign (+/–) of the setting need not be considered. For example, in the case of an H setting, the value for Left is automatically regarded as a negative value, and the value for Right as a positive value, to display the image. The following is an example of these settings.

Parameter	Entered value	Setting
H	1.5	Left = –1.50
		Right = 1.50
	–1.5	Left = –1.50
		Right = 1.50

4 To soften the edges of the image, press [Edge Soft], turning it on, and set the following parameter.

No.	Parameter	Adjustment
1	Soft	Edge softness

Notes

Edges cannot be softened when the Crop effect is disabled.

To specify whether to invert the crop area when inverting the video image

In the <Invert/Crop Process> group, select either of the following.

Crop –> Invert: Set an axis of symmetry at the center of the input video, and invert both the desired area of video and the crop area horizontally and vertically around that axis of symmetry. The order of effect application is Crop > Invert.

Invert –> Crop: Set an axis of symmetry at the center of the input video, and invert only the desired area of video horizontally and vertically around that axis of symmetry. The order of effect application is Invert > Crop.

Beveled Edge Settings

Applying a beveled edge

1 Open the DME >Edge >Beveled Edge menu (4112).

2 Press [Beveled Edge], turning it on.

3 Set the following parameters.

No.	Parameter	Adjustment
1	H	Simultaneously adjust width of left and right edges
2	V	Simultaneously adjust width of top and bottom edges
3	All	Simultaneously adjust width of all four edges

4 In the <Edge Mode> group, select the type of edge.

Light: Effect of light striking the edge

No.	Parameter	Adjustment
1	Top	Adjust luminance of top edge
2	Left	Adjust luminance of left edge
3	Right	Adjust luminance of right edge
4	Bottom	Adjust luminance of bottom edge
5	All	Simultaneously adjust luminance of all four edges

Color: Colored edges. When this is selected, set the following parameters in the <Color Adjust> group.

- To set the density

No.	Parameter	Adjustment
1	Density	Adjust the color density

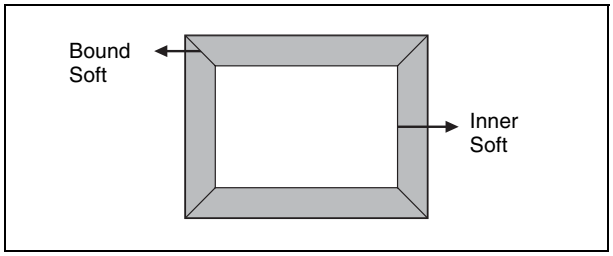
- To set the colors for each edge (Top, Left, Right, Bottom, All)

No.	Parameter	Adjustment
1	Luminance	Luminance[a)]
2	Saturation	Saturation[a)]
3	Hue	Hue[a)]

a) For the All adjustment, the value for Left is shown.

5 To soften the inside of the edges and the boundaries between adjacent edges, turn on [Edge Soft], and adjust the following parameters.

No.	Parameter	Adjustment
1	Inner Soft	Softness of the inside of edges
2	Bound Soft	Softness of the edge boundaries



Key Border Settings

Notes

The key border function is not supported by the MKS-6570 or MVE-8000A.

Applying key borders

1 Open the DME >Edge >Key Border menu (4113).

2 Press [Key Border], turning it on.

Notes

The key border function and Glow function *(☞ p. 188)* cannot be turned on at the same time. Only the one most recently turned on is effective.

3 Set the following parameters.

No.	Parameter	Adjustment
1	H	Simultaneously adjust width of left and right key borders
2	V	Simultaneously adjust width of top and bottom key borders
3	All	Simultaneously adjust width of all four key borders
4	Soft	Softness of the key borders
5	Density	Density of the key borders

4 To set the key border color, press [Flat Color] and adjust the following parameters.

No.	Parameter	Adjustment
1	Luminance	Luminance
2	Saturation	Saturation
3	Hue	Hue

To select an outline only key

Press [Outline], turning it on.

Art Edge Settings

Notes

The art edge function is not supported by the MKS-6570 or MVE-8000A.

Applying art edges

1 Open the DME >Edge >Art Edge menu (4114).

2 Press [Art Edge], turning it on.

Notes

The Defocus, Blur, Key Border, and Glow effects cannot be applied to the Art Edge sections.

3 Set the following parameters.

Parameter group [1/2]

No.	Parameter	Adjustment
1	H	Simultaneously adjust width of left and right edges
2	V	Simultaneously adjust width of top and bottom edges
3	All	Simultaneously adjust width of all four edges
5	Density	Density of edges

Parameter group [2/2]

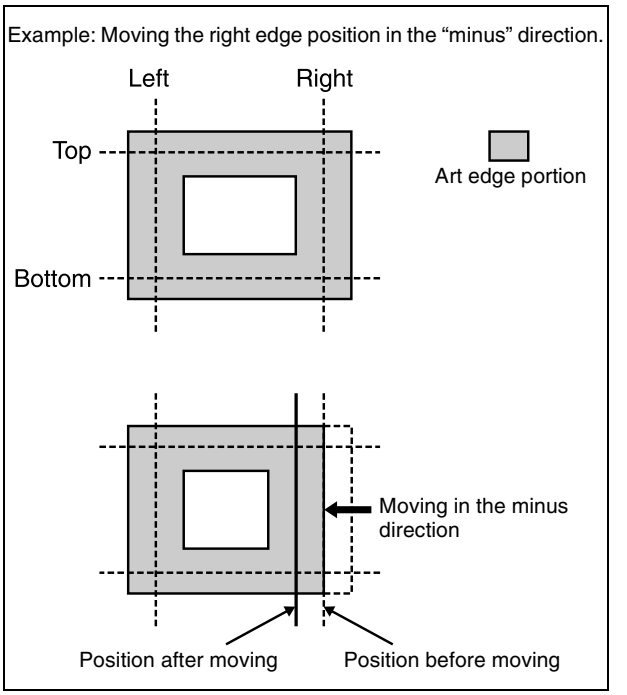
No.	Parameter	Adjustment
1	Top	Width of top edge
2	Left	Width of left edge
3	Right	Width of right edge
4	Bottom	Width of bottom edge
5	Density	Density of edges

Adjusting the position of art edges

1 In the Art Edge menu (4114), press [Edge Position], turning it on.

2 Adjust the following parameters.

No.	Parameter	Adjustment
1	Top	Position of top edge
2	Left	Position of left edge
3	Right	Position of right edge
4	Bottom	Position of bottom edge
5	All	Adjust the position of all four edges



Softening the inner and outer sides of art edges

1 In the Art Edge menu (4114), press [Soft], turning it on.

2 Adjust the following parameters.

No.	Parameter	Adjustment
1	Inner H	Simultaneously adjust softness of left and right inner edges
2	Inner V	Simultaneously adjust softness of top and bottom inner edges
3	Outer H	Simultaneously adjust softness of left and right outer edges
4	Outer V	Simultaneously adjust softness of top and bottom outer edges
5	All	Simultaneously adjust softness of all inner and outer edges.

Setting the way in which art edge colors change

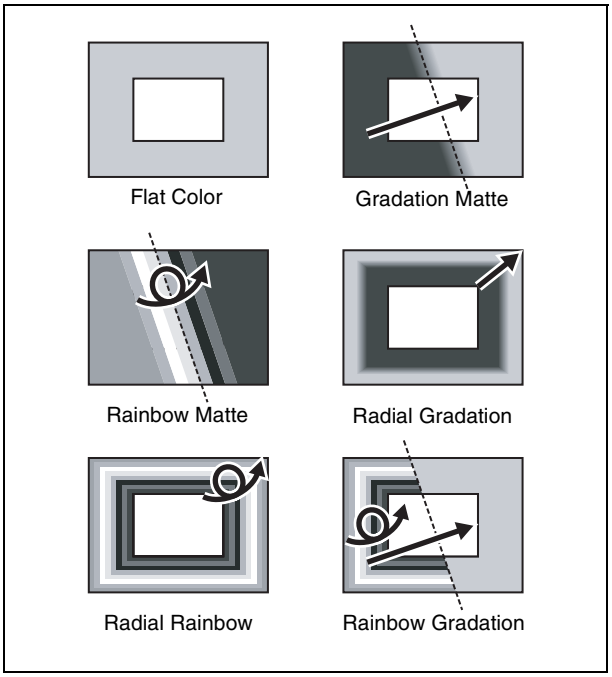
1 In the <Art Edge Source> group of the Art Edge menu (4114), select the color pattern to apply to the art edges.

Flat Color: Uses Color 1 *(☞ p. 177)* as a single color.
Gradation Matte: Color 1 changes to Color 2 *(☞ p. 178)* at the border lines (see step **2**).
Rainbow Matte: The hue on the border lines gradually changes as the color set as Color 1 changes to Color 2.

Radial Gradation: Color 1 on the inner side is mixed into Color 2 on the outer side, according to the shape of the art edge.

Radial Rainbow: The hue of Color 1 on the inner side changes into Color 2 on the outer side, according to the shape of the art edge.

Rainbow Gradation: Color 3 (☞ p. 178) overwrites Radial Rainbow, giving a gradation effect.



2 When you make a selection other than [Flat Color], set the gradation border lines for the selected pattern.

Border line parameters for Gradation Matte and Rainbow Matte

No.	Parameter	Adjustment
1	H	Position of gradation border in horizontal direction
2	V	Position of gradation border in vertical direction
3	Soft	Softness of gradation border region

Parameters for Radial Gradation and Radial Rainbow

No.	Parameter	Adjustment
3	Soft	Softness of gradation border region

Parameters for Rainbow Gradation

No.	Parameter	Adjustment
1	H	Position of gradation border in horizontal direction
2	V	Position of gradation border in vertical direction
3	RBW Soft	Softness of rainbow border region
4	GRD Soft	Softness of gradation border region

3 When [Gradation Matte] or [Rainbow Matte] is selected, set modifiers as required.

When turning [Angle] on in the <Rotation> group and slanting the pattern

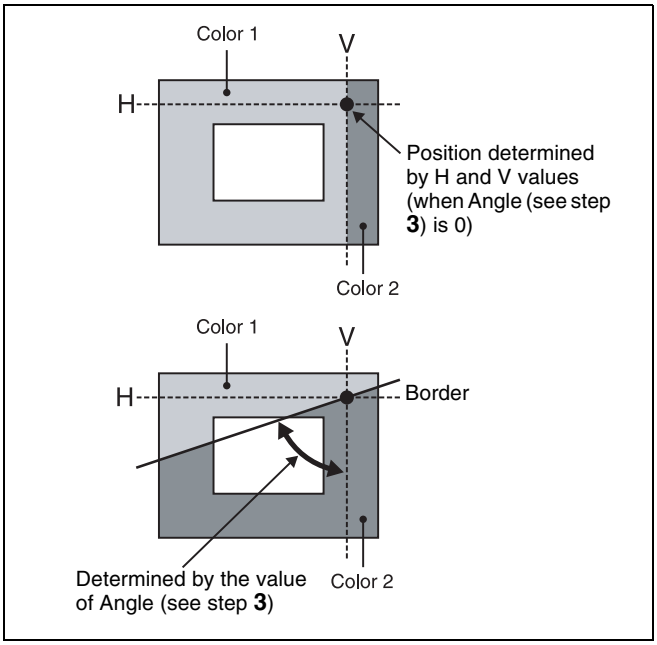
No.	Parameter	Adjustment
1	Angle	Angle of pattern rotation[a)]

a) ☞ p. 104.

When turning [Speed] on in the <Rotation> group and rotating the pattern at a constant rate

No.	Parameter	Adjustment
1	Speed	Rotation rate of pattern[a)]

a) ☞ p. 104.



Setting art edge colors

1 In the <Color Adjust> group of the Art Edge menu (4114), turn on the button (Color 1 to Color 3) for the color for which you want to make settings.

2 Adjust the following parameters.

Color 1 settings

No.	Parameter	Adjustment
1	Luminance	Luminance
2	Saturation	Saturation

No.	Parameter	Adjustment
3	Hue	Hue

Color 2 settings

Notes

Color 2 cannot be set when [Flat Color] is selected in the <Art Edge Source> group.

No.	Parameter	Adjustment
1	Luminance	Luminance
2	Saturation	Saturation
3	Hue Offset	Hue range

Color 3 settings

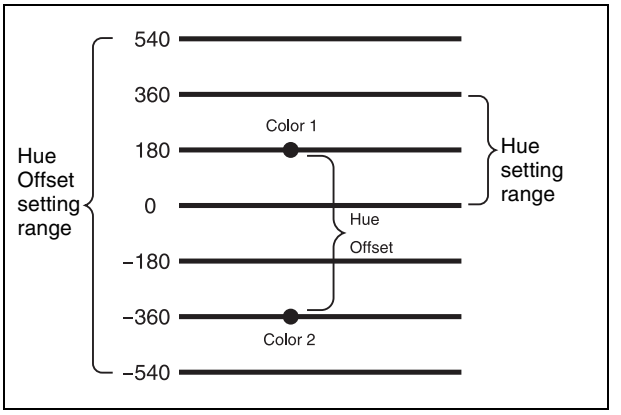
Notes

Color 3 can be set only when [Rainbow Gradation] is selected in the <Art Edge Source> group.

No.	Parameter	Adjustment
1	Luminance	Luminance
2	Saturation	Saturation
3	Hue Offset	Hue range

Relation between Hue and Hue Offset

For example, when the Hue value of Color 1 is 180.00, and the Hue Offset value of Color 2 is –540.00, the relation is as shown below, with the hue changing within the Hue Offset range of Color 1 and Color 2.



Rounding art edge corners

In the Art Edge menu (4114), press [Round Corner], turning it on.

The art edge corners on the inner and outer sides are rounded.

Notes

This function is available only when [Soft] is on.

Flex Shadow Settings

Notes

- The flex shadow function is not supported by the MKS-6570 or MVE-8000A.
- [Mix Color] or [Ext Video] can only be applied to one of the background *(☞ p. 215)*, flex shadow, trail *(☞ p. 204)*, and wind *(☞ p. 207)* effects. If you select [Mix Color] or [Ext Video] in one of these effects, a selection of [Mix Color] or [Ext Video] in any of the other effects is disabled, and [Flat Color] is selected in its place.
- When executing combining of four channels, [Mix Color] and [Ext Video] in the flex shadow and background effects cannot be selected.

Applying a flex shadow

1 Open the DME >Edge >Flex/Drop Shadow menu (4115).

2 Press [Flex Shadow], turning it on.

Notes

The flex shadow function cannot be enabled when the following functions are enabled.

- Any nonlinear effect
- Brick and Shadow global effects

3 Adjust the following parameters.

No.	Parameter	Adjustment
1	H	Move shadow horizontally
2	V	Move shadow vertically
3	Size All	Enlarge or shrink horizontally and vertically
4	Soft[a)]	Softness of shadow
5	Density	Density of shadow

a) The Soft parameter is valid only when [Internal] is selected in the <Flex Shadow Source> group.

4 In the <Flex Shadow Source> group, select the signal to use for the flex shadow.

External: Generate the shadow using an input key signal.

Internal: Generate the shadow using a full-size key signal.

5 In the <Flex Shadow Fill> group, select the signal to insert in the flex shadow.

Flat Color: Single color

Mix Color: Mix color signal set in the Color Mix menu *(☞ p. 183)*

Ext Video: An external video signal input to the Ext IN connector

6 If [Flat Color] is selected in step **5**, adjust the following parameters.

No.	Parameter	Adjustment
1	Luminance	Luminance
2	Saturation	Saturation
3	Hue	Hue

Adjusting the size of the flex shadow

1 In the Flex/Drop Shadow menu (4115), press [Size], turning it on.

2 Set the following parameters.

No.	Parameter	Adjustment
1	Size H	Enlarge or shrink horizontally
2	Size V	Enlarge or shrink vertically
3	Size All	Enlarge or shrink horizontally and vertically
4	Soft[a)]	Softness of shadow
5	Density	Density of shadow

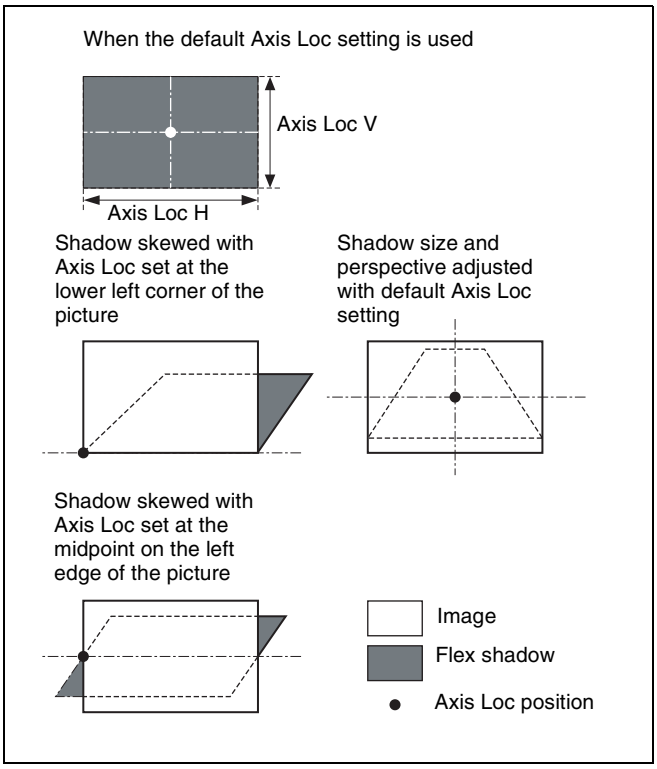
a) The Soft parameter is valid only when [Internal] is selected in the <Flex Shadow Source> group.

Setting the center point of the flex shadow

1 In the Flex/Drop Shadow menu (4115), press [Axis Loc], turning it on.

2 Adjust the following parameters.

No.	Parameter	Adjustment
1	Axis Loc H	Move the shadow center axis horizontally
2	Axis Loc V	Move the shadow center axis vertically



The flex shadow central axis appears when the [Flex Shadow Axis] function is enabled in the Graphic menu.

For details, ☞ "Displaying graphics" (p. 172).

Skewing the flex shadow

1 In the Flex/Drop Shadow menu (4115), press [Skew], turning it on.

2 Adjust the following parameters.

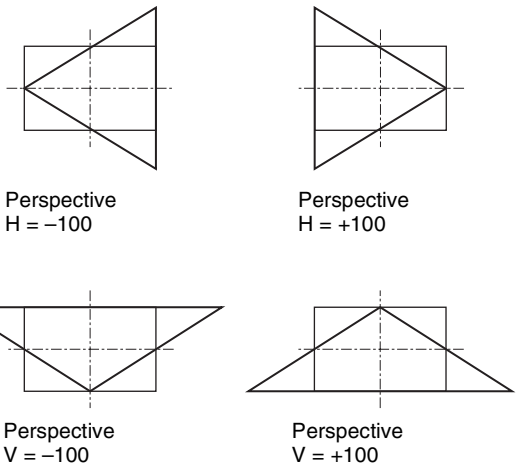
No.	Parameter	Adjustment
1	Skew H	Skew horizontally
2	Skew V	Skew vertically

Adding perspective to the flex shadow

1 In the Flex/Drop Shadow menu (4115), press [Perspective], turning it on.

2 Adjust the following parameters.

No.	Parameter	Adjustment
1	Perspective H	Add horizontal perspective
2	Perspective V	Add vertical perspective

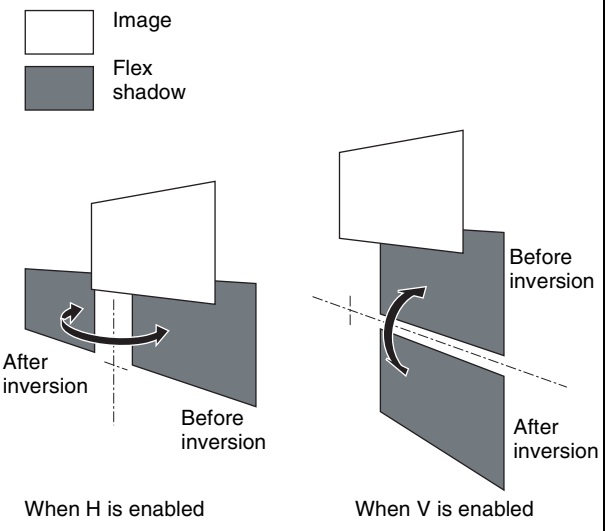


Inverting the flex shadow

In the <Invert> group of the Flex/Drop Shadow menu (4115), select the direction to invert the shadow.

H: Invert the shadow in the horizontal direction. The inversion is applied around the axis of the [Axis Loc V] parameter set with [Axis Loc].

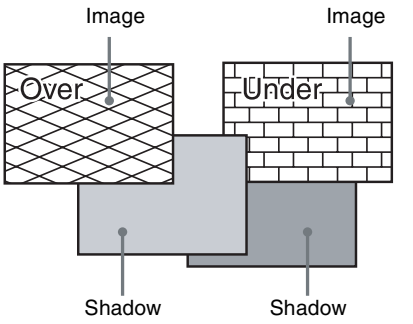
V: Invert the shadow in the vertical direction. The inversion is applied around the axis of the [Axis Loc H] parameter set with [Axis Loc].



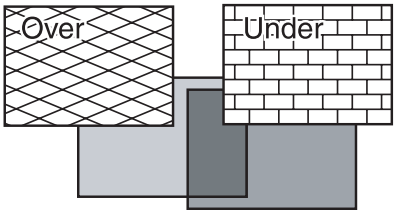
Setting a combine shadow

When there are several images, this adds a flex shadow in the depth of an image or overlays multiple flex shadows.

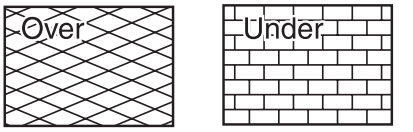
Example 1: When flex shadow is enabled on both of the two channels



No combine shadow is set.

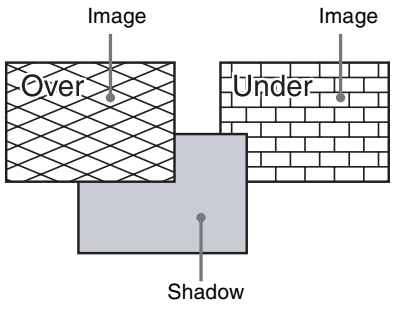


Combine shadow is enabled.
Density is set to 100.00.

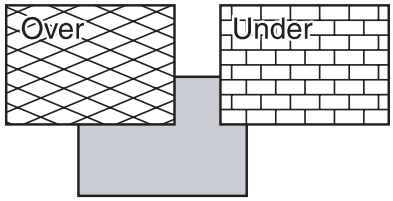


Combine shadow is enabled.
Density is set to 0.00.

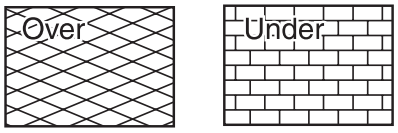
Example 2: When flex shadow is enabled on one channel only



No combine shadow is set.



Combine shadow is enabled.
Density is set to 100.00.



Combine shadow is enabled.
Density is set to 0.00.

1 In the Flex/Drop Shadow menu (4115), press [Combine Shadow], turning it on.

2 Adjust the following parameter.

No.	Parameter	Adjustment
1	Density	Density of combine shadow

Notes

- The Combine Shadow effect is applied to all shadows, not only the sections where shadows overlap.
- Combine Shadow is enabled when the flex shadow effect and the global effect combiner are enabled. In this state, Combine Shadow remains enabled even if the global effect is disabled.
- In Combine Shadow, the settings for the channel with the lowest number among the channels being combined are enabled.

Flex shadow creation example

1 In the Flex/Drop Shadow menu (4115), press [Flex Shadow], turning it on.

2 In the <Flex Shadow Source> group, select [External].

3 Turn [Axis Loc] on and set the [Axis Loc V] parameter so that the center of the flex shadow deformation is at the bottom of the picture (for HD format 16:9 mode, Axis Loc V = –9.00).

The following steps will be easier if you display the flex shadow axis graphic by pressing [Flex Shadow Axis] in the Graphic menu (4164).

4 Press [V] in the <Invert> group, turning it on, to invert the flex shadow vertically.

5 Turn [Size] on and set the [Size V] parameter so that the shadow extends vertically (for HD format 16:9 mode, Size V = –1.50).

6 Press [Skew], turning it on, and set the [Skew H] parameter so that the parallel lines appear to emerge from the depth at the right (for HD format 16:9 mode, Skew H = –50.00).

Drop Shadow Settings

Notes

- Only the MKS-6570 can use the drop shadow function.
- The drop shadow function cannot be turned on at the same time as the trail, motion decay, or keyframe strobe function.

Applying a drop shadow

1 Open the DME >Edge >Flex/Drop Shadow menu (4115).

2 Press [Drop Shadow], turning it on.

3 Adjust the following parameters.

No.	Parameter	Adjustment
1	H	Move shadow horizontally
2	V	Move shadow vertically
5	Density	Density of shadow

4 To change the color of the shadow, press [Drop Shdw Color], then adjust the following parameters.

No.	Parameter	Adjustment
1	Luminance	Luminance
2	Saturation	Saturation
3	Hue	Hue

5 To soften the edges, press [Drop Shdw Soft], turning it on.

Wipe Crop Settings

Notes

- The wipe crop function is not supported by the MKS-6570 or MVE-8000A.
- When wipe crop is on, any mask that was on is turned off.
- When brick is on, wipe crop cannot be turned on. To turn wipe crop on, it is first necessary to turn brick off.
- When [Output] is off in the <Shaped Video> group of the Video/Key menu (4162), unless you set [Bkgd] in the Bkgd menu (4161) to on, the wipe crop effect will not function.

Applying the wipe crop effect

To select the pattern

1 Open the DME >Edge >Wipe Crop menu (4116).

2 Press [Wipe Crop], turning it on.

3 Press [Pattern Select].

The Pattern Select menu (4116.1) appears.

4 From the displayed patterns (wipe patterns 1 to 24 and 304), press any pattern to select it.

In this state, you can adjust the size of the pattern (see the next item).

To set the pattern size and position

1 In the Wipe Crop menu, press [Position/Size].

2 Set the following parameters.

No.	Parameter	Adjustment
1	H	Horizontal position
2	V	Vertical position
3	Size	Pattern size
5	Pattern	Pattern number

Notes

When pattern number 304 is selected, the effect of settings in the <Edge> group varies with the Size setting.

To invert the regions of the cropping

In the Wipe Crop menu, press [Invert], turning it on.

Setting the aspect ratio of the wipe crop pattern (Aspect)

1 In the Wipe Crop menu (4116), press [Aspect], turning it on.

2 Set the following parameters.

No.	Parameter	Adjustment
1	Aspect	Aspect ratio

Rotating the wipe crop pattern (Rotation)

1 In the <Rotation> group of the Wipe Crop menu (4116), select one of the following.

Angle: Incline the pattern through a fixed angle.
Speed: Rotate at a speed rate.

2 Depending on the selection in step **1**, set the following parameters.

When Angle is selected

No.	Parameter	Adjustment
1	Angle	Rotation angle of pattern[a)]

a) +1.00 is one rotation in clockwise direction.

When Speed is selected

No.	Parameter	Adjustment
1	Speed	Rotation speed of pattern[a)]

a) +100.00 is four rotations per second in clockwise direction.

Applying modulation to the wipe crop pattern (Modulation)

1 In the <Modulation> group of the Wipe Crop menu (4116), select one of the following.

H (horizontal modulation): Modulate the pattern to apply waving in the horizontal direction.
V (vertical modulation): Modulate the pattern to apply waving in the vertical direction.

2 Set the following parameters.

No.	Parameter	Adjustment
1	Amplitude	Amplitude of modulation
2	Frequency	Frequency of modulation
3	Speed	Speed of waves

Replicating the wipe crop pattern (Multiplication)

1 In the Wipe Crop menu (4116), press [Multi], turning it on.

2 Set the following parameters.

No.	Parameter	Adjustment
1	H Multi	Number of repetitions of pattern horizontally
2	V Multi	Number of repetitions of pattern vertically
3	Invert Type	Replication layout[a)]

a) ☞ p. 105

Modifying the wipe crop pattern edge

You can apply a border to the wipe crop pattern, or soften the boundary.

1 In the <Edge> group of the Wipe Crop menu (4116), select one of the following.

Border: Border
Soft: Soft edge
Soft Border: Soft border

2 Depending on the selection in step **1**, adjust the following parameters.

When Border is selected

No.	Parameter	Adjustment
1	Width	Border width

When Soft is selected

No.	Parameter	Adjustment
1	Soft	Edge softness

When Soft Border is selected

No.	Parameter	Adjustment
1	Width	Border width
2	Inner Soft	Border inner softness
3	Outer Soft	Border outer softness

Selecting the signal or color to be inserted in the wipe crop border

When you are applying a border or soft border to the wipe crop, you can select the signal or color to be inserted in the border.

1 In the <Border Fill> group of the Wipe Crop menu (4116), select one of the following.

Flat Color: Single color
Mix Color: A mix color signal combining color 1 and color 2.

For details, ☞ "Color Mix Settings" (p. 183).

Ext Video: An external video signal input to the Ext IN connector

2 If [Flat Color] is selected in step **1**, adjust the following parameters.

No.	Parameter	Adjustment
1	Luminance	Luminance
2	Saturation	Saturation
3	Hue	Hue

Color Mix Settings

Notes

The color mix function is not supported by the MKS-6570 or MVE-8000A.

Creating a color combination pattern

To select the pattern

1 Open the DME >Edge >Color Mix menu (4117).

2 Press [Mix Pattern Select].

The Mix Pattern Select menu (4117.1) appears.

3 From the displayed patterns (wipe patterns 1 to 24), press any pattern to select it.

In this state, you can adjust the pattern size and border softness (see the next item).

To set the pattern size and position

1 In the Color Mix menu (4117), press [Position/Size].

2 Set the following parameters.

No.	Parameter	Adjustment
1	H	Horizontal position
2	V	Vertical position
3	Size	Pattern size
4	Soft	Pattern softness
5	Pattern	Pattern number

To invert the regions of the two colors
In the Color Mix menu (4117), press [Color Invert], turning it on.

Adjusting color 1 and color 2

1 In the Color Mix menu (4117), press [Color1] and [Color2] to adjust colors 1 and 2 respectively.

2 Set the following parameters.

No.	Parameter	Adjustment
1	Luminance	Luminance
2	Saturation	Saturation
3	Hue	Hue

Modifying the color combination pattern

See the following pages.

☞ *"Setting the aspect ratio of the wipe crop pattern (Aspect)" (p. 182)*

☞ *"Replicating the wipe crop pattern (Multiplication)" (p. 183)*

☞ *"Rotating the wipe crop pattern (Rotation)" (p. 182)*

☞ *"Applying modulation to the wipe crop pattern (Modulation)" (p. 182)*

Applying Special Effects (Overall Signal Effects)

Defocus Settings

Applying the Defocus effect

1 Open the DME >Video Modify >Defocus/Blur menu (4121).

2 Press [Defocus], turning it on.

Notes

On the MKS-6570 and MVE-8000A, the Defocus and Glow effects cannot be enabled at the same time. The effect that was turned on most recently is enabled.

3 In the <Defocus Mode> group, select the signal to which to apply the Defocus effect.

Video/Key: Video signal and key signal

Video: Video signal only
Key: Key signal only

Notes

[Key] can only be selected when using the MVE-8000A or MVE-9000.

4 Set the following parameters.

When Video/Key is selected using the MKS-6570

No.	Parameter	Adjustment
1	H	Horizontal defocusing of video and key signals
2	V	Vertical defocusing of video and key signals
3	All	Horizontal and vertical defocusing of video and key signals

When Video/Key is selected using the MVE-8000A/9000

Parameter group [1/2]

No.	Parameter	Adjustment
1	V/K H	Horizontal defocusing of video and key signals
2	V/K V	Vertical defocusing of video and key signals
3	V/K All	Horizontal and vertical defocusing of video and key signals
4	Video All	Horizontal and vertical defocusing of video signal
5	Key All	Horizontal and vertical defocusing of key signal

Parameter group [2/2]

No.	Parameter	Adjustment
1	Video H	Horizontal defocusing of video signal
2	Video V	Vertical defocusing of video signal
3	Key H	Horizontal defocusing of key signal
4	Key V	Vertical defocusing of key signal

When Video is selected

No.	Parameter	Adjustment
1	H	Horizontal defocusing of video and key signals
2	V	Vertical defocusing of video and key signals
3	All	Horizontal and vertical defocusing of video and key signals

When Key is selected using the MVE-8000A/9000

No.	Parameter	Adjustment
1	H	Horizontal defocusing of key signal
2	V	Vertical defocusing of key signal
3	All	Horizontal and vertical defocusing of key signal

5 To cancel black level leaking that can occur at the edge of the screen when the Defocus effect is enabled, press [Clean Defocus], turning it on.

To mask the Defocus effect with a selected pattern

Press [Mask] to display the Mask menu (4127) *(☞ p. 189)*, and set the pattern type and modifiers.

Blur Settings

Applying the Blur effect

1 Open the DME >Video Modify >Defocus/Blur menu (4121).

2 Press [Blur], turning it on.

Notes

On the MKS-6570 and MVE-8000A, the Glow and Blur effects cannot be enabled at the same time. The effect that was turned on most recently is enabled.

3 When using the MVE-8000A/9000, in the <Blur Mode> group, select the signal to which you want apply the Blur effect.

Video/Key: Video signal and key signal
Video: Video signal only
Key: Key signal only

4 Set the parameters (see step **4** in *"Applying the Defocus effect" (☞ p. 184)*).

To mask the Blur effect with a selected pattern

Press [Mask] to display the Mask menu (4127) *(☞ p. 189)*, and set the pattern type and modifiers.

Multi Move Settings

Applying the Multi Move effect

1 Open the DME >Video Modify >Multi Move menu (4122).

2 Press [Multi Move], turning it on.

3 Set the following parameters.

No.	Parameter	Adjustment
1	Center X	X-value of shrinking center point
2	Center Y	Y-value of shrinking center point
3	Size	Shrinking ratio
4	Aspect	Aspect ratio of shrunken images

Sepia Settings

Applying the Sepia effect

1 Open the DME >Video Modify >Color Modify menu (4123).

2 Press [Sepia], turning it on.

3 Set the following parameters.

No.	Parameter	Adjustment
1	Mix Y	Y signal mix amount
2	Mix C	Chroma signal mix amount
3	Mix All	Y signal and chroma signal mix amount

4 To set the color of the sepia image, press [Sepia Color], turning it on, and adjust the following parameters.

No.	Parameter	Adjustment
1	Luminance	Luminance
2	Saturation	Saturation
3	Hue	Hue

To mask the Sepia effect with a selected pattern

Press [Mask] to display the Mask menu (4127) *(☞ p. 189)*, and set the pattern type and modifiers.

Mono Settings

Applying the Mono effect

1 Open the DME >Video Modify >Color Modify menu (4123).

2 Press [Mono], turning it on.

To mask the Mono effect with a selected pattern

Press [Mask] to display the Mask menu (4127) (☞ p. 189), and set the pattern type and modifiers.

Posterization and Solarization Settings

You can specify the degree of luminance coarsening with Posterization.
You can specify the degree of chroma coarsening Solarization.

Applying the Posterization or Solarization effect

1 Open the DME >Video Modify >Color Modify menu (4123).

2 Press [Poster/Solar], turning it on.

3 Set the following parameters.

No.	Parameter	Adjustment
1	Poster	Coarseness of luminance gradations (Posterization parameter)
2	Solar	Coarseness of chroma gradations (Solarization parameter)

To mask the Posterization or Solarization effect with a selected pattern

Press [Mask] to display the Mask menu (4127) (☞ p. 189), and set the pattern type and modifiers.

Nega Settings

Applying the Nega effect

1 Open the DME >Video Modify >Color Modify menu (4123).

2 Press [Nega Y], [Nega C], or both, turning them on.

Nega Y: Reverse the luminance.
Nega C: Reverse the chroma.

To mask the Nega effect with a selected pattern

Press [Mask] to display the Mask menu (4127) (☞ p. 189), and set the pattern type and modifiers.

Contrast Settings

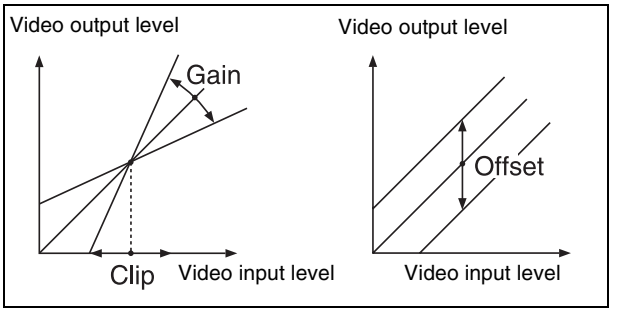
Applying the Contrast effect

1 Open the DME >Video Modify >Color Modify menu (4123).

2 Press [Contrast], turning it on.

3 Set the following parameters.

No.	Parameter	Adjustment
1	Y Clip	Luminance clip level
2	Y Gain	Luminance contrast gradient
3	Y Offset	Luminance offset level increment
4	C Gain	Chroma contrast gradient



To mask the Contrast effect with a selected pattern

Press [Mask] to display the Mask menu (4127) (☞ p. 189), and set the pattern type and modifiers.

Mosaic Settings

Applying the Mosaic effect

1 Open the DME >Video Modify >Mosaic menu (4124).

2 Press [Mosaic], turning it on.

3 Set the following parameters.

No.	Parameter	Adjustment
1	Size	Size of tiles
2	Aspect	Aspect ratio of tiles

To mask the Mosaic effect with a selected pattern

Press [Mask] to display the Mask menu (4127) (☞ p. 189), and set the pattern type and modifiers.

Sketch Settings

Applying the Sketch effect

1 Open the DME >Enhanced Video Modify >Sketch menu (4171).

2 Press [Sketch], turning it on.

3 Select the method for applying outlines in the <Sketch Mode> group.

Sketch: Apply an effect like a sketch.
Edge Color: Enhance the outlines.
Draw: Apply an effect like a line drawing.
Relief: Apply a bas-relief effect.
Sharp: Increase the apparent sharpness.

4 Depending on the selection in step **3**, set the following parameters.

When Sketch is selected

No.	Parameter	Adjustment
1	Mix	Mix amount for Sketch video and input video
2	Clip	Reference level for outline extraction
3	Gain	Image gain for outline extraction
4	C Gain	Chroma gain of input video

When Edge Color is selected

No.	Parameter	Adjustment
1	Mix	Mix amount for Edge Color video and input video
2	Clip	Reference level for outline extraction

When Draw is selected

No.	Parameter	Adjustment
1	Mix	Mix amount for Draw video and input video
2	Clip	Reference level for outline extraction
3	Gain	Image gain for outline extraction

When Relief is selected

No.	Parameter	Adjustment
1	Mix	Mix amount for Relief video and input video
2	Offset	Relief luminance level
3	Gain	Image gain for outline extraction
4	Angle	Direction of relief image light source

When Sharp is selected

No.	Parameter	Adjustment
1	H	Simultaneously adjust the left and right resolution
2	V	Simultaneously adjust the top and bottom resolution
3	All	Simultaneously adjust the resolution of all four sides
5	Coring	Minimum value of edge to emphasize

5 If you made a selection other than [Sharp] in step **3**, proceed as follows if required.

To adjust the outline color for Edge Color or Draw
Turn [Edge Matte] on and set the following parameters to set the outline color.

No.	Parameter	Adjustment
1	Luminance	Luminance
2	Saturation	Saturation
3	Hue	Hue

To set the color of the sections other than the outlines for Draw
Press [Matte], turning it on, and adjust the following parameters to set the color of the sections other than the outlines.

No.	Parameter	Adjustment
1	Luminance	Luminance
2	Saturation	Saturation
3	Hue	Hue

To select the signal to mix with the pattern for Relief
In the <Chroma Type> group, select the signal to mix with the relief pattern.
Matte: Select a single color. The following parameters can be adjusted.

No.	Parameter	Adjustment
2	Saturation	Saturation
3	Hue	Hue

Video: Select the input video signal.

6 To invert white and black in the extracted video, or to invert the outlines and the sections other than the outlines, press [Nega], turning it on.

To mask the Sketch effect with a selected pattern

Press [Mask] to display the Mask menu (4127) *(☞ p. 189)*, and set the pattern type and modifiers.

Metal Settings

Applying the Metal effect

1 Open the DME >Enhanced Video Modify >Metal menu (4172).

2 Press [Metal], turning it on.

3 Set the following parameters.

No.	Parameter	Adjustment
1	Mix Ratio	Mix amount for Metal video and input video
2	Y Clip	Clip level of input signal Y level
3	Y Gain	Amount of gain for clip adjusted input signal Y level
4	Y Offset	Offset added to clip and gain adjusted input Y signal

4 In the <Metal Mode> group, select the type of metallic gloss.

Gold: Give a gold gloss to the input video.
Silver: Give a silver gloss to the input video.
Rainbow: Give a rainbow color gloss to the input video.
Variable: Give a metallic gloss to the input video in a parameter adjusted color. The following parameters can be adjusted.

No.	Parameter	Adjustment
2	Saturation	Saturation
3	Hue	Hue

To mask the Metal effect with a selected pattern
Press [Mask] to display the Mask menu (4127) *(☞ p. 189)*, and set the pattern type and modifiers.

Dim and Fade Settings

Notes

The dim and fade functions are not supported by the MKS-6570 or MVE-8000A.

Applying the Dim effect

1 Open the DME >Enhanced Video Modify >Dim & Fade menu (4173).

2 Press [Dim], turning it on.

3 Set the following parameters.

No.	Parameter	Adjustment
1	Start	Point where dimming starts (dim start point)
2	Gain	Degree of dimming

4 Press [Flat Color] and set the parameters for the color of the depths of the picture.

No.	Parameter	Adjustment
1	Luminance	Luminance
2	Saturation	Saturation
3	Hue	Hue

Applying the Fade effect

1 Open the DME >Enhanced Video Modify >Dim & Fade menu (4173).

2 Press [Fade], turning it on.

3 Set the following parameters.

No.	Parameter	Adjustment
1	Start	Point where fading starts (fade start point)
2	Gain	Degree of fading

Glow Settings

Applying the Glow effect

1 Open the DME >Enhanced Video Modify >Glow menu (4174).

2 Press [Glow], turning it on.

Notes

- On the MVE-9000, the Key Border and Glow effects cannot be turned on at the same time. Only the one most recently turned on is effective.
- On the MKS-6570 and MVE-8000A, the Defocus and Glow effects or the Blur and Glow effects cannot be turned on at the same time. Only the one most recently turned on is effective.

3 Set the following parameters.

No.	Parameter	Adjustment
1	Clip	Reference level for highlight detection
2	Gain	Amount of gain for highlights

No.	Parameter	Adjustment
3	Soft	Softness

4 Press [Matte] and set the glow color.

No.	Parameter	Adjustment
1	Luminance	Luminance
2	Saturation	Saturation
3	Hue	Hue

To invert the highlight areas

Press [Glow Invert], turning it on.
The highlight and non-highlight areas are inverted.

To mask the Glow effect with a selected pattern

Press [Mask] to display the Mask menu (4127) *(☞ p. 189)*, and set the pattern type and modifiers.

Mask Settings

Applying masks

1 Open the DME >Video Modify >Mask menu (4127).

2 In the <Mask> group, press the button for the group of the effect to which you want to apply the mask, turning it on.

Effect Gp1: Posterization, Solarization, Nega, Sepia, Mono, Contrast, Mosaic, Sketch, Metal
Effect Gp2: Defocus, Blur, Glow

Notes

On the MKS-6570 and MVE-8000A, [Effect Gp1] and [Effect Gp2] cannot be turned on at the same time.

3 Press [Position/Size].

4 Set the mask source parameters.

No.	Parameter	Adjustment
1	H	Horizontal position
2	V	Vertical position
3	Size	Size of mask
4	Soft	Softness of mask
5	Pattern	Pattern number[a)]

a) Pattern 304 is not supported by the MKS-6570 or MVE-8000A.

5 To invert the black and white of the mask source, press [Invert], turning it on.

6 As required, set the modifiers for the mask pattern.

When turning [Aspect] on and setting the aspect ratio of the pattern

No.	Parameter	Adjustment
1	Aspect	Aspect ratio

When turning [Angle] on in the <Rotation> group and slanting the pattern

No.	Parameter	Adjustment
1	Angle	Rotation angle of pattern[a)]

a) *(☞ p. 104)*.

When turning [Speed] on in the <Rotation> group and rotating the pattern at a constant rate

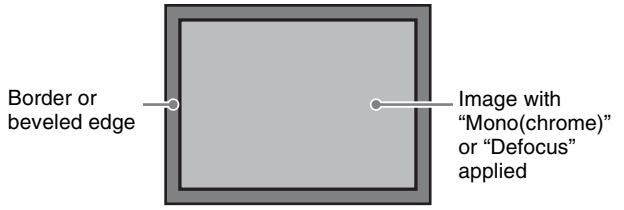
No.	Parameter	Adjustment
1	Speed	Rotation speed of pattern[a)]

a) *(☞ p. 104)*.

Notes on applying a mask effect with a DME (only when using the MVE-9000)

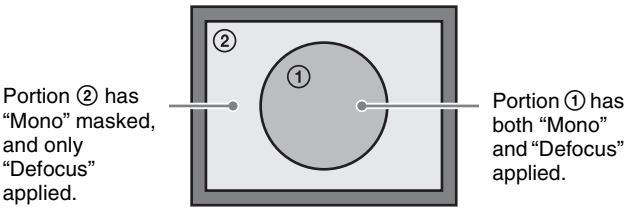
In the <Mask> group of the DME >Video Modify >Mask menu (4127), if [Effect Gp1] and [Effect Gp2] are simultaneously set to On, then the border or beveled edge is also masked.
The following explains this with the example of using a circular mask pattern.

Image 1: Image before applying mask



⬇

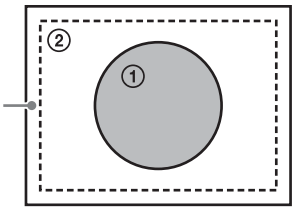
Image 2: State with only [Effect Gp1] set to On



⬇

In the state corresponding to image 2, if you switch [Effect Gp2] to On, then the mask should be applied to portion ② only. In fact, however, the border or beveled edge is also masked.

Image 3: State with [Effect Gp1] and [Effect Gp2] set to On



Freeze Settings

Freezes the input video. The following types are available:
Hard Freeze: Freezes the input video at an arbitrary timing.
Time Strobe: Freezes the input video at specified intervals for a specified length.
Film: Slows the apparent frame rate, for an effect like film. You can specify the ratio of advancement.
For [Hard Freeze] and [Time Strobe], you can select the first field or the frame as the freeze timing.

Notes

When the 720P signal format is used, the Film mode cannot be selected.

Applying the Hard Freeze effect

1. Open the DME >Freeze >Freeze menu (4131).
2. In the <Freeze Timing> group, select the signal freeze timing.

   Frame: Freeze one frame of signal.
   Field1: Freeze the first field of signal.
3. In the <Freeze> group, press [Hard Freeze], turning it on.

Applying the Time Strobe effect

1. In the <Freeze Timing> group of the DME >Freeze >Freeze menu (4131), select the signal freeze timing.

   Frame: Freeze one frame of signal.
   Field1: Freeze the first field of signal.

   Notes

   The freeze timing setting is not required when the following signal formats are being used.
   720P/50, 720P/59.94, 1080PsF/23.976, 1080PsF/24
2. In the <Freeze> group, press [Time Strobe], turning it on.
3. Set the following parameters.

No.	Parameter	Adjustment
1	Duration	Freeze interval
2	Live	Ratio of live video inserted between freeze images

Applying the Film effect

Notes

When 720P signal format is used, the Film mode cannot be selected.

1. In the <Freeze> group of the DME >Freeze >Freeze menu (4131), press [Film], turning it on.
2. Adjust the following parameter.

No.	Parameter	Adjustment
1	Film	Ratio of frame advance

Applying Special Effects (Nonlinear Effect Settings)

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

1. Open the DME >Non Linear/Corner Pin >Non Linear menu (4141).
2. Display the menu for the effect that you want to apply by pressing its button.
3. Make the settings for the selected effect.

   Notes

   - It is not possible to apply two or more nonlinear effects at the same time. Turning any nonlinear effect on automatically turns all other nonlinear effects off.
   - The Flex Shadow function *(☞ p. 178)* cannot be enabled if any of the nonlinear effects is enabled.
   - When the signal format is 1080i, 1080PsF, or 720P, nonlinear effects cannot be used on MKS-6570 channel 2.

To turn an effect off

In the setting menu, press the button for the effect name, turning it off, or press [OFF] in the lower right part of the screen in the Non Linear menu.

Wave Settings

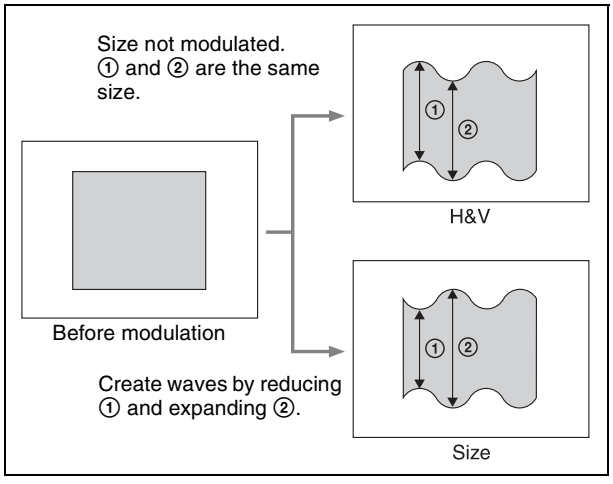
There are two modes: H&V and Size. You can set the size and frequency of the waves, the wave form, the amount of wave movement, and the range. In H&V mode, you can also set the wave angle.

Applying the Wave effect

1 In the <Mode> group of the Non Linear >Wave menu (4141.1), select the wave modulation mode.

H&V: Modulate vertically and horizontally without changing the size of the image. This mode allows waves to be created in both the vertical and horizontal directions at the same time.

Size: Create waves by reducing and expanding the image. This mode allows waves to be created in one direction only.



2 Set the following parameters, according to the selected mode.

When H&V is selected

Parameter group [1/2]

No.	Parameter	Adjustment
1	Amp H	Amplitude of waves in horizontal direction
2	Freq H	Frequency of waves in horizontal direction
3	Offset H[a)]	Horizontal direction in which to offset wave phase and amount of movement
4	Speed H[b)]	Horizontal direction and speed of waves

Parameter group [1/2]

No.	Parameter	Adjustment
5	Slant	Slant of waves

Parameter group [2/2]

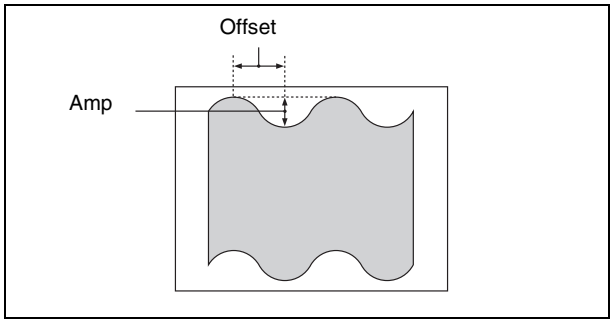
No.	Parameter	Adjustment
1	Amp V	Amplitude of waves in vertical direction
2	Freq V	Frequency of waves in vertical direction
3	Offset V[a)]	Vertical direction in which to offset wave phase and amount of movement
4	Speed V[b)]	Vertical direction and speed of waves
5	Slant	Slant of waves

a) Set when Lock is on.
b) Set when Lock is off.

When Size is selected

No.	Parameter	Adjustment
1	Amp H	Amplitude of waves
2	Freq H	Frequency of waves
3	Offset H[a)]	Direction in which to offset wave phase and amount of movement
4	Speed H[b)]	Direction and speed of waves
5	Slant	Slant of waves

a) Set when Lock is on.
b) Set when Lock is off.



To stop the waves

Press [Lock], turning it on.
With each press, the waves alternately stop and start moving again.

To select the waveform

Press [Form] and set the following parameters.

When H&V mode is selected

No.	Parameter	Adjustment
1	Form H	Waveform in horizontal direction
2	Form V	Waveform in vertical direction

When Size mode is selected

No.	Parameter	Adjustment
1	Form H	Waveform

To randomize the modulated waveform

1 Press [Random], turning it on.

2 Set the following parameters.

When H&V mode is selected

No.	Parameter	Adjustment
1	Random H	Degree of randomness in horizontal waveform modulation
2	Random V	Degree of randomness in vertical waveform modulation
3	Random All	Degree of randomness in both vertical and horizontal directions

When Size mode is selected

No.	Parameter	Adjustment
1	Random H	Degree of randomness in waveform modulation

To limit the wave range

1 Press [Range], turning it on.

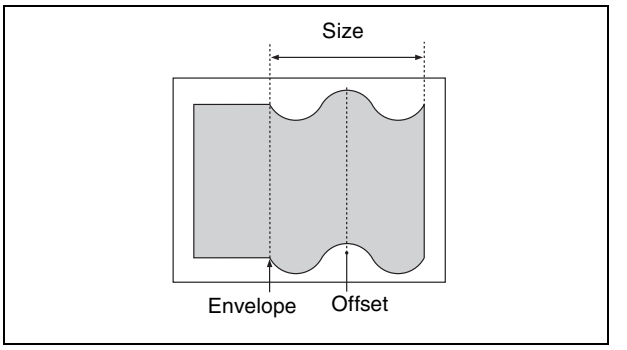
2 Set the following parameters.

When H&V mode is selected

No.	Parameter	Adjustment
1	Size H	Amount of horizontal wave modulation
2	Offset H	Center point of horizontal modulation range
3	Size V	Amount of vertical wave modulation
4	Offset V	Center point of vertical modulation range

When Size mode is selected

No.	Parameter	Adjustment
1	Size H	Amount of wave modulation
2	Offset H	Center point of modulation range



To smooth the range envelope when the wave range is limited

1 Press [Range Envelope], turning it on.

2 Set the following parameters.

When H&V mode is selected

No.	Parameter	Adjustment
1	Envelope H	Smoothness of envelope in horizontal direction
2	Envelope V	Smoothness of envelope in vertical direction

When Size mode is selected

No.	Parameter	Adjustment
1	Envelope H	Smoothness of envelope

To reverse the wave range

To reverse the horizontal wave range set with [Range]:
Press [Range Rev H], turning it on.

To reverse the vertical wave range set with [Range]:
Press [Range Rev V], turning it on.

Mosaic Glass Settings

There are two modes: H&V and Size. You can set the size and frequency of waves in the image, the wave form, the amount of wave movement, and the range. In H&V mode, you can also set the wave angle.

Applying the Mosaic Glass effect

Display the Non Linear >Mosaic Glass menu (4141.2). The items displayed in the Mosaic Glass menu and the parameters are the same as those for the Wave menu *(☞ p. 191)*.

Flag Settings

There are two modes: H&V and Size. You can set the size and frequency of waves in the image, the wave form, the

amount of wave movement, and the range. In H&V mode, you can also set the wave angle.

Applying the Flag effect

Display the Non Linear >Flag menu (4141.3).
The items displayed in the Flag menu and the parameters are the same as those for the Wave menu *(☞ p. 191)*.

Twist Settings

You can twist the image in the horizontal or vertical direction.
You can set the size and frequency of twists in the image, the wave form, the amount of movement, and other parameters.

Applying the Twist effect

With the Non Linear >Twist menu (4141.4) displayed, set the following parameters.

Parameter group [1/2]

No.	Parameter	Adjustment
1	Amp V	Amplitude of twist in vertical direction
2	Freq V	Frequency of twist in vertical direction
3	Offset V[a)]	Amount of movement in twist phase in the vertical direction
4	Speed V[b)]	Speed and direction of twist movement in vertical direction
5	Slant	Slant of twist

Parameter group [2/2]

No.	Parameter	Adjustment
1	Amp H	Amplitude of twist in horizontal direction
3	Offset H[a)]	Amount of movement in twist phase in the horizontal direction
5	Slant	Slant of twist

a) Set when Lock is on.
b) Set when Lock is off.

To stop the waves

Press [Lock], turning it on.
With each press, the waves alternately stop and start moving again.

To select the waveform

Press [Form] and set the following parameters.

No.	Parameter	Adjustment
1	Form H	Waveform in horizontal direction
2	Form V	Waveform in vertical direction

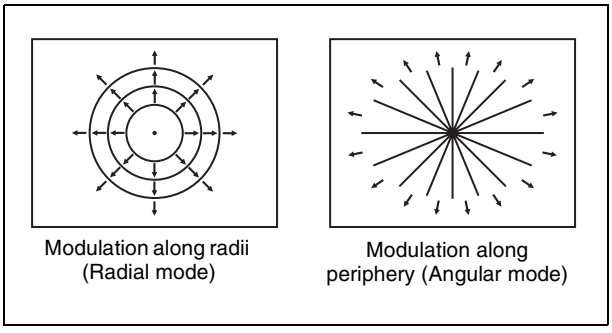
Ripple Settings

There are four modes: Radial, Angular, Both, and Shape. The direction of modulation differs depending on the mode. You can set the size and frequency of the ripples, their direction and speed, their center point, and other parameters. In Shape mode, you can select ripple shapes other than circles (stars, etc.).

Applying the Ripple effect

1 In the <Mode> group of the Non Linear >Ripple menu (4141.5), select the ripple modulation mode.

Radial: Points on radii of the same length from the center of the ripples behave in the same way.
Angular: Points at the same angle from the center of the ripples behave in the same way.
Both: Both Radial and Angular ripples are applied.
Shape: The ripples can have shapes such as stars or hearts in addition to circles.



Modulation modes and directions

2 Set the following parameters, according to the selected mode.

When Radial mode is selected

No.	Parameter	Adjustment
1	Amp R	Ripple amplitude along radius
2	Freq R	Ripple frequency along radius
3	Offset R[a)]	Direction along radius in which to offset ripple phase and amount of movement
4	Speed R[b)]	Ripple direction along radius and speed
5	Amp A	Ripple amplitude along periphery

a) Set when Lock is on.
b) Set when Lock is off.

When Angular mode is selected

No.	Parameter	Adjustment
1	Amp A	Ripple amplitude along periphery
2	Freq A	Ripple frequency along periphery

No.	Parameter	Adjustment
3	Offset A[a)]	Direction along periphery in which to offset ripple phase and amount of movement
4	Speed A[b)]	Ripple direction along periphery and speed
5	Amp R	Ripple amplitude along radius

a) Set when Lock is on.
b) Set when Lock is off.

When Both mode is selected

Parameter group [1/2]

No.	Parameter	Adjustment
1	Amp R	Ripple amplitude along radius
2	Freq R	Ripple frequency along radius
3	Offset R[a)]	Direction along radius in which to offset ripple phase and amount of movement
4	Speed R[b)]	Ripple direction along radius and speed

Parameter group [2/2]

No.	Parameter	Adjustment
1	Amp A	Ripple amplitude along periphery
2	Freq A	Ripple frequency along periphery
3	Offset A[a)]	Direction along periphery in which to offset ripple phase and amount of movement
4	Speed A[b)]	Ripple direction along periphery and speed

a) Set when Lock is on.
b) Set when Lock is off.

When Shape mode is selected

Parameter group [1/2]

No.	Parameter	Adjustment
1	Amp R	Ripple amplitude
2	Freq R	Ripple frequency
3	Offset R[a)]	Direction in which to offset ripple phase and amount of movement
4	Speed R[b)]	Ripple direction and speed
5	Shape	Ripple shape

Parameter group [2/2]

No.	Parameter	Adjustment
1	Aspect	Ripple aspect ratio
2	Angle	Ripple angle

a) Set when Lock is on.
b) Set when Lock is off.

To limit the direction in which modulation is applied

By pressing [Plus Only], turning it on, you can limit the direction in which modulation is applied (the direction in which the image expands) to the plus direction only.

To set the ripple center point

1 Press [Position], turning it on.

2 Set the following parameters, depending on the selected modulation mode.

When Shape mode is selected

No.	Parameter	Adjustment
1	H	Ripple center point in horizontal direction
2	V	Ripple center point in vertical direction

When mode other than Shape is selected

No.	Parameter	Adjustment
1	H	Ripple center point in horizontal direction
2	V	Ripple center point in vertical direction

To limit the ripple range

1 Press [Range], turning it on.

2 Set the following parameters.

When Radial or Shape mode is selected

No.	Parameter	Adjustment
1	Size R	Amount of ripple modulation along radius
2	Offset R	Center of modulation range along radius

When Angular mode is selected

No.	Parameter	Adjustment
1	Size A	Amount of ripple modulation along periphery
2	Offset A	Center of modulation range along periphery

When Both mode is selected

No.	Parameter	Adjustment
1	Size R	Amount of ripple modulation along radius
2	Offset R	Center of modulation range along radius
3	Size A	Amount of ripple modulation along periphery

No.	Parameter	Adjustment
4	Offset A	Center of modulation range along periphery

To reverse the ripple range

When modulation mode is Radial, Both, or Shape: Press [Range Rev R], turning it on.

When modulation mode is Both or Angular: Press [Range Rev A], turning it on.

Other settings

You can turn [Lock], [Form], [Random], and [Range Envelope] on to do the following.

- Stop the waves
- Select the wave shape
- Randomize the waveform
- Smooth the range envelope when the wave range is limited

For details about the Lock, Form, Random, and Range Envelope functions, ☞ "Wave Settings" (p. 191).

Rings Settings

You can set the degree of transition, the degree of randomness in the distance moved by each block, the amount of movement, the width of the partitions, the degree of randomness in partition width, the center point, the starting angle, and other parameters.

Applying the Rings effect

1 Open the Non Linear >Rings menu (4141.7).

2 To make transition settings, press [Transition] and set the following parameters.

No.	Parameter	Adjustment
1	Transition	Degree of transition
2	Random	Degree of randomness in distance moved by each block
3	Spiral	Amount of movement toward periphery accompanying transition

3 To set the partition method, press [Partition] and set the following parameters.

No.	Parameter	Adjustment
1	Width	Width of partition
2	Random	Degree of randomness in partition width
3	Angle	Starting angle of effect

4 To set the ring center position, press [Position] and set the following parameters.

No.	Parameter	Adjustment
1	H	Horizontal center position
2	V	Vertical center position

5 To partition into pixels, press [Pixel], turning it on, and set the following parameters.

No.	Parameter	Adjustment
1	Density	Degree to which image disappears around periphery
2	Random	Degree of jaggies at block edges

Broken Glass Settings

You can set the degree of transition, the degree of randomness in the distance moved by each block, the amount of movement, the width of the partitions, the degree of randomness in partition width, the center point, the starting angle, and other parameters.
You can also fix the direction in which shards scatter.

Applying the Broken Glass effect

Display the Non Linear >Broken Glass menu (4141.8). The items and parameters in the Broken Glass menu are the same as those of the Rings menu (☞ p. 195), with the exception of [Direction].

To fix the direction in which shards scatter

Press [Direction], turning it on.

Flying Bars Settings

You can set the degree of transition, the degree of randomness in the distance moved by each block, the direction of movement, the width of the partitions, the degree of randomness in partition width, the partition angle, and other parameters.

Applying the Flying Bars effect

1 Open the Non Linear >Flying Bars menu (4141.9).

2 To make transition settings, press [Transition] and set the following parameters.

No.	Parameter	Adjustment
1	Transition	Degree of transition

No.	Parameter	Adjustment
2	Random	Degree of randomness in distance moved by each block
3	Angle	Direction of movement

3 To set the partition method, press [Partition] and set the following parameters.

No.	Parameter	Adjustment
1	Width	Width of partition
2	Random	Degree of randomness in partition width
3	Angle	Partition angle

Blind Settings

You can set the number of rotations by blocks, the perspective, the width and position of blocks, the direction, the center position, and other parameters. There are two modes: Bar and Wedge.

Applying the Blind effect

1 In the <Mode> group of the Non Linear >Blind menu (4141.10), select [Bar] or [Wedge].

2 To make transition settings, press [Transition] and set the following parameters.

No.	Parameter	Adjustment
1	Rotation	Number of rotations of the blocks
2	Perspective	Degree of randomness in distance moved by each block

3 To set the partition method, press [Partition] and set the following parameters.

When Bar was selected in step 1

No.	Parameter	Adjustment
1	Width	Width of partition
2	Offset	Degree of randomness in partition width
3	Angle	Starting angle of effect

When Wedge was selected in step 1

No.	Parameter	Adjustment
4	No.	Width of blocks
5	Phase	Partition position

To set the wedge center position

When [Wedge] is selected in the <Mode> group, you can set the wedge center position.

1 Press [Position].

2 Set the following parameters.

No.	Parameter	Adjustment
1	H	Horizontal center position
2	V	Vertical center position

Split Settings

You can set the degree to which the image is split, the split positions, and other parameters.

Applying the Split effect

1 In the <Mode> group of the Non Linear >Split menu (4141.11), select the split method.

Single: Leave gaps between splits.
Double: Fill gaps between splits with the same image.

2 Set the following parameters.

Parameter group [1/2]

No.	Parameter	Adjustment
1	Transition H	Degree of left and right separation
2	Transition V	Degree of top and bottom separation

Parameter group [2/2]

No.	Parameter	Adjustment
1	Top	Amount of movement of top
2	Left	Amount of movement of left
3	Right	Amount of movement of right
4	Bottom	Amount of movement of bottom

To set the split position

1 Press [Position].

2 Set the following parameters.

No.	Parameter	Adjustment
1	H	Position of left and right separation
2	V	Position of top and bottom separation

Split Slide Settings

You can set the degree of transition, the degree of randomness in the distance moved by each block, the degree of sliding, block width, block angle, and other parameters.

Applying the Split Slide effect

In the Non Linear >Split Slide menu (4141.12), set the following parameters.

Parameter group [1/2]

No.	Parameter	Adjustment
1	Transition H	Degree of transition in horizontal direction
2	Random H	Degree of randomness in distance moved by blocks in horizontal direction
3	Skew H	Degree of skew in horizontal direction
4	Width H	Horizontal width of partition
5	Angle	Angle of partition line

Parameter group [2/2]

No.	Parameter	Adjustment
1	Transition V	Degree of transition in vertical direction
2	Random V	Degree of randomness in distance moved by blocks in vertical direction
3	Skew V	Degree of skew in vertical direction
4	Width V	Vertical width of partition
5	Angle	Angle of partition line

To set the partition position

1 Press [Position], turning it on.

2 Set the following parameters.

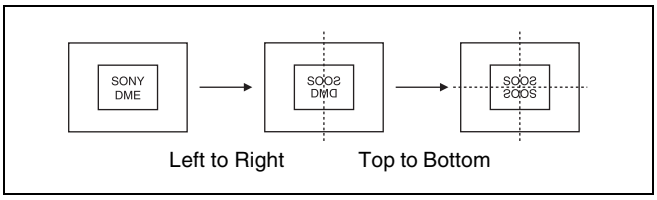
No.	Parameter	Adjustment
1	H	Horizontal partition position
2	V	Vertical partition position

Mirror Settings

You can choose to reflect in the left to right, right to left, bottom to top, top to bottom, or any combination of these directions. You can also set the position of the border between original and reflections.

Applying the Mirror effect

In the Non Linear >Mirror menu (4141.13), press [Left to Right], [Right to Left], [Top to Bottom], or [Bottom to Top] to set the reflection method (multiple selections possible).
Left to Right: Reflect left side on right.
Right to Left: Reflect right side on left.
Top to Bottom: Reflect top side on bottom.
Bottom to Top: Reflect bottom side on top.



To set the position of the border between the original and reflection

1 Press [Position].

2 Set the following parameters.

No.	Parameter	Adjustment
1	H	Horizontal border position
2	V	Vertical border position

Multi Mirror Settings

You can set the width of the original, the center position of the original, the offset of the image with fixed mirrors, the direction of the mirrors, and other parameters.

Applying the Multi Mirror effect

In the Non Linear >Multi Mirror menu (4141.14), set the following parameters.

No.	Parameter	Adjustment
1	Interval H	Horizontal distance between mirrors (original width)
2	Offset H	Amount of horizontal offset of image with mirrors fixed
3	Interval V	Vertical distance between mirrors (original width)
4	Offset V	Amount of vertical offset of image with mirrors fixed
5	Angle	Mirror angle

To set the center position of the original image

1 Press [Position], turning it on.

2 Set the following parameters.

No.	Parameter	Adjustment
1	H	Horizontal original image center position
2	V	Vertical original image center position

Kaleidoscope Settings

You can set the number of blocks, the partition reference point and angle, horizontal and vertical offsets, a reflection position, and other parameters.

Applying the Kaleidoscope effect

In the Non Linear >Kaleidoscope menu (4141.15), set the following parameters.

No.	Parameter	Adjustment
1	Number	Number of blocks
2	Phase	Angle of partition reference point
3	Offset H	Amount of horizontal offset
4	Offset V	Amount of vertical offset

To reflect the kaleidoscope image as if in a mirror

1 To reflect in the horizontal direction, press [Mirror H], turning it on.

2 To reflect in the vertical direction, press [Mirror V], turning it on.

To set the reflection position

1 Press [Position], turning it on.

2 Set the following parameters.

No.	Parameter	Adjustment
1	H	Horizontal reflection position
2	V	Vertical reflection position

To cyclically repeat part of the original and its reflection

Press [Cyclic], turning it on.

Lens Settings

You can set the shape and aspect ratio of the lens, the angle, the magnification ratio, the curve ratio, the size, the center position, and other parameters.
You can also choose to display only the portion of the image that is seen through the lens.

Applying the Lens effect

1 In the <Mode> group of the Non Linear >Lens menu (4141.16), select the lens shape.

Circle
Rectangle
Star
Heart
Bar
Cross

2 Depending on the selected lens shape, set the following parameters.

When Circle, Rectangle, Star, or Heart is selected

No.	Parameter	Adjustment
1	Magnify H	Magnification ratio
2	Curve H	Curve ratio
3	Size H	Size
4	Angle	Slant angle
5	Aspect	Aspect ratio

When Bar is selected

No.	Parameter	Adjustment
1	Magnify H	Magnification ratio
2	Curve H	Curve ratio
3	Size H	Size
4	Angle	Slant angle

When Cross is selected

Parameter group [1/2]

No.	Parameter	Adjustment
1	Magnify H	Horizontal magnification ratio
2	Curve H	Horizontal curve ratio
3	Size H	Horizontal size

Parameter group [2/2]

No.	Parameter	Adjustment
1	Magnify V	Vertical magnification ratio
2	Curve V	Vertical curve ratio
3	Size V	Vertical size

To make only the lens part visible

Press [Lens Only], turning it on.
The parts of the image outside the lens are removed.

To set the lens center position

1 Press [Position], turning it on.

2 Set the following parameters.

No.	Parameter	Adjustment
1	H	Horizontal lens center position
2	V	Vertical lens center position

Circle Settings

You can set the size of the circle, and make the axis of modulation vertical.

Applying the Circle effect

In the Non Linear >Circle menu (4141.17), set the following parameter.

No.	Parameter	Adjustment
1	Radius	Size of circle

To make the axis of modulation vertical

Press [Mod V], turning it on.
The axis of modulation when converting to the circle becomes vertical.

Panorama Settings

You can set the horizontal and vertical curve ratio, and the curve center position.

Applying the Panorama effect

In the Non Linear >Panorama menu (4141.18), set the following parameters.

No.	Parameter	Adjustment
1	Curve H	Horizontal curve ratio
2	Curve V	Vertical curve ratio
3	Position H	Horizontal curve center position
4	Position V	Vertical curve center position

Page Turn Settings

There are four modes: H&V, H, V, and Off. You can select the turn position, the radius of the turned portion, the amount and angle of turning, and the input video for the front and back pages.

Applying the Page Turn effect

1 In the <Split Mode> group of the Non Linear >Page Turn menu (4141.19), select the split mode.

H&V: The image turns as it is split from the center into 4 parts: left, right, upper, lower.
H: The image turns as it is split from the center into 2 parts: left, right.
V: The image turns as it is split from the center into 2 parts: upper, lower.
When nothing is selected (Off): There are no splits and the image turns from the edge.

2 Press [Page Turn], then set the following parameters.

No.	Parameter	Adjustment
1	Radius	Radius of turn part
2	Offset	Amount of turn
3	Angle	Angle of turn

To set the input signal of the back page

1 In the <Back Video> group, select the signal input into the back page.

Self: Use the same signal as the front page.
Flat: Use a flat color.
Hue Rotation: Gradually vary the hue.
2nd Ch: Use the 2nd channel video signal.
To select "2nd Ch," it is first necessary to select the 2nd-channel DME.

For details, ☞ "Applying a DME Effect to a Key" (p. 91), ☞ "Selecting the DME channel" (p. 94), and ☞ "Combiner operations" (p. 221).

2 Adjust the following parameters, according to the selected input signal.

When Flat is selected

No.	Parameter	Adjustment
1	Luminance	Luminance
2	Saturation	Saturation
3	Hue	Hue

When Hue Rotation is selected

No.	Parameter	Adjustment
1	Luminance	Luminance
2	Saturation	Saturation
3	Speed	Speed at which hue changes

Notes

When using a page turn effect with one channel, the following restrictions apply.
- In an MKS-6570 or MVE-8000A HD system, parts of the back page other than the title appear as black when the input is, for example, a title.

Roll Settings

There are four modes: H&V, H, V, and Off. You can select the turn position, the radius of the turned portion, the amount and angle of turning, and the input video for the front and back pages.

Applying the Roll effect

Open the Non Linear >Roll menu (4141.20).
The parameter setting buttons in the Roll menu have the same items and parameters as those in the Page Turn menu *(☞ p. 199)*.

Notes

When using a roll effect with one channel, the following restrictions apply.

- When the input is, for example, a title in an MKS-6570 or MVE-8000A HD system, parts of the back page other than the title appear as black.

Cylinder Settings

You can set the degree of winding onto the cylinder, the radius, the horizontal position of the wound image, and front and back side output for the image.

Applying the Cylinder effect

In the Non Linear >Cylinder menu (4141.21), set the following parameters.

No.	Parameter	Adjustment
1	Radius	Degree to which image is wound onto the cylinder
2	Min R	Radius of the cylinder
3	Offset	Horizontal position of the image wound onto cylinder

The procedure for selecting the input signal in the <Back Video> group is the same as for the Page Turn menu *(☞ p. 199)*.

Notes

When using a cylinder effect with one channel, the following restrictions apply.

- When the input is, for example, a title in an MKS-6570 or MVE-8000A HD system, parts of the inner surface other than the title appear as black.

Sphere Settings

You can set the degree of winding onto the sphere, the radius, the horizontal position of the wound image, and front and back side output for the image.

Notes

You cannot monitor the part of a rotating sphere that corresponds to its axis on the monitor screen.

Applying the Sphere effect

Open the Non Linear >Sphere menu (4141.22).
The parameter setting buttons in the Sphere menu have the same items and parameters as those in the Cylinder menu *(☞ p. 200)*.

Notes

When using a sphere effect with one channel, the following restrictions apply.

- When the input is, for example, a title in an MKS-6570 or MVE-8000A HD system, parts of the inner surface other than the title appear as black.

Explosion Settings

You can set the pattern shape and aspect ratio, the center position, the amount of movement by fragments, the curvature of the transition path, and other parameters.

Applying the Explosion effect

1 In the <Mode> group of the Non Linear >Explosion menu (4141.25), select the explosion pattern.

Circle
Rectangle
Star
Heart
Ellipse

2 Set the following parameters.

When Circle was selected in step 1

No.	Parameter	Adjustment
1	Transition	Degree of transition
2	Curve	Degree to which image periphery expands
3	Spiral	Degree of curvature of transition path

When Rectangle, Star, Heart, or Ellipse was selected in step 1

No.	Parameter	Adjustment
1	Transition	Degree of transition
2	Curve	Degree to which image periphery expands
3	Aspect	Aspect ratio of waveform
4	Angle	Slant of waveform

To make the fragments stardust

1 Press [Pixel], turning it on.

2 Set the following parameters.

No.	Parameter	Adjustment
1	Density	Degree to which image disappears
2	Random	Degree of randomness in flying out fragment positions

To set the explosion center point

1 Press [Position], turning it on.

2 Set the following parameters.

No.	Parameter	Adjustment
1	H	Horizontal center position
2	V	Vertical center position

Swirl Settings

You can set the amount of swirl, the swirl region, the amount of rotation, and the swirl center position.

Applying the Swirl effect

In the Non Linear >Swirl menu (4141.26), set the following parameters.

No.	Parameter	Adjustment
1	Transition	Swirl amount
2	Center	Amount of rotation in center of swirl
3	Outer	Amount of rotation outside of Area
4	Area	Region of swirl

To make the tip of the swirl stardust

1 Press [Pixel], turning it on.

2 Set the following parameters.

No.	Parameter	Adjustment
1	Density	Degree to which image disappears
2	Random	Trail type and amount of stardust

To set the center position of the swirl

1 Press [Position], turning it on.

2 Set the following parameters.

No.	Parameter	Adjustment
1	H	Horizontal center position of swirl
2	V	Vertical center position of swirl

Melt Settings

You can set the degree of transition, the degree of extension in the image, the jaggedness of the melting sections, and the amplitude, frequency, amount of movement, and speed of the melting sections. You can also set the slant of the borders, the shape of the sections that begin to melt, and other parameters.

Applying the Melt effect

1 In the <Direction> group of the Non Linear >Melt menu (4141.27), select the direction in which the image melts away.

Up: Melting occurs upward.
Down: Melting occurs downward.

2 To make transition settings, press [Transition] and set the following parameters.

No.	Parameter	Adjustment
1	Transition	Degree of transition
2	Curve	Degree to which image stretches
3	Random	Degree of jaggies at melted part

3 To make wave settings for melting part, press [Border] and set the following parameters.

No.	Parameter	Adjustment
1	Amp	Amplitude of waves
2	Freq	Frequency of waves
3	Offset [a)]	Amount of wave phase offset
4	Speed [b)]	Direction and speed of waves
5	Slant	Slant of border

a) Set when Lock is on.
b) Set when Lock is off.

To stop the waves in the melting part

Press [Lock], turning it on.
With each press, the waves alternately stop and start moving again.

To select the shape of the part beginning to melt

Press [Form] and set the following parameter.

No.	Parameter	Adjustment
1	Form	Waveform[a)]

a) 1 (SINE): Sine wave
2 (PARABOLA): Parabolic wave
3 (TRIANGLE): Triangular wave
4 (RECTANGLE): Rectangular wave
5 (CIRCLE): Circular wave
6 (CUBIC): Cubic wave
7 (MELT 1): Melt waveform 1
8 (MELT 2): Melt waveform 2

To make the melting part stardust

1 Press [Pixel], turning it on.

2 Set the following parameters.

No.	Parameter	Adjustment
1	Density	Degree to which image disappears
2	Random	Degree to which pixel positions become more randomized further from the center

Character Trail Settings

You can set the effect starting position, the degree of expansion, the slant angle of the effect region, and trail direction, the degree to which the image disappears, the trail type and amount of stardust, and other parameters.

Applying the Character Trail effect

In the Non Linear >Character Trail menu (4141.28), set the following parameters.

No.	Parameter	Adjustment
1	Transition	Position where effect starts
2	Expand	Degree of expansion
3	Trans Angle	Angle of slanting in effect region
4	Trail Angle	Direction of trail

To make the tip of the trail stardust

1 Press [Pixel], turning it on.

2 Set the following parameters.

No.	Parameter	Adjustment
1	Density	Degree to which image disappears
2	Random	Trail type and amount of stardust

Applying Special Effects (Lighting and Recursive Effects)

Lighting Settings

You can specify the intensity and color of the light and the lighting pattern. The following lighting patterns are available:
Plane: Illumination of the entire screen.
Bar: Bar illumination. You can specify the width and angle of the bar, and its softness.
Preset: Lighting pattern suitable for nonlinear effects.

When Bar is selected, the following modes can be selected.
Normal: Emphasizes the bar highlight area.
Specular: An effect like light striking a surface with metallic reflections.
Mat: An effect like light striking paper, cloth, or another diffusively reflective surface.

Notes

The function for setting the bar mode of the lighting area is not supported on the MKS-6570 or MVE-8000A.

Applying the Lighting effect

1 Open the DME >Light/Trail >Lighting menu (4151).

2 Press [Lighting], turning it on.

3 In the <Light Pattern> group, select the lighting pattern Plane, Bar, or Preset.

4 Set the following parameters.

- Lowering the brightness of the image makes lighting more effective.
- The Total Ambient setting is shared with the Lighting function.

Notes

The Total Ambient function is not supported by the MKS-6570 or MVE-8000A.

When Plane is selected

No.	Parameter	Adjustment
1	Light	Intensity of light in highlight area
5	Total Ambient	Brightness of whole image

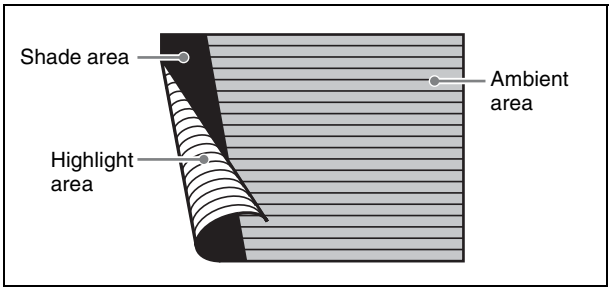
When Bar is selected

No.	Parameter	Adjustment
1	Light	Intensity of light in highlight area
2	Ambient	Intensity of light in ambient area
5	Total Ambient	Brightness of whole image

When Preset is selected

No.	Parameter	Adjustment
1	Light	Intensity of light in highlight area
2	Ambient	Intensity of light in ambient area
3	Shade[a)]	Intensity of light in shade area
5	Total Ambient	Brightness of whole image

a) Setting is available when nonlinear effect Page turn, Roll, Cylinder, or Sphere is selected.



The three regions for which the light intensity can be set

Setting the bar shape of the highlight area

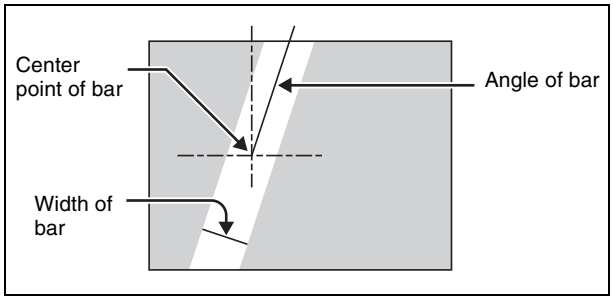
When you select [Bar] or [Preset] in step **3** of *"Applying the Lighting effect" (☞ p. 202)*, use the following procedure to set the shape of the bar.

1 In the Lighting menu (4151), press [Light Modify], turning it on.

2 Adjust the following parameters.

No.	Parameter	Adjustment
1	X	X-value of bar center point
2	Y	Y-value of bar center point
3	Angle[a)]	Angle of bar
4	Width	Width of bar
5	Soft	Softness of edges

a) There are some nonlinear effects for which Angle cannot be used.



Bar shape parameters

Setting the color of the light in the highlight area

1 In the Lighting menu (4151), press [Light Color], turning it on.

2 Adjust the following parameters.

No.	Parameter	Adjustment
1	Luminance	Luminance
2	Saturation	Saturation
3	Hue	Hue

Setting the bar shape of the shade area

When you select [Preset] in step **3** of *"Applying the Lighting effect" (☞ p. 202)*, use the following procedure to set the bar shape of the shade area.

1 In the Lighting menu (4151), press [Shade Modify], turning it on.

2 Adjust the following parameters.

No.	Parameter	Adjustment
1	X	X-value of bar center point
4	Width	Width of bar
5	Soft	Softness of edges

Setting the color of the shade in the shade area

1 In the Lighting menu (4151), press [Shade Color], turning it on.

2 Adjust the following parameters.

No.	Parameter	Adjustment
1	Luminance	Luminance
2	Saturation	Saturation
3	Hue	Hue

Setting the bar mode of the highlight area

When you select [Bar] in step **3** of *"Applying the Lighting effect" (☞ p. 202)*, use the following procedure to set the bar mode of the highlight area.

Notes

The bar mode setting of the light area is not supported on the MKS-6570 or MVE-8000A.

1 Select the mode in the <Bar Light Mode> group of the Lighting menu (4151).

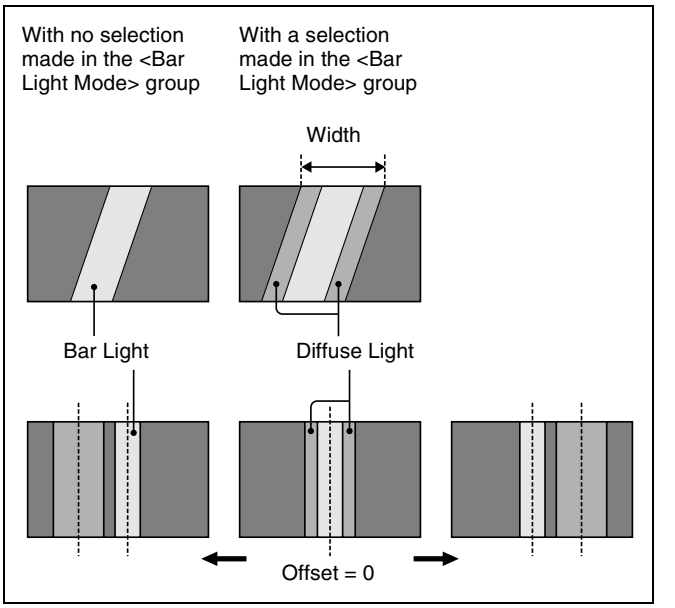
Normal: Emphasizes the bar highlight area.
Specular: An effect like light striking a surface with metallic reflections.
Mat: An effect like light striking paper, cloth, or another diffusively reflective surface.

2 Set the following parameters.

No.	Parameter	Adjustment
1	Intensity	Intensity of diffuse light area
2	Offset	Offset of center of diffuse light area
3	Width	Width of diffuse light area
4	Soft	Softness of diffuse light area

3 When you select [Normal] or [Mat] in step **1**, press [Bar Diffuse Color], turning it on, and adjust the following parameters to set the color of the diffuse light area.

No.	Parameter	Adjustment
1	Luminance	Luminance
2	Saturation	Saturation
3	Hue	Hue



Trail Settings

Notes

When trail is turned on, any of the following effects that are on are turned off: Motion Decay, Keyframe Strobe, Wind.

Applying the Trail effect

1 Open the DME >Light/Trail >Trail menu (4152).

2 Press [Trail], turning it on.

3 Set the following parameters.

No.	Parameter	Adjustment
1	Decay	Degree to which the trail is left
2	Interval	Freeze interval
3	Live	Ratio of live video inserted between freeze images

4 To erase the afterimages, press [Trail Eraser], turning it on.

Switching the priority between the current image and trail superimposed

In the <Priority> group of the Trail menu (4152), select the method of superimposition.
Over: Current image is on top.
Under: Trail is on top.

Selecting the source to create a trail

In the <Trail Source> group of the Trail menu (4152), select the source to create a trail.

Notes

- [Rainbow], [Mix Color], and [Ext Video] are not supported on the MKS-6570 or MVE-8000A.
- [Mix Color] or [Ext Video] can only be applied to one of the background *(☞ p. 215)*, flex shadow *(☞ p. 178)*, trail, and wind *(☞ p. 207)* effects. If you select [Mix Color] or [Ext Video] in one of these effects, a selection of [Mix Color] or [Ext Video] in any of the other effects is disabled, and [Flat Color] is selected in its place.
- When executing combining four channels of DME images, [Mix Color] and [Ext Video] in the flex shadow and background effects cannot be selected.

Freeze Video: Use freeze images of the input video as source of the trail.

Flat Color: Use a flat color matte as source of the trail. You can set the following parameters.

No.	Parameter	Adjustment
1	Luminance	Luminance
2	Saturation	Saturation
3	Hue	Hue

Hue Rotate: Use a single color matte with the hue changing for each frame as the afterimage. You can set the following parameters.

No.	Parameter	Adjustment
1	Luminance	Luminance
2	Saturation	Saturation
3	Hue Speed	Speed at which hue changes

Mix Color: Insert a mix color signal set in the Color Mix menu *(☞ p. 183)* in the afterimage portion.

Ext Video: Insert the external video signal input to the Ext IN connector in the afterimage portion.

Rainbow: Use a freeze image with the hue changing every frame in the afterimage portion. The difference from "Hue Rotate" is that many colors appear simultaneously.
For details about the Rainbow parameters, see the "Hue Rotate" item.

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

In the Trail menu (4152), press [Trail Eraser], turning it on. When the effect passes a keyframe, the afterimage is erased before writing a new afterimage.

Selecting the freeze timing

In the <Trail Freeze Timing> group of the Trail menu (4152), select the timing for freezing a trail.
Frame: Freeze in frame units.
Field: Freeze in field units.

Notes

The freeze timing setting is not required when the following signal formats are being used.
720P/50, 720P/59.94, 1080PsF/23.976, 1080PsF/24

Defocusing the afterimage portion

Notes

The function to defocus the trail afterimage portion is not supported on the MKS-6570 or MVE-8000A.

1 In the Trail menu (4152), press [Defocus], turning it on.

2 Set the following parameters.

No.	Parameter	Adjustment
1	Defocus V	Defocusing of the video signal
2	Defocus K	Defocusing of the key signal

Applying stardust to the afterimage portion

The afterimage portion becomes stardust, and gradually disappears.

1 In the Trail menu (4152), press [Dust], turning it on.

2 Set the following parameters.

No.	Parameter	Adjustment
1	Trail Dust	Amount of the afterimage disappearing as stardust [a)]
2	Dust Soft	Timing with which stardust disappears
3	Dust Size	Size of stardust
4	Dust Aspect	Aspect ratio of stardust

a) The way in which the afterimage disappears is affected by both Decay and Trail Dust parameter adjustments.

Setting a combine process

Select whether to add the Trail effect before or after the combine.

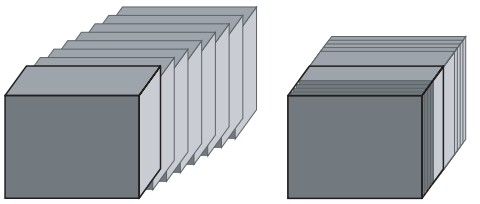
Notes

- The combine process function is not supported by the MKS-6570 or MVE-8000A.
- When you change the selection in the <Combine Process> group, the afterimages which had been added up to then disappear.
- When you do not combine images, the Trail effect only is applied, regardless of the selection in the <Combine Process> group.

Select one of the following in the <Combine Process> group of the Trail menu (4152).

Combine –> Trail: Add the Trail effect after the combine. As the trail parameters, the data for the channel with the lowest number among the channels being combined is enabled.

Trail –> Combine: Add the Trail effect before the combine. Trails parameters can be set independently for each channel.



Motion Decay Settings

Notes

When Motion Decay is turned on, any of the following effects that are on are turned off: Trail, Keyframe Strobe, Wind.

Blurring image motion

1 Open the DME >Light/Trail >Motion Decay menu (4153).

2 Press [Motion Decay], turning it on.

3 Set the following parameter.

No.	Parameter	Adjustment
1	Video Decay	Defocusing of the video signal

4 In the <Decay Mix Mode> group, select the way in which the video signal is blurred.

Soft: Mix the live image and the afterimage.

Hard: Show the lighter of the live image and afterimage.

5 To erase the afterimages, press [Decay Eraser], turning it on.

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

In the Motion Decay menu (4153), press [Decay Eraser], turning it on.
When the effect passes a keyframe, the afterimage is erased before writing a new afterimage.

Selecting the freeze timing

In the <Decay Freeze Timing> group of the Motion Decay menu (4153), select the timing for motion decay freezing.
Frame: Freeze in frame units.
Field: Freeze in field units.

Notes

The freeze timing setting is not required when the following signal formats are being used.
720P/50, 720P/59.94, 1080PsF/23.976, 1080PsF/24

Applying stardust to the afterimage portion

The afterimage portion becomes stardust, and gradually disappears.

1 In the Motion Decay menu (4153), press [Dust], turning it on.

2 Set the following parameters.

No.	Parameter	Adjustment
1	Decay Dust	Amount of the afterimage disappearing as stardust a)
2	Dust Soft	Timing with which stardust disappears
3	Dust Size	Size of stardust
4	Dust Aspect	Aspect ratio of stardust

a) The way in which the afterimage disappears is affected by both the Video Decay and Decay Dust parameter adjustments for the motion decay.

Keyframe Strobe Settings

Notes

When Keyframe Strobe is turned on, any of the following effects that are on are turned off: Trail, Motion Decay, Wind.

Leaving a trail of afterimages of the image

1 Open the DME >Light/Trail >KF Strobe menu (4154).

2 Press [KF Strobe], turning it on.

3 Set the following parameter.

No.	Parameter	Adjustment
1	Decay	Defocusing of the video signal

4 To erase the afterimages, press [KF Strobe Eraser], turning it on.

Selecting the overlay priority for movie and still images (video freeze image)

In the <Priority> group of the KF Strobe menu (4154), select the method of superimposition.

Over: The movie is on top, and the still image is underneath.

Under: The movie is underneath, and the still image is on top.

Mix: The movie and still images are mixed; adjust the following parameter.

No.	Parameter	Adjustment
1	Mix	Mix amount of the still image with respect to the movie

Selecting the freeze timing

In the <KF Freeze Timing> group of the KF Strobe menu (4154), select the timing for freezing the keyframe strobe.

Frame: Freeze in frame units.

Field: Freeze in field units.

Notes

The freeze timing setting is not required when the following signal formats are being used.

720P/50, 720P/59.94, 1080PsF/23.976, 1080PsF/24

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

In the KF Strobe menu (4154), press [KF Strobe Eraser], turning it on.

When the effect passes a keyframe, the afterimage is erased before writing a new afterimage.

Applying stardust to the afterimage portion

The afterimage portion becomes stardust, and gradually disappears.

1 In the KF Strobe menu (4154), press [Dust], turning it on.

2 Set the following parameters.

No.	Parameter	Adjustment
1	KF Strobe Dust	Amount of the afterimage disappearing as stardust[a)]
2	Dust Soft	Timing with which stardust disappears
3	Dust Size	Size of stardust
4	Dust Aspect	Aspect ratio of stardust

a) The way in which the afterimage disappears is affected by both the Decay and KF Strobe Dust parameter adjustments for the keyframe strobe.

Disabling the keyframe strobe afterimage

In the KF Strobe menu (4154), press [KF Strobe Disable], turning it on.

If you turn this function on when creating a keyframe, even as the effect passes a keyframe, no afterimage remains.

Setting a combine process

Select whether to add the Keyframe Strobe effect before or after the combine.

Notes

- The combine process function is not supported by the MKS-6570 or MVE-8000A.
- When you change the selection in the <Combine Process> group, the afterimages which had been added up to then disappear.
- When you do not combine images, the Keyframe Strobe effect only is applied, regardless of the selection in the <Combine Process> group.

Select one of the following in the <Combine Process> group of the KF Strobe menu (4154).

Combine –> KF STRB: Add the Keyframe Strobe effect after the combine.

As parameters, the data for the channel with the lowest number among the channels being combined is enabled.

KF STRB –> Combine: Add the Keyframe Strobe effect before the combine.

Parameters can be set independently for each channel.

Wind Settings

Notes

- The Wind function is not supported by the MKS-6570 or MVE-8000A.

- When Wind is turned on, any of the following effects that are on are turned off: Trail, Motion Decay, Keyframe Strobe.

Applying the wind effect

1 Open the DME >Light/Trail >Wind menu (4155).

2 Press [Wind], turning it on.

3 Set the following parameters.

No.	Parameter	Adjustment
1	Decay	Degree to which the trail is left
2	Shift H	Extension in the horizontal direction
3	Shift V	Extension in the vertical direction

4 To erase the afterimages, press [Wind Eraser], turning it on.

Selecting the signal for the afterimage portion

In the <Wind Source> group of the Wind menu (4155), select the image to fill the afterimage portion.

Notes

- [Mix Color] or [Ext Video] can only be applied to one of the background *(☞ p. 215)*, flex shadow *(☞ p. 178)*, trail *(☞ p. 204)*, and wind effects. If you select [Mix Color] or [Ext Video] in one of these effects, a selection of [Mix Color] or [Ext Video] in any of the other effects is disabled, and [Flat Color] is selected in its place.
- When executing combining four channels of DME images, [Mix Color] and [Ext Video] in the flex shadow and background effects cannot be selected.

Freeze Video: Use freeze images of the input video as source of the trail.

Flat Color: Use a flat color matte as source of the trail. You can set the following parameters.

No.	Parameter	Adjustment
1	Luminance	Luminance
2	Saturation	Saturation
3	Hue	Hue

Hue Rotate: Use a single color matte with the hue changing for each frame as the afterimage. You can set the following parameters.

No.	Parameter	Adjustment
1	Luminance	Luminance
2	Saturation	Saturation
3	Hue Speed	Rate at which hue changes

Mix Color: Insert a mix color signal *(☞ p. 183)* in the afterimage portion.

Ext Video: Insert the external video signal input to the Ext IN connector in the afterimage portion.

Rainbow: Use a freeze image with the hue changing every frame in the afterimage portion. The difference from "Hue Rotate" is that many colors appear simultaneously.
For details about the Rainbow parameters, see the "Hue Rotate" item above.

Applying modulation to the afterimage portion

1 In the Wind menu (4155), press [Modulation], turning it on.

2 Set the following parameters.

No.	Parameter	Adjustment
1	Amp H	Horizontal amplitude of the wave
2	Freq H	Frequency of waves in horizontal direction
3	Amp V	Vertical amplitude of the wave
4	Freq V	Vertical frequency of the wave

For details about Priority, Wind Freeze Timing, Wind Eraser, Defocus, Dust, and Combine Process in the Wind menu, ☞ "Trail Settings" (p. 204).

Spotlighting Settings

You can set up to three spotlight sources (lights 1 to 3).

Notes

- The spotlighting function is not supported by the MKS-6570 or MVE-8000A.
- The BZDM-9050 Texture Lighting Software (for MVE-9000) is required to set lights 2 and 3.
- When the global effect Combiner is enabled, the settings of the smallest-numbered channel selected for the Combiner are used.

Adjustments to the image surface

The following adjustments can be made to the image surface struck by the light.

- Adjusting the brightness of the whole image
- Selecting the image surface effect
- Test sphere function
- Adjusting the bumpiness of the image surface

- Coordinate axis on surface of image
- Texture deformations

Selecting the image surface effect

Flat: The image surface is unchanged, causing the selected light source to appear as the effect.

Texture: A texture appears on the surface of the image. Textures can be selected from among 30 patterns *(☞ p. 419)*.

Non Linear: Spotlighting effect is applied to an area to which a DME nonlinear effect is applied.

Notes

The BZDM-9050 is required to enable [Texture] and [Non Linear] settings on the MVE-9000.

Test sphere function

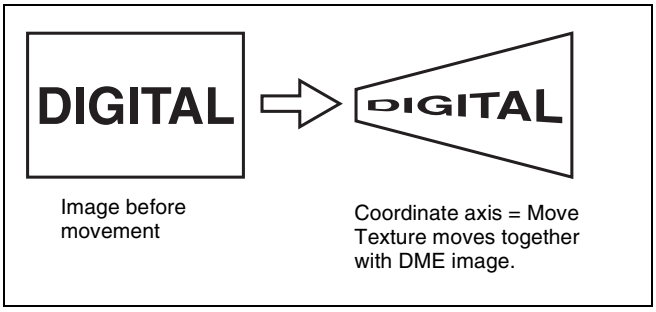
A test sphere is a translucent sphere virtually embedded in the center of the input picture to provide an intuitive way for you to check the position and direction of the spotlight. When you change the position or direction of a light source, the side of the sphere closest to the light source grows brighter. This allows you to easily check the position and direction of the light source.

For details about the test sphere function, ☞ "Relation between test spheres and parallel rays" (p. 210).

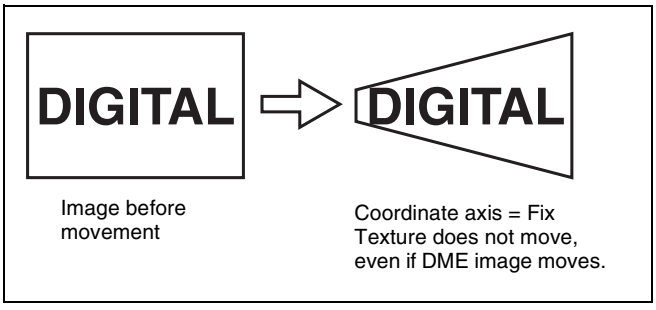
Coordinate axis on surface of image

Specify where to apply the texture or test sphere on the image surface.

Move: The texture moves together with the DME image.



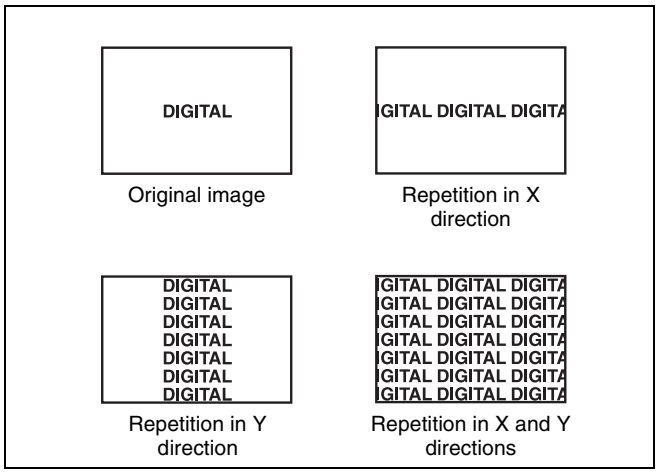
Fix: The texture does not move, even if the DME image moves.



Texture deformations

You can change the texture pattern, position, and size, and use the repetition function.

The following figure shows examples of a texture pattern repeated in the X and Y directions.



Setting lights

Light source types

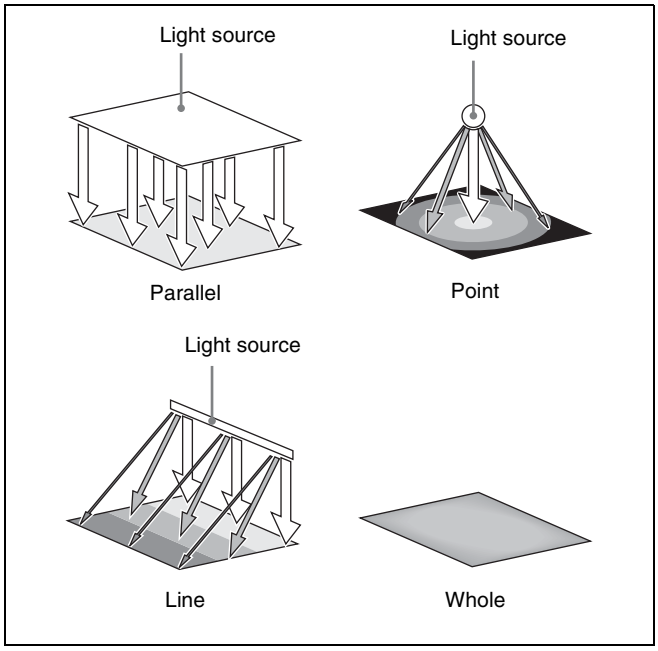
The following type of light sources are available (see figure below).

Parallel: Parallel light source

Point: Point light source. As the light source is placed further away, the illuminated range becomes wider and the light become weaker.

Line: Line light source

Whole: Non-directional light source which illuminates the whole image.

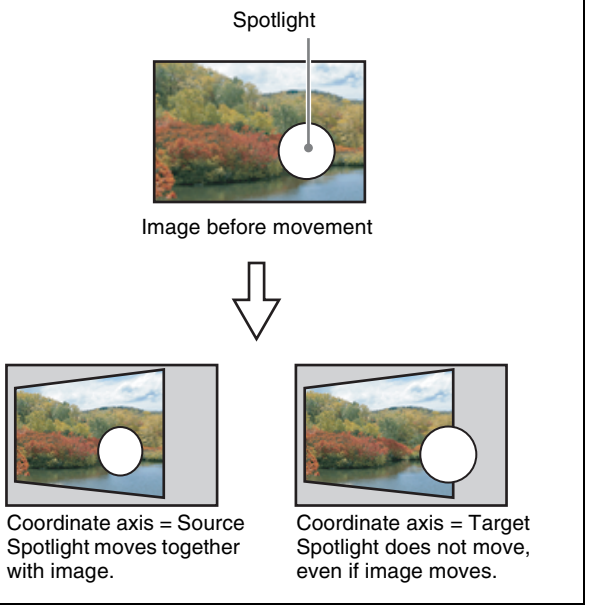


Linking and unlinking image and spotlight

The spotlight can move together with a DME image, or be fixed in place.

Source: Place the light source in source coordinate space. The spotlight is linked and moves when the image moves.

Target: Place the light source in target coordinate space. The spotlight does not move, even when the image moves.



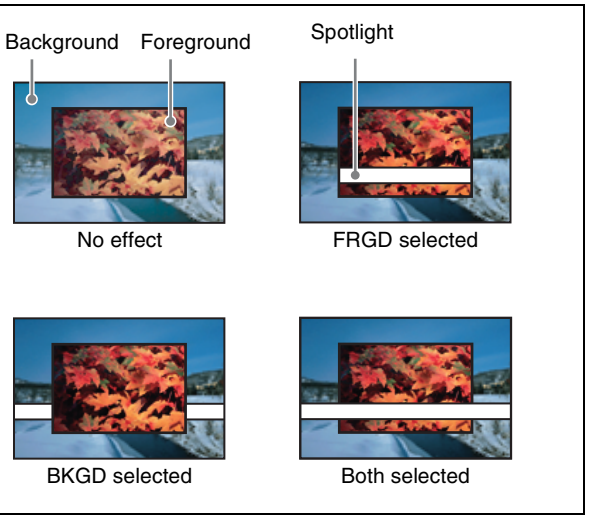
Selecting the lighted area

You can select the area lit by the spotlight.

FRGD: The light strikes the image foreground.

BKGD: The light strikes the image background.

Both: The light strikes both foreground and background.



Surface Flat

For the currently selected light source only, you can forcibly make the image surface effect flat.

This is effective when you have selected texture as image surface effect and want a flat effect for one light source only.

Light shape

Creates the spotlight shape.

- Select the shape pattern *(☞ p. 419)*.
- Set the size, degree of deformation, softness, and rotation.

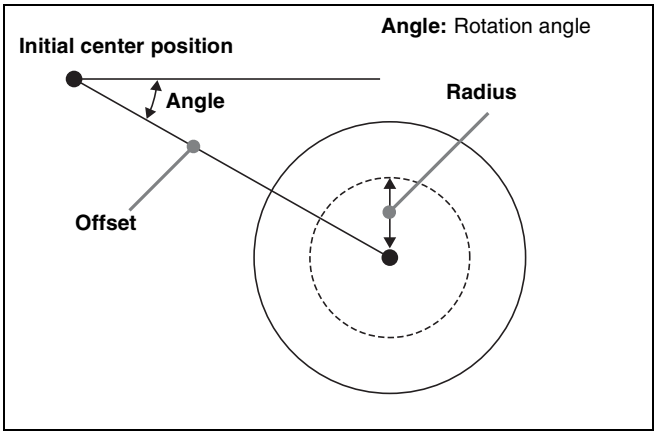
Ring settings

Shines the light with a hole in the middle, like a doughnut. Adjust the following parameters.

Offset: Distance to move the center of the ring from the initial position (the position set when selecting the light source in the <Spot Mode> group).

Radius: Inner side radius of the ring.

Angle: When an Offset is set, the rotation angle of the ring around the initial center position.



Fill blending modes

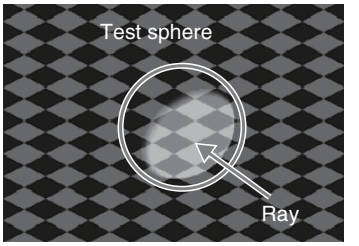
Specifies the way in which the light is blended with the image.

Mix: Light as if reflected from a mirror. The light can be given a color.

Multiply: Light as if reflected from a dull surface (diffuse reflection).

Relation between test spheres and parallel rays

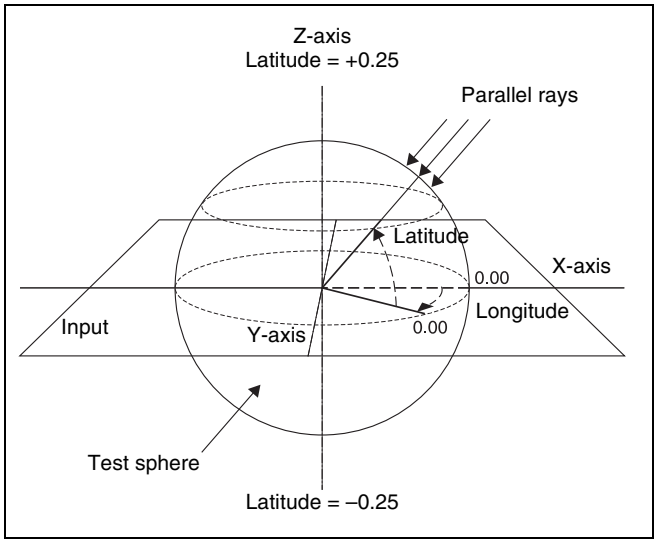
The following figure shows an example of the effect of parallel rays on a test sphere.



The direction of a ray is defined by longitude and latitude.

- Longitude: A direction (angle), expressed as a plus value for clockwise rotation in the plus direction with respect to the X axis of the input picture.
- Latitude: Latitude

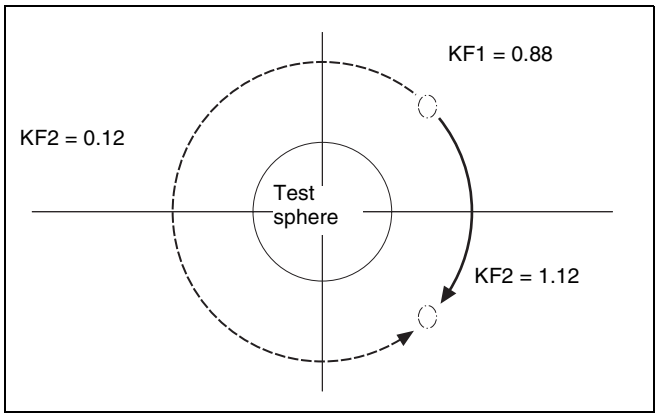
The following figure shows the relationships between the longitude and latitude of parallel rays, input picture, and test sphere.



The unit of these direction parameters is the number of rotations, with 360° (1 rotation) expressed as 1.00, in the same way as 3D rotation parameters.
The following relationships apply in the example shown in the figure.

Parameter	Setting values	Angle
Longitude	0.12	45°
Latitude	0.12	45°

The fractional part of the setting after the decimal point corresponds to an angle 0 to 360°. If the fractional parts of two setting values are the same, the effect is the same even if the integral parts are different.
The integral part of a setting value is used when moving a light source with keyframes.
For example, when the longitude of a light source rotates in the clockwise direction from 0.88 (315°) to 0.12 (45°), it rotates in the counterclockwise direction (the angle grows smaller) if the above values are used. In this case, the value of the second keyframe can be set to 1.12 (360° + 45°).



Keyframe trajectory

Setting the surface where light strikes the image

1 Open the DME >Light/Trail >Spot Lighting menu (4156).

2 Press [Spot Lighting], turning it on.

3 Set the following parameter.

No.	Parameter	Adjustment
1	Total Ambient	Brightness of whole image

- Lowering the brightness of the image makes Spotlighting more effective.
- The Total Ambient setting is shared with the Lighting function.

4 In the <Surface Select> group, select the state of the surface struck by the light.

Flat: The image surface is unchanged, causing the selected light source to appear as the effect.
Texture: A texture appears on the surface of the image.
Non Linear: The Spotlighting effect is applied to an area to which a DME nonlinear effect is applied.

Notes

- The BZDM-9050 Texture Lighting Software (for MVE-9000) is required to enable [Texture] or [Non Linear].
  An install key must be entered to use the software.

  For details, ☞ *"Installation and Device Setup" (p. 317).*

- The Spotlighting [Non Linear] setting is effective for the following nonlinear effects. For any other nonlinear effect, the result of selecting the [Non Linear] setting is the same as selecting [Flat].

Wave, Mosaic Glass, Flag, Ripple, Lens, Panorama, Page Turn, Roll.

5 If you selected [Texture] or [Non Linear] in step **4**, set the following parameters.

Parameters when you selected Texture

No.	Parameter	Adjustment
1	X	Movement in X-axis direction
2	Y	Movement in Y-axis direction
3	Size X	Image size in X-axis direction
4	Size Y	Image size in Y-axis direction
5	Amp	Emphasize bumps and depressions

Parameters when you selected Non Linear

No.	Parameter	Adjustment
5	Amp	Distance of light[a)]

a) Light appears from Z direction. At –100.00 the light goes deepest, at +100.00 the whole image is lit like a flat effect.

6 If you selected [Texture] in step **4**, select the pattern as explained in *"To select a texture pattern" (☞ p. 212)*.

7 If you selected [Texture] in step **4**, select the way it is applied in the <Surface Axis> group.

Move: The texture moves together with the DME image.
Fix: The texture does not move, even if the DME image moves.

For the difference between these application methods, ☞ "Coordinate axis on surface of image" (p. 209).

Notes

If [Non Linear] is selected in the <Surface Select> group, [Fix] is disabled. Behavior is the same as [Move].

To select a texture pattern

1 In the Spot Lighting menu (4156), press [Texture Ptn Select].

The Texture Ptn Select menu (4156.1) appears.
Two lists appear in the status area. The list on the left displays the number and name of the currently selected texture. The list on the right is for selecting a texture.

2 In the <Texture Pattern> group, press [User] or [Factory] to select the texture pattern list.

User: List of texture patterns created by the user. For details, *☞ "Adding User Texture Patterns" (p. 319)*.

Factory: List of texture patterns stored in the system when shipped from the factory.

3 Select a texture.

4 Press [Set].

To set a test sphere

1 In the Spot Lighting menu (4156), press [Test Sphere], turning it on.

A test sphere effect appears on the image surface.

2 Adjust the following parameter.

No.	Parameter	Adjustment
5	Amp	Distance of light[a)]

a) Light appears from Z direction. At –100.00 the light goes deepest, at +100.00 the whole image is lit like a flat effect.

For details about the relationship of test spheres and light sources, ☞ "Relation between test spheres and parallel rays" (p. 210).

Setting light sources

Up to three light sources (Light 1 to Light 3) for Spotlighting can be set by menus.

Light source menu

The following three light source menus are available.

Light source	Menu (page No.)
Light 1	DME >Light/Trail >Spot Lighting >Light 1 (4156.3)
Light 2	DME >Light/Trail >Spot Lighting >Light 2 (4156.5)
Light 3	DME >Light/Trail >Spot Lighting >Light 3 (4156.7)

Notes

The BZDM-9050 Texture Lighting Software (for MVE-9000) is required to enable Light 2 and Light 3.
An install key must be entered to use the software.

For details, ☞ "Installation and Device Setup" (p. 317).

To set light source data

The following describes how to set light source data with the Light 1 menu, as an example.
If you use multiple light sources, use the same procedure for all light sources.

1 In the <Spot Lighting Adjust> group of the Spot Lighting menu (4156), press [Light 1].

The Light 1 menu (4156.3) appears.

2 Press [Light 1], turning it on.

3 Set the following parameters.

No.	Parameter	Adjustment
1	Total Ambient	Brightness of whole image
2	Intensity	Intensity (brightness) of the light source
3	Soft	Softness of the lighted area

- Lowering the brightness of the image makes Spotlighting more effective.
- The Total Ambient setting is shared with the Lighting function.

4 In the <Spot Mode> group, select the type of light source *(☞ p. 209)*.

Parallel: Parallel light source. The direction can be set.
Point: Point light source. The position can be set.
Line: Line light source. The position and angle can be set.
Whole: Non-directional light source which illuminates the whole image (no settings).

5 According to the selected light source type, set the following parameters.

When Parallel is selected

No.	Parameter	Adjustment
1	Longitude	Longitude
2	Latitude	Latitude

When Point is selected

No.	Parameter	Adjustment
1	X	Movement in X-axis direction
2	Y	Movement in Y-axis direction
3	Z	Movement in Z-axis direction

When Line is selected

No.	Parameter	Adjustment
1	X	Movement in X-axis direction
2	Y	Movement in Y-axis direction
3	Z	Movement in Z-axis direction
4	Longitude	Longitude

6 In the <Axis Select> group, select the coordinate space in which to place the light source.

Source: Place the light source in source coordinate space. The spotlight moves when the image moves.

Target: Place the light source in target coordinate space. The spotlight does not move, even when the image moves.

For details about the coordinate space in which to place the light source, ☞ "Linking and unlinking image and spotlight" (p. 210).

To set a test sphere

1 In the Light 1 menu (4156.3), press [Test Sphere], turning it on.

A test sphere effect appears on the image surface.

2 Adjust the following parameter.

No.	Parameter	Adjustment
5	Amp	Distance of light a)

a) Light appears from Z direction. At –100.00 the light goes deepest, at +100.00 the whole image is lit like a flat effect.

To select the lighted area

In the <Area Select> group of the Light 1 menu (4156.3), select one of the following.
FRGD: The light strikes the image foreground.
BKGD: The light strikes the image background.
Both: The light strikes both foreground and background.

For details, ☞ "Selecting the lighted area" (p. 210).

Notes

- If you selected [Multiply] in the <Fill Blending Mode> group of the Light Color Adjust menu *(☞ p. 214)*, the light effect is not applied to the background, even if you select [BKGD] or [Both].
- If the setting of Brilliancy in the <Fill Source> group of the Light Color Adjust menu *(☞ p. 214)* is 100.00, the light effect is not applied to the background, even if you select [BKGD] or [Both].
- When the global effect Combiner is set to [Mix] or [Depth], the light effect is not applied to the background, even if you select [BKGD] or [Both].

To select Surface Flat

In the Light 1 menu (4156.3), press [Surface Flat], turning it on.
If you have selected anything other than [Flat] in the <Surface Select> group of the Spot Lighting menu, the part corresponding only to the surface being struck by the currently set light from the light source is shown in the same way as if [Flat] had been selected.

To set the shape of the light

1 In the Light 1 menu (4156.3), press [Shape], turning it on.

2 Set the following parameters.

No.	Parameter	Adjustment
1	Shape Ptn	Shape pattern[a)]
2	Size	Shape size
3	Deform	Amount of shape deformation[b)]
4	Soft	Softness of shape pattern
5	Angle	Angle of shape pattern rotation

a) For more information about the shape patterns, ☞ *"Shape Patterns" (p. 419)*.
b) Smaller values make the pattern more rounded.

To rotate the shape pattern

1 In the Light 1 menu (4156.3), press [Shape Speed], turning it on.

The display for the 5th parameter that was visible when [Shape] was selected changes.

2 Set the following parameter.

No.	Parameter	Adjustment
5	Speed	Rotation direction and speed

To change the light to a ring shape

Notes

If you select [Parallel] or [Whole] *(☞ p. 213)* in the <Spot Mode> group and shaping is disabled, the Ring parameter cannot be set.

1 In the Light 1 menu (4156.3), press [Ring], turning it on.

2 Set the following parameters.

No.	Parameter	Adjustment
1	Offset	Offset from center position (radius)
2	Radius	Radius of ring
3	Angle	Rotation angle of ring

Notes

There is no Radius setting when [Line] is selected in the <Spot Mode> group.

To rotate the ring

1 In the Light 1 menu (4156.3), press [Ring Speed], turning it on.

The display for the 3rd parameter that was visible when [Ring] was selected changes.

2 Set the following parameter.

No.	Parameter	Adjustment
3	Speed	Rotation direction and speed

To invert the lighted area

In the Light 1 menu (4156.3), press [Light Invert], turning it on.

To add color to the light source

1 Open the Light 1 >Light Color Adjust menu (4156.4).

2 In the <Fill Blending Mode> group, select how the light and image should be blended.

Mix: Light as if reflected from a mirror.
Multiply: Light as if reflected from a dull surface (diffuse reflection).

3 If you selected [Mix], select the fill color in the <Fill Source> group.

Flat Color: Monochrome color matte
Hue Rotation: Color matte with a color that gradually varies.

4 According to the selection, set the following parameters.

When Flat Color is selected

No.	Parameter	Adjustment
1	Luminance	Luminance
2	Saturation	Saturation
3	Hue	Hue
4	Brilliancy	Brilliance of surface struck by light

When Hue Rotation is selected

No.	Parameter	Adjustment
1	Luminance	Luminance
2	Saturation	Saturation
3	Speed	Speed at which hue changes
4	Brilliancy	Brilliance of surface struck by light

Copying or swapping light source settings

You can copy or swap the setting from one light source (Light 1 to Light 3) to another light source.

1 In the Spot Lighting menu (4156), press [Copy/Swap].

The Copy/Swap menu (4156.2) appears.

Two lists appear in the status area. The list on the left shows the copy or swap sources, and the list on the right shows the copy or swap destinations.

2 Select the target data.

3 Press [Copy] to copy, or press [Swap] to swap.

To undo a copy or swap

Press [Undo]. Settings are returned to their values before the copy or swap.

Applying Special Effects (Other Effects)

Background Settings

Adds a color or inputs an external signal to the background of the image.

Notes

Signal selection for this purpose is not supported on the MKS-6570 or MVE-8000A.

Applying the Background effect

1 Open the DME >Input/Output >Bkgd menu (4161).

2 Press [Bkgd], turning it on.

The Background effect is enabled. Only if [Flat Color] is selected in the <Bkgd Fill> group, you can adjust the parameters.

3 Set the following parameters.

No.	Parameter	Adjustment
1	Luminance	Luminance
2	Saturation	Saturation
3	Hue	Hue

Selecting the signal to insert in the background

When using the MVE-9000, you can select the signal to insert in the background.
With [Bkgd] set on, use the following procedure.

1 In the <Bkgd Fill> group of the Bkgd menu (4161), select one of the following.

Flat Color: Single color
Mix Color: Mix color signal set in the Color Mix menu *(☞ p. 183)*
Ext Video: An external video signal input to the Ext IN connector

Notes

- [Mix Color] or [Ext Video] can only be applied to one of the background, flex shadow *(☞ p. 178)*, trail *(☞ p. 204)*, and wind *(☞ p. 207)* effects. If you select [Mix Color] or [Ext Video] in one of these effects, a selection of [Mix Color] or [Ext Video] in any of the other effects is disabled, and [Flat Color] is selected in its place.
- When executing combining four channels of DME images, [Mix Color] and [Ext Video] in the flex shadow and background effects cannot be selected.

2 If [Flat Color] is selected in step **1**, adjust the following parameters.

No.	Parameter	Adjustment
1	Luminance	Luminance
2	Saturation	Saturation
3	Hue	Hue

Separate Sides Settings

Applies separate video signals and key signals to the front and back of the image.

Applying the Separate Sides effect

1 Open the DME >Input/Output >Video/Key menu (4162).

2 Press [Separate Side], turning it on.

The Separate Sides effect is enabled. If the video and key signals currently being output to the monitor are the front side, you can select the front signals. If they are the back side, you can select the back signals. Video and key signals are selected with the cross-point control blocks of each switcher bank.

Shaped Video Settings

For each of the front and back sides of the image, specifies whether to handle input video from the switcher as shaped video (key processed signals).
You can also make these settings for the output video.

Notes

When using the MKS-6570, shaped video of the first channel is always on. For the second channel, the input setting is Off and the output setting is On.

Switching shaped video on or off

1 Open the DME >Input/Output >Video/Key menu (4162).

2 In the <Shaped Video> group, press each of the following buttons to switch it on or off.

Front Input: When this is on, the front image of the input video signal is treated as shaped video.
Back Input: When this is on, the back image of the input video signal is treated as shaped video.
Output: When this is on, the output video signal is treated as shaped video.

About on and off for shaped video input (Front Input/Back Input)

Switch shaped video on and off according to the input video signals.
For example, switch the shaped video input on when the input signal is a key processed image such as computer graphics.
Switch the shaped video input off when the input signal is not key processed, for example when a video signal taken with a camera is cut out with a title or other key signal.

About on and off for shaped video output

Switch the shaped video output on and off to match the on and off state of the switcher clean video mode.
Also, when the shaped video output is on, it is recommended that the switcher key type be set to linear key.

About the relationship between shaped video output and effects

When the shaped video output is off, the video signal before key processing is output. According to the selected effect, the following states may result.
(a) The output video signal is affected by the key signal.
(b) When key processing is done, a different image may appear in the parts which are removed.
(c) There is no change in the output video signal for effects which are applied to key signals only.
When multiple effects are applied, the order of priority is (a) > (b) > (c).
The following explains the relationship between effects and states (a), (b), and (c).

(a) The output video signal is affected by the key signal

The output video signal is affected by the key signal when the following effects are selected. To prevent the signal from being affected, set the DME key source to Int Key, or choose an appropriate input key signal.

Page Turn, Roll, Cylinder, Sphere, Spotlighting, global effects (Combiner, Brick, Shadow)

(b) When key processing is done, a different image may appear in the parts which are removed

The following states result, depending on the selected effect.
Removal with the key can be checked by turning the background on.
Border, Beveled Edge: Added also to the outer side of the cropped video signal.
Trail, Keyframe Strobe: The key signal level of the afterimage portion varies with adjustments of the [Decay] parameter, but the afterimage portion of the video signal does not disappear until [Trail Eraser] ([KF Strobe Eraser]) is turned on or the effect is turned off.
Lighting: The Lighting effect is applied to the whole picture.
Spotlighting: If [BKGD] or [Both] is selected in the <Area Select> group, light strikes the entire background.

(c) No change in the output video signal for effects which are applied to key signals only

The following states result, depending on the selected effect.
Removal with the key can be checked by turning the background on.
Crop: The Copy effect is applied to the key signal only. The video signal does not change.
Edge Soft: The Edge Soft effect is applied to the key signal only. The video signal does not change.
Shadow, Flex Shadow, Combine Shadow: The key signal density changes. The video signal does not change.
Fade: The key signal density changes according to depth data. The video signal does not change.
Key Density: The key signal density changes. The video signal does not change.

Invert Settings

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

Applying the Invert effect

1 Open the DME >Input/Output >Video/Key menu (4162).

2 In the <Front> group (to invert front signals) or the <Back> group (to invert back signals), press the following buttons, turning them on.

H Invert: Invert video and key signals horizontally.
V Invert: Invert video and key signals vertically.

Key Density Settings

You can adjust the key density for the key signal input to the DME.

Setting the key density

1 Open the DME >Input/Output >Video/Key menu (4162).

2 Press [Key Density], turning it on.

3 Set the following parameter.

No.	Parameter	Adjustment
1	Key Density	Key density

Key Source Selection

You can select either the key signals received from the switcher or the key signals generated in the DME for application to the front and back of the image.

Selecting the key source

Notes

When the shaped video setting *(☞ p. 215)* is on, it is not possible to select the key source. It is fixed as [Ext Key].

1 Open the DME >Input/Output >Video/Key menu (4162).

2 In the <Front Key> group or <Back Key> group respectively, press one of the following, turning it on.

Ext Key: Use the key signal sent from the switcher as the key source.
Int Key: Use the full-size DME internal key signal as the key source.
Lum Key: Use the input video luminance signal as the key source.

3 When [Ext Key] or [Lum Key] is selected, set the following parameters.

No.	Parameter	Adjustment
1	Clip	Reference level for generating the key signal
2	Gain	Key sensitivity

Notes

- The [Ext Key] and [Lum Key] in the <Front Key> group share clip and gain settings. Similarly, [Ext Key] and [Lum Key] in the <Back Key> group also share clip and gain settings.
- The [Ext Key] parameter setting is only enabled when the shaped video setting is off.

Interpolation Settings

Specifies the methods used for interpolation processing of input video signals and input key signals.
For input video signals, you can select from the following four methods.

- Detect changes in the luminance and chrominance signals separately, and switch automatically between fields and frames. You can select the degree of change detection.
- Detect changes in the luminance signal separately, and switch automatically between fields and frames. You can select the degree of change detection.
- Perform interpolation in field units.
- Perform interpolation in frame units.

For input key signals, you can select from the following three methods.

- Detect changes in the luminance signal separately, and switch automatically between fields and frames. You can select the degree of change detection.
- Perform interpolation in field units.
- Perform interpolation in frame units.

You can also select the number of pixels used in interpolation processing.
In addition, you can select the method used to show the picture reduced or expanded.
Further, you can apply an anti-moiré filter to reduce the moiré patterns created by interpolation.

Notes

- Interpolation processing is possible for the following signal formats and DME systems.
  - MKS-6570 and MVE-8000A: 480i/59.94, 576i/50
  - MVE-9000: 480i/59.94, 576i/50, 1080i/59.94, 1080i/50
- The anti-moiré filter is only enabled when using the MKS-6570 or MVE-8000A.

Selecting an interpolation method

1 Open the DME >Input/Output >Process menu (4163).

2 In the <Video Field/Frame Mode> group, select the interpolation method for the video signal.

Adaptive Y/C: Detect changes in the luminance and chrominance components of the video signal separately, and switch automatically between fields and frames.
Adaptive Y: Detect changes in the luminance component of the video signal separately, and switch automatically between fields and frames.
Field: Perform interpolation in field units. This gives natural movement, suitable for moving video.
Frame: Perform interpolation in frame units. This gives higher image precision, suitable for still pictures.

3 If you selected [Adaptive Y/C] or [Adaptive Y] in step **2**, set the following parameter.

No.	Parameter	Adjustment
1	Mode	Degree of motion detection

4 In the <Key Field/Frame Mode> group, select the interpolation method for the key signal.

Adaptive: Detect changes in the luminance component of the key signal separately, and switch automatically between fields and frames.
Field: Perform interpolation in field units. This gives natural movement, suitable for moving video.
Frame: Perform interpolation in frame units. This gives higher image precision, suitable for still pictures.

5 If you selected [Adaptive] in step **4**, set the following parameter.

No.	Parameter	Adjustment
1	Mode	Degree of motion detection

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

Multi: Use multi-point interpolation. This gives higher picture quality.
Linear: Use two-point interpolation.

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

Mode1 (standard): Even when the picture is reduced, add compensation so that it can be seen clearly.
Mode2 (soft): Suppress aliasing when expanding or reducing the picture.
Mode3 (sharp): Do not suppress aliasing when expanding or reducing the picture.

Applying the anti-moiré filter

You can reduce the moiré patterns created by interpolation when an image is enlarged, compressed, or rotated.

Notes

This function is enabled only when using the MKS-6570 or MVE-8000A.

1 Open the DME >Input/Output >Process menu (4163).

2 Press [Anti Moire Filter], turning it on.

3 Set the following parameters.

No.	Parameter	Adjustment
1	Anti Moire Filter	Amount of moiré reduction

Corner Pinning Settings

Notes

When the Brick effect is enabled, the Corner Pinning function cannot be used.

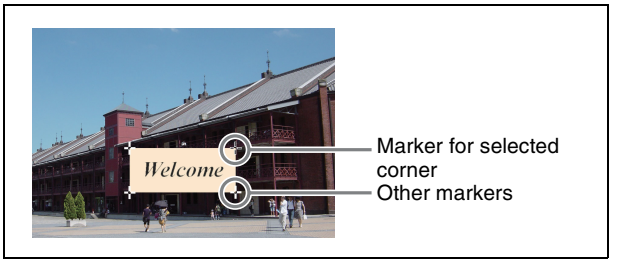
Setting the Foreground Corner Pinning positions

1 Open the DME >Non Linear/Corner Pin >Corner Pinning menu (4142).

2 Set [Corner Pinning] to On.

3 Set [Corner Marker] to On.

A marker appears for each corner. The marker for the selected corner is distinguished from the other markers.



4 In the <Corner Select> group, select the corner to operate on.

Top Left
Top Right

Bottom Left
Bottom Right
All: All four corners

5 Adjust the position of the corner selected in step **4**.

No.	Parameter	Adjustment
1	Pos X	Movement in X-axis direction
2	Pos Y	Movement in Y-axis direction

Resetting the corner positions

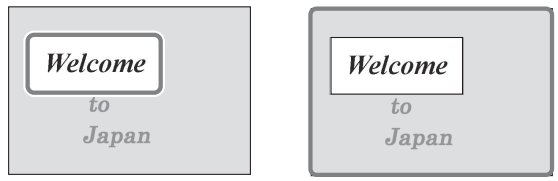
Press [Reset Corner].

Selecting the area used for pinning

When the foreground is cropped, press [Crop Link] in the Corner Pinning menu (4142) to select either of the following.

On: Use the area of the cropped image for positioning

Off: Use the area of the entire image, including the part hidden by cropping (shaded in the diagram below) for positioning



Area positioned by pinning when Crop Link is On

Area positioned by pinning when Crop Link is Off

(The bold frame shows the area used for positioning.)

Adjusting the density of the foreground

You can adjust the density of the foreground image to be translucent so that the background shows through, making it easier to position the corners.

Notes

This setting is not saved in a key frame or snapshot.

1 In the Corner Pinning menu (4142), press [Video Through], turning it on.

2 Adjust the following parameter.

No.	Parameter	Adjustment
4	Density	Image density

Adjusting the zoom

You can enlarge the image around the corner being adjusted, to allow fine positioning of the corner.

Notes

- This setting is not saved in a key frame or snapshot.
- This function is only enabled when combine is set.
- When all four corners are being positioned, this function cannot be used.

1 In the Corner Pinning menu (4142), press [Zoom Enable], turning it On.

2 Adjust the following parameter.

No.	Parameter	Adjustment	Setting values
5	Zoom	Degree of zooming in on the corners	1.00 to 16.00

Zoom Off

Zoom On

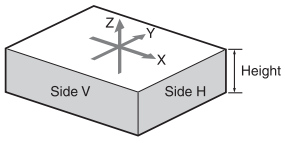
Global Effect Operations

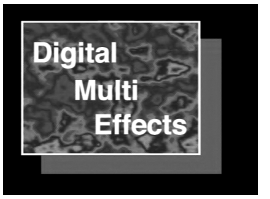
Overview

Global effects are special effects created by combining the images of successive channels. The Global Effect menu is used to add these effects. The following types of global effects are available.

Notes

The brick function cannot be used on the MKS-6570.

Effect	Description/image
Combiner	Automatically combines the selected images when multiple channels are selected on one keyer or for one transition.
Brick	Creates a rectangular parallelepiped from 3 successive channels. 

Effect	Description/image
Shadow	Gives the image a shadow. 

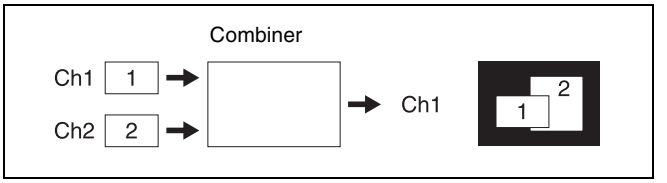
Combiner Settings

When multiple channels are selected on one keyer or for one transition, the Combiner automatically combines the selected images. Up to four channels can be combined. You can also control the way in which the combination is carried out, as a mix or an overlap with priority set automatically. For a mix, you can control the relative amounts of each channel.
Images can also be crossed in three dimensions.

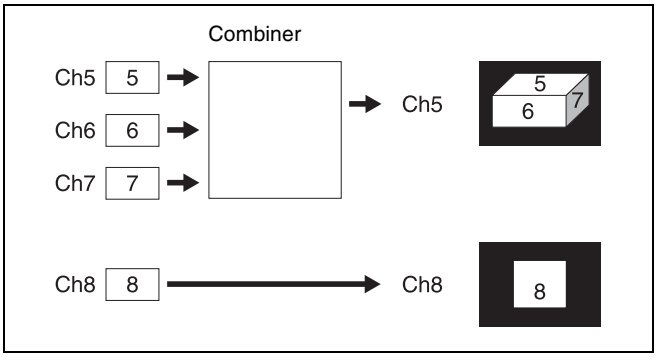
Notes

- The MKS-6570 can only use channels 1 and 2.
- The MVE-8000A and MVE-9000 can only use channels 5 to 8.
- Channels 1 and 2 and channels 5 to 8 cannot be combined.
- Three-dimensional image crossing is not supported on the MKS-6570 or MVE-8000A.

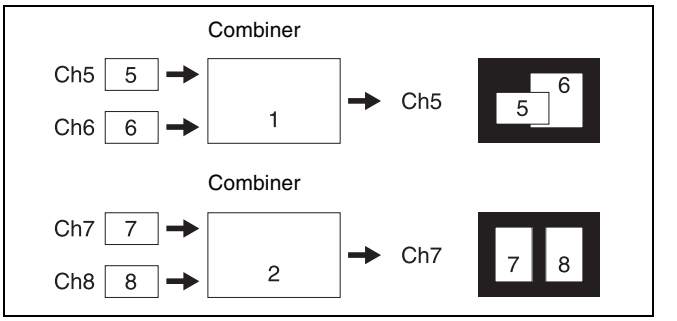
Combination of channel 1 (Ch1) and channel 2 (Ch2)



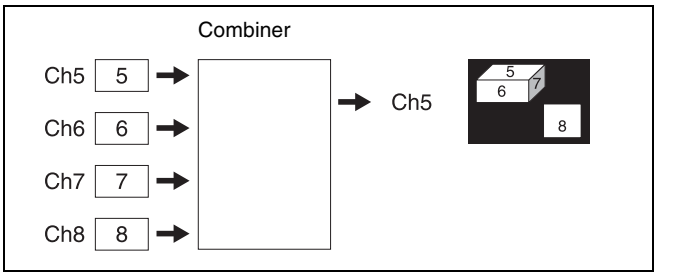
Combination of Ch5, Ch6, and Ch7



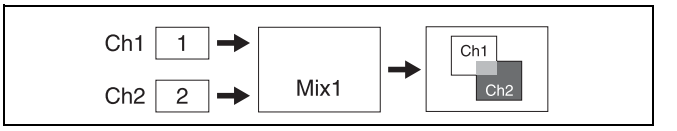
Combination of Ch5 and Ch6, and Ch7 and Ch8



Combination of Ch5, Ch6, Ch7, and Ch8



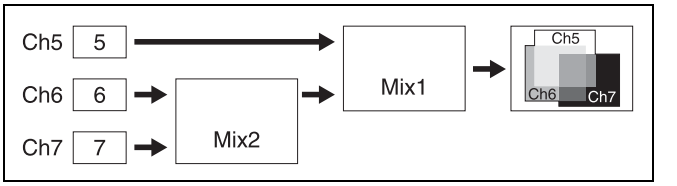
Mixing of Ch1 and Ch2



If the Mix1 setting is 70, the proportion of the channels in the mixed portion in the previous illustration is as shown in the following table.

Combination	Indication in figure	Ch1	Ch2
Ch1 and Ch2		30%	70%

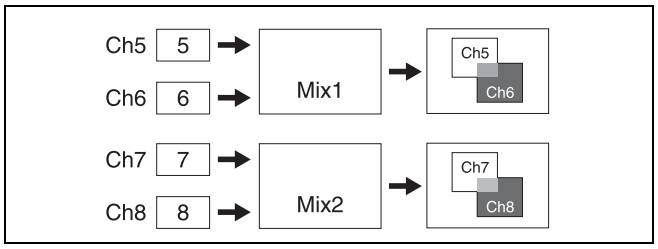
Mixing of Ch5, Ch6, and Ch7



If the Mix1 setting is 70 and the Mix2 setting is 40, the proportions of the channels in the mixed portions in the previous illustration are as shown in the following table.

Combination	Indication in figure	Ch5	Ch6	Ch7
Ch5 and Ch6		30%	70%	–
Ch6 and Ch7		–	60%	40%
Ch5 and Ch7		30%	–	70%
Ch5, Ch6, and Ch7		30%	42%	28%

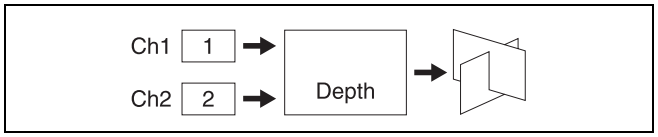
Mixing of Ch5 and Ch6, and Ch7 and Ch8



If the Mix1 setting is 70 and the Mix2 setting is 40, the proportions of the channels in the mixed portions in the previous illustration are as shown in the following table.

Combination	Indication in figure	Ch5	Ch6	Ch7	Ch8
Ch5 and Ch6		30%	70%	–	–
Ch7 and Ch8		–	–	60%	40%

Ch1 crossed with Ch2



Setting the combiners

The setting menu differs according to the combiner usage status.

For “Ch1+Ch2” (using MKS-6570)

1 Open the Global Effect >Ch1-Ch2 >Combiner Priority menu (4211).

2 If [Mix] or [Auto] is on, turn it off.

3 Select the top channel in the <Priority1> group, or select the bottom channel in the <Priority2> group.

4 To mix, press [Mix], turning it on.

5 Adjust the following parameter.

No.	Parameter	Adjustment
1	Mix1	Mix degree for channels 1 and 2

For “Ch5+Ch6+Ch7” and “Ch5+Ch6, Ch7+Ch8” (using MVE-8000A/9000)

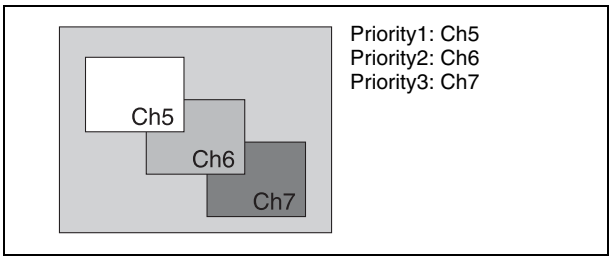
1 Open the Global Effect >Ch5-Ch8 >Combiner Priority menu (4221).

2 If [Mix], [Auto], or [Depth] is on, turn it off.

3 Perform the following according to the overlap method.

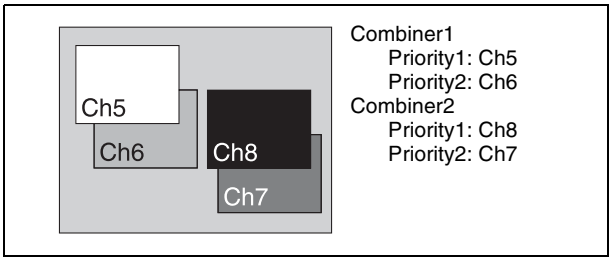
For “Ch5+Ch6+Ch7”

Under <Priority1> to <Priority3>, press [Ch5], [Ch6], and [Ch7], respectively, to set the overlap priority.



For “Ch5+Ch6, Ch7+Ch8”

Under <Combiner1 Priority1> and <Combiner1 Priority2>, press [Ch5] and [Ch6] respectively, and under <Combiner2 Priority1> and <Combiner2 Priority2>, press [Ch8] and [Ch7] respectively, to set the respective priorities for overlaying the images.



Combiner operations

Perform the following operations only when the DME is MVE-8000A or MVE-9000.

Notes

It is not possible to select channels with buttons in the control panel.

In the following, the example given is that channels 6 and 7 are combined, then channels 5+6 and channels 7+8 are combined, but other combinations are also possible.

1 Open the Global Effect >Ch5-Ch8 >Combine Gp Select menu (4227).

2 In the <Combine Gp Select> group, select the channel combination.

- To combine channels 6 and 7, press [Ch6+Ch7], turning it on.
- To combine the previously combined combinations of channels 5 and 6, and channels 7 and 8, press [Ch5+Ch6] and [Ch7+Ch8], turning them on.

Notes

The only two buttons that can be selected simultaneously are the combination of [Ch5+Ch6] and [Ch7+Ch8].

The selected channels are combined.

To cancel a combine

When for example [Ch6+Ch7] is on, pressing [Ch6+Ch7] once more turns it off. Alternatively, pressing a different combination button to select it cancels the combine selection for the current combination.

Mixing the images of up to four consecutive channels

1 In the Global Effect >Ch5-Ch8 >Combiner Priority menu (4221), press [Mix], turning it on.

2 Adjust the following parameters.

For "Ch5+Ch6"

No.	Parameter	Adjustment
1	Mix	Mix degree[a)]

a) ☞ p. 220.

For "Ch5+Ch6+Ch7"

No.	Parameter	Adjustment
1	Mix1	Mix degree for mix of channel 5 with result of Mix2[a)]
2	Mix2	Mix degree for channels 6 and 7[a)]

a) ☞ p. 220.

For "Ch5+Ch6+Ch7+Ch8"

The [Mix1] and [Mix2] parameters set the same parameters as for "Ch5+Ch6+Ch7" respectively. The [Mix3] parameter can also be set.

Mixing pairwise the images of channels 5 and 6, and channels 7 and 8

1 In the Global Effect >Ch5-Ch8 >Combiner Priority menu (4221), press [Combiner1 Mix], turning it on.

2 Adjust the following parameter.

No.	Parameter	Adjustment
1	Mix1	Mix degree for channels 5 and 6[a)]

a) ☞ p. 221.

3 Press [Combiner2 Mix], turning it on.

4 Adjust the following parameter.

No.	Parameter	Adjustment
1	Mix2	Mix degree for channels 7 and 8[a)]

a) ☞ p. 221.

Automatically setting the priority of overlapping images

To set the system so that the priority of overlapping images is automatically determined by their position on the Z-axis, in the Global Effect >Ch5-Ch8 >Combiner Priority menu (4221), press [Auto], turning it on.

Notes

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

Crossing images from up to four consecutive channels in three dimensions

Notes

Three-dimensional image crossing is not supported on the MKS-6570 or MVE-8000A.

1 In the Global Effect >Ch5-Ch8 >Combiner Priority menu (4221), press [Depth], turning it on.

2 Adjust the following parameters.

For "Ch5+Ch6"

No.	Parameter	Adjustment
1	Soft	Softness of edges of crossed section

For "Ch5+Ch6+Ch7"

No.	Parameter	Adjustment
1	Soft1	Softness of edges of channel 5 and channel 6 crossed section
2	Soft2	Softness of edges of channel 6 and channel 7 crossed section

For "Ch5+Ch6+Ch7+Ch8"

The [Soft1] and [Soft2] parameters set the same parameters as for "Ch5+Ch6+Ch7" respectively. The [Soft3] parameter can also be set.

Crossing images from channels 5 and 6, and channels 7 and 8 in three dimensions

Notes

Three-dimensional image crossing is not supported on the MKS-6570 or MVE-8000A.

1 In the Global Effect >Ch5-Ch8 >Combiner Priority menu (4221), press [Combiner1 Depth], turning it on.

2 Adjust the following parameter.

No.	Parameter	Adjustment
1	Soft1	Softness of edges of channel 5 and channel 6 crossed section

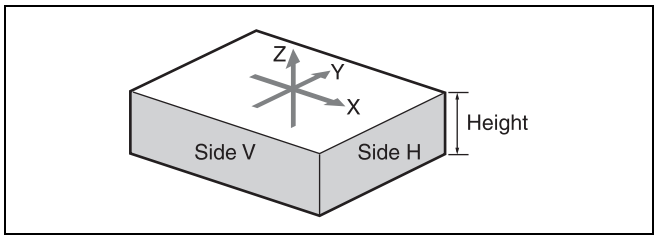
3 Press [Combiner2 Depth], turning it on.

4 Adjust the following parameter.

No.	Parameter	Adjustment
1	Soft2	Softness of edges of channel 7 and channel 8 crossed section

Brick Settings

Brick allows you to create a rectangular parallelepiped by using images of three consecutive channels.
The Brick effect can combine Ch5, Ch6, and Ch7, or combine Ch6, Ch7, and Ch8. The three images are displayed as shown in the following figure.



Combination of Ch5, Ch6, and Ch7

Upper side: Ch5 image
Side V: Ch6 image
Side H: Ch7 image

Combination of Ch6, Ch7, and Ch8

Upper side: Ch6 image
Side V: Ch7 image
Side H: Ch8 image
You can adjust the height of the brick, the overlap between the three images and the way to insert the side images.

Applying the Brick effect

1 Open the Global Effect >Ch5-Ch8 >Brick menu (4222).

2 Press [Brick], turning it on.

The Brick effect is enabled, and a rectangular parallelepiped (brick) showing the images of three channels appears. You can adjust parameters for the height of the brick and the overlap between the three images.

Notes

- When the Brick effect is enabled, the Z-axis position of the front image in the source coordinate frame is shifted by the amount of half the height. Therefore, the image is somewhat magnified.
- The flex shadow function *(☞ p. 178)* cannot be enabled when Brick is enabled.

3 Set the following parameters.

No.	Parameter	Adjustment
1	Height	Height of brick
2	Front Overlap	Front overlap
3	Side H Overlap	Side H overlap
4	Side V Overlap	Side V overlap

4 Specify the way to insert the side images when the height is changed by pressing one of the following buttons in the <Side V> group or the <Side H> group.

Crop: Crop the parts that do not fit into the side without shrinking the picture. You can set the following parameters.

No.	Parameter	Adjustment
1	H	Crop position on left side
2	V	Crop position on top side
3	Rotation	Angle of rotation, when rotated around the Z-axis of the source space

The set position becomes the upper left corner of Side V or Side H. The right and bottom sides of the inserted image are set automatically.

Compress: Images are inserted after being compressed. You can set the following parameters.

No.	Parameter	Adjustment
1	Top	Crop position on top side

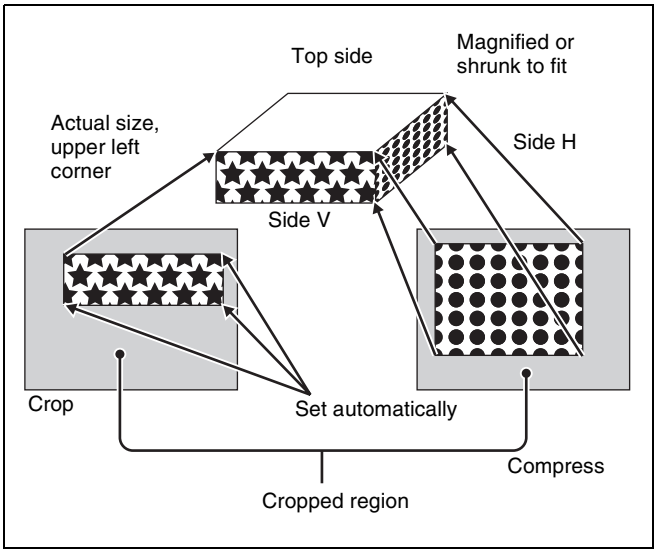
No.	Parameter	Adjustment
2	Left	Crop position on left side
3	Right	Crop position on right side
4	Bottom	Crop position on bottom side
5	Rotation	Angle of rotation, when rotated around the Z-axis of the source space

The part of the image defined by Top, Left, Right, and Bottom is magnified or shrunk to fit into Side V or Side H.

To invert the image in a side face

For example, to invert the image on the front of Side H in the <Side H Front> group, press the following buttons, turning them on.
Invert H: To invert horizontally.
Invert V: To invert vertically.
For the images on the other faces, use a similar operation in the following groups:

- Back image of Side H: <Side H Back> group
- Front image of Side V: <Side V Front> group
- Back image of Side V: <Side V Back> group



Shadow Settings

The effect uses two successive channels.
You can adjust the position and density of the shadow with respect to the image, and the color of the shadow.
The channel with the largest number (for example, Ch2 in the case of Ch1 and Ch2) becomes the shadow.

Notes

When the Combiner function is off, the shadow effect cannot be used.

Applying the Drop Shadow effect

Depending on the selected combiner channels, the valid buttons differ as follows.

For the MKS-6570

Combiner channel selection	Button				
	Ch1 Shadow	Ch5 Shadow	Ch6 Shadow	Ch5+ Ch6 Shadow	Ch6+ Ch7 Shadow
Ch1+Ch2	Enabled				

For the MVE-8000A or MVE-9000

Combiner channel selection	Button				
	Ch1 Shadow	Ch5 Shadow	Ch6 Shadow	Ch5+ Ch6 Shadow	Ch6+ Ch7 Shadow
Ch5+Ch6		Enabled			
Ch6+Ch7			Enabled		
Ch5+Ch6 +Ch7		Enabled		Enabled	
Ch6+Ch7 +Ch8		Enabled	Enabled		Enabled
Ch5+Ch6 +Ch7 +Ch8		Enabled	Enabled	Enabled	

Taking Ch1 Shadow as an example, the following explains the procedure for applying the Drop Shadow effect.

1 Open the Global Effect >Ch1-Ch2 >Shadow menu (4213).

2 Press [Ch1 Shadow], turning it on.

The Drop Shadow effect is enabled, and channel 2 becomes the channel for the shadow to the image.
You can adjust the position and density of the shadow.

Notes

The flex shadow function *(☞ p. 178)* cannot be enabled when Drop Shadow is enabled.

3 Adjust the following parameters.

No.	Parameter	Adjustment
1	Position H	Horizontal shadow position
2	Position V	Vertical shadow position
3	Density	Density of shadow

4 In the <Ch1 Shadow Source> group, select the shadow source signal.

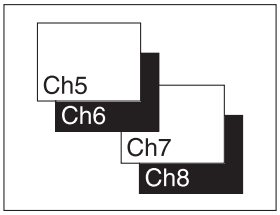
Video: Select Ch2 video input as the shadow.
Flat Color: Select a matte color as the shadow.

5 If you selected [Flat Color] in step **4**, adjust the following parameters.

No.	Parameter	Adjustment
1	Luminance	Luminance
2	Saturation	Saturation
3	Hue	Hue

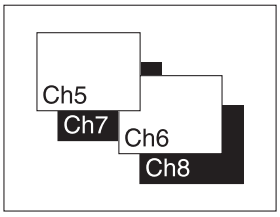
To combine the video images after applying a shadow

Select Ch5+Ch6 and Ch7+Ch8 using the combiner, then turn on [Ch5 Shadow] and [Ch7 Shadow] in the Ch5-Ch8 >Shadow menu (4223).



To apply a shadow after combining the video images

Select Ch5+Ch6+Ch7+Ch8 using the combiner, then turn on [Ch5+Ch6 Shadow] in the Ch5-Ch8 >Shadow menu (4223).



External Devices

Chapter 11

Control of External Devices

In this system, you can operate while controlling the following types of external devices.

- Devices supporting P-Bus (Peripheral II protocol)
- GPI devices
- VTRs
- Disk recorders (Sony disk 9-pin protocol and video disk communications protocol)
- Extended VTRs (Abekas A53 protocol)

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

Notes

- The Remote 1 to Remote 4 ports on the rear panel of the switcher processor do not support the Sony disk 9-pin protocol.
- To operate P-Bus devices, VTRs, Extended VTRs, and disk recorders, the following settings are required for the Remote 1 to Remote 4 ports on the rear panel of the switcher processor and the DCU 9-pin serial port.
  - Device type setting
  - Device name
  - Setting of control panel (SCU) to be used (DCU port only)

  For details, ☞ "Setting the Serial Ports" (p. 340) and ☞ "Making Serial Port Settings" (p. 369).
- When using a disk recorder or Extended VTR, always use the Device >DDR/VTR >File List menu (5333) to recall the file (☞ p. 238).

Shared Functions for External Device Control

Keyframe functions

There are 250 registers, numbered 1 to 250, holding external device control data as keyframe data (☞ p. 240) (only 99 registers for the GPI timeline).
The following are the keyframe functions that can be used.

- RECALL (1-250), STORE (1-250), 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 (☞ p. 239). You can manipulate data by recalling the register in which it is saved and using the Flexi Pad.

Register editing functions

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 containing VTR, disk recorder, or Extended VTR control data.)
- Lock
- Name

File-related functions

You can save and recall files as effects data using the File menu.

Control of P-Bus Devices

You can control P-Bus (Peripheral II protocol) devices from this system through the switcher Remote 1 to Remote 4 ports or DCU 9-pin serial port.

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 control panel controls external devices.

In the Setup menu, 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 either mode.

- 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 about keyframe creation and editing operations, ☞ "Creating and Editing Keyframes" (p. 250).

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]. Make this setting in the Engineering Setup >Panel >Device Interface menu (7325) *(☞ p. 339)*.

Setting an action

1 Open the Device >P-Bus Timeline >P-Bus Timeline menu (5321).

Two lists appear in the status area. The left list displays the 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 ID (0 to 23) of the device you want to set.

3 Select the action.

You can select from 2 (Store), 3 (Recall), and 4 (Trigger).

4 Set the register number or trigger number.

The indication for the 3rd parameter changes to reflect the selection of Store, Recall, or Trigger.

No.	Parameter	Adjustment
3	Store No	Register number for Store
3	Recall No	Register number for Recall
3	Trigger No	Trigger number

5 Press [Set].

Repeat steps **2** to **5** if setting other devices.

Testing an action command

Press [Test Fire].

The action command is output from the switcher Remote 1 to Remote 4 ports or DCU 9-pin serial port.

Clearing an action setting

To clear the setting for separate devices

Select the device, select action 1 (Off), then 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 Flexi Pad 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, press [Rewind Action] in the Device >P-Bus Timeline >P-Bus Timeline menu (5321) to recall the Rewind Action menu (5321.1). 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, ☞ "Setting the First Keyframe When a Rewind is Executed" (p. 341).

Carrying out a Direct Store

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

1. In the Device >P-Bus Timeline >P-Bus Timeline menu (5321), select the device ID.
2. Press [Direct Store].
3. Enter the register number (1 to 250) for which you want to carry out the Learn.
4. Press [Enter].

P-Bus Trigger

"P-Bus trigger" is a function whereby a button operation in the Flexi Pad 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 (7325).

For details, ☞ "Setting the Control Mode for P-Bus Devices" (p. 339).

Action command for an operation in the Flexi Pad

- RCLL: Recall
- STOR: Store

This recalls the register specified in the numeric keypad control block, and a Recall or Store is carried out, according to the setting.

- RUN: Trigger 1
- REWIND: Trigger 4
- >> NEXT: Trigger 7
- << PREV: Trigger 8

Outputting an action command

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

1. In the Flexi Pad, press the [EFF] button, turning it on.
2. Select [PBUS] using the region selection buttons.
3. Enter the number of the register (1 to 250) to be recalled with the numeric keypad buttons.
4. Press the [ENTR] button.

Control of GPI Devices

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

Notes

If using a switcher GPI output port, a controllable output port must be assigned using the control panel.
Make this setting in the Engineering Setup >Panel >Device Interface >Tally/GPI Output Config menu (7325.12).

For details, ☞ "Assigning a Parallel Output Port" (p. 339).

GPI timeline

For a keyframe effect controlled from the 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

- Switcher GPI output port
- DCU GPI output port

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 about keyframe creation and editing operations, ☞ "Creating and Editing Keyframes" (p. 250).

GPI output port settings

Set the GPI output port number of the switcher or DCU which outputs GPI pulses at a keyframe point on the GPI timeline.
Use the following procedure to change the settings.

1 Open the Device >GPI Timeline >GPI Timeline menu (5311).

Two lists appear in the status area.
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 settings in this list will be saved as keyframe point data.
The "GPI Port" list on the right is for selecting the GPI trigger pulse output destination.

2 Select the GPI timeline port.

3 Select the trigger pulse output destination.

You can select from 2 (SCU) and 3 (DCU).

4 Set the port number.

The indication for the 3rd parameter changes to reflect selection of SCU or DCU.

No.	Parameter	Adjustment
3	SCU Port No	SCU GPI port number[a)]
3	DCU Port No	DCU GPI port number

a) Switcher GPI output port configured in the Setup menu for control from the control panel.

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, ☞ "Making Control Panel GPI Output Settings" (p. 338) and ☞ "Making DCU GPI Output Settings" (p. 368).

5 Press [Set].

Repeat steps **2** to **5** if setting other GPI timeline ports.

Test firing the trigger

Press [Test Fire].
This outputs a pulse from the selected output port.

Clearing output port settings

To clear the setting for each port

1 In the list on the left of the status area, select the GPI output port.

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

3 Press [Set].

To clear the settings for all ports

Press [All Off].

Setting the action for a rewind operation

On the GPI timeline, when the [REWIND] button in the Flexi Pad 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, press [Rewind Action] in the Device >GPI Timeline >GPI Timeline menu (5311) to recall the Rewind Action menu (5311.1). 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 about the setting operation, ☞ "Setting the First Keyframe When a Rewind is Executed" (p. 341).

Control of VTRs, Extended VTRs, and Disk Recorders

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

- Controlling manually from the device control block
  - VTR, disk recorder or Extended VTR selection
  - Tape and disk transport control

- Start point, stop point, and start delay time settings
- VTR/disk recorder recording
- Loop/recue setting

• 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 Flexi Pad (Cueup & Play and VTR/disk recorder/Extended VTR timeline).

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 switcher Remote 1 to Remote 4 ports or DCU 9-pin serial port, assign a button in the device control block.

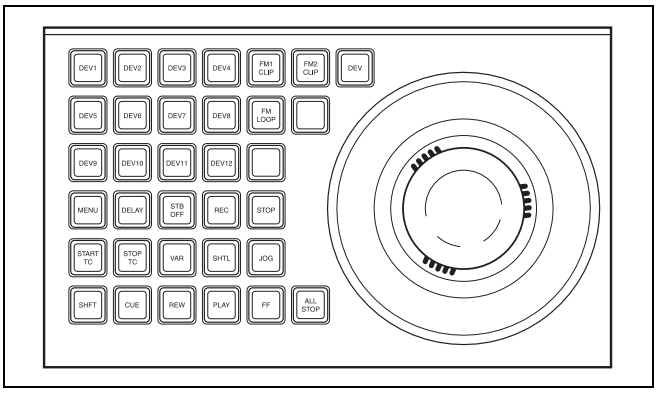
• **Timecode source:** When using a VTR, specify a reference signal used for determining the tape position.

For details, ☞ "Associating a Port with a Device Selection Button" (p. 339), ☞ "Setting the Serial Ports" (p. 340), and ☞ "Making Detailed Settings on the External Device Connected to the Serial Port" (p. 369).

Controlling the Tape/Disk Transport

To switch to VTR/disk recorder/frame memory operation mode

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



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

Button	Operation
DELAY	Press this button, turning it on, to enter a delay value from the Flexi Pad.

Button	Operation
STB (standby) OFF	Press this button to switch to standby off mode. This button cannot be used for frame memory clip operations.
REC (record)	Press this button at the same time as the [PLAY] button to start recording. This button cannot be used for frame memory clip operations.
STOP	Press this button to stop the tape, disk or frame memory clip.
START TC (start timecode) STOP TC (stop timecode)	Press these buttons to set the timecode of the start and stop points to the current time at those points. When the device the operation applies to is a VTR/disk recorder, the start/stop point updated by the setting of the [MENU] button is as follows. • When the [MENU] button is On: Point on the timeline • When the [MENU] button is Off: Point for cue-up and play
VAR (variable speed play)	Press this button and turn the Z-ring to play or rewind the tape, disk or frame memory clip at a variable speed (–1 to +3 times normal playback speed) and direction proportional to the rotation angle of the Z-ring.
SHTL (shuttle)	Press this button and turn the Z-ring to play or rewind the tape, disk or frame memory clip at a variable speed and direction proportional to the rotation angle of the Z-ring.
JOG	Press this button and turn the Z-ring to frame advance the tape, disk or frame memory clip at a speed and direction proportional to the rotation of the Z-ring.
CUE	Press this button to cue-up the start point of the tape, disk or frame memory clip.
REW (rewind)	Press this button to rewind the tape, disk or frame memory clip.
PLAY	Press this button to play the tape, disk or frame memory clip.
FF (fast forward)	Press this button to fast forward the tape, disk or frame memory clip.
ALL STOP	Press this button to stop all tape, disk or frame memory clip operations.

Selecting a VTR/Extended VTR/disk recorder

To select the VTR/Extended VTR/disk recorder, press the corresponding device buttons, turning them on, in the device control block. You can turn on more than one button at the same time.

For details about frame memory clip operations, ☞ "Frame Memory Clip Operations" (p. 135).

Controlling the tape/disk transport

Using the buttons in the device control block, you can control the tape transport or the disk transport.
You can operate a VTR, Extended VTR, or disk recorder from the transition control block, when configured in the Setup menu.

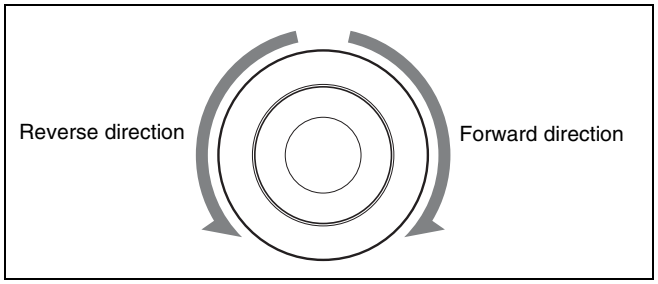
For details about the setting operation, ☞ "Setting Transition Control Block Button Assignments" (p. 327).

Variable-speed playback modes

With the device control block, you can play back the material on an external device at variable speed.
Turning the Z-ring in the device control block controls the direction and speed of playback in response to the direction and angle of rotation. There are three operation modes: jog, shuttle, and variable.

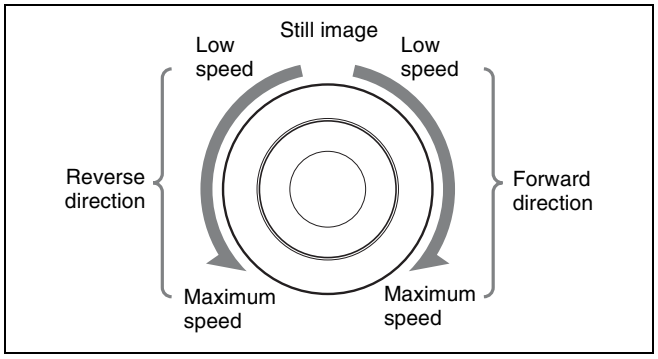
Jog mode

Pressing the [JOG] button, lighting it amber, changes the Z-ring to jog mode. In this mode, you can advance material frame by frame at a speed proportional to the rotation angle of the Z-ring. To show a still image, stop turning the Z-ring.



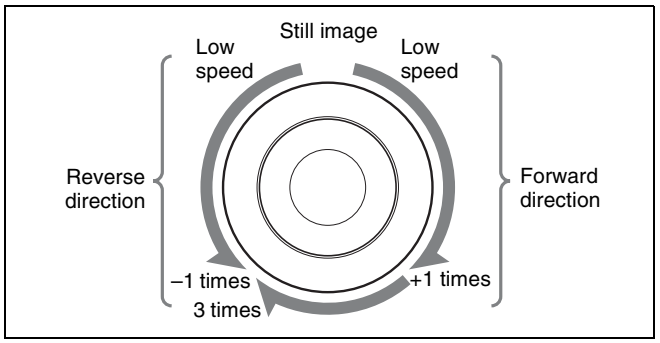
Shuttle mode

Pressing the [SHTL] button, lighting it amber, changes the Z-ring to shuttle mode. In this mode, the playback speed varies in steps according to the rotation angle of the Z-ring, up to a maximum of 50 times normal.



Variable mode

Pressing the [VAR] button, lighting it amber, changes the Z-ring to variable mode. In this mode, the playback speed varies according to the rotation angle of the Z-ring from –1 to +3 times normal speed.



To disable the Z-ring and cancel variable mode, press the [STOP] button. Alternatively, pressing any of the [REW], [PLAY], [FF], [STB OFF], and [ALL STOP] editing buttons cancels variable mode.

Recording to VTRs and disk recorders

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

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 *(☞ p. 369)*.
- When using a disk recorder, recording is not possible unless a new file name is specified.

  For details about file name settings, ☞ "Creating new files" (p. 238).

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 as the reference device, and subsequently pressed 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 (5333) 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 following information using the Device >DDR/VTR >Cueup & Play menu (5331).

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.

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

a) Not supported by Extended VTR.

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 each device.

Cueup & Play

You can use the device control block or Device menu to save Cueup & Play settings (start point timecode, stop point timecode, start delay time, and so on) for a VTR, disk recorder or Extended VTR in an effect register. By recalling this register, you can operate the following buttons in the Flexi Pad 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: Plays repeatedly between the start point and stop point.

When recue is set: Automatically cues up the start point when play reaches the stop 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.

Press the [RUN] button to play to a point close to the end of a file, stop playback, then press the [RUN] button once more.

In such cases, first recall a different register, then carry out the following sequence:

Recall the original register again, press the [REWIND] button, then press the [RUN] button.

Making and saving settings relating to Cueup & Play

1 In the Flexi Pad, press the [EFF] button, turning it on.

2 Press the button corresponding to the region you want to select, turning it on.

You can select more than one button.

For details about the method of region selection, *☞ "Selecting regions in the Flexi Pad" (p. 247).*

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 entered register number or corresponding register number appears in the alphanumeric display. If the number is followed by a letter "e" or "E," this indicates the following.

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

E: Indicates that the corresponding register is empty in all selectable regions.

4 Press the [ENTR] button.

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

5 When using the device control block, press the [DEV] button, turning it on.

Notes

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

6 With the 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 as the reference device, and subsequently pressed 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.
  Each time you press the button the start point timecode is overwritten.
- Setting with the Cueup & Play menu:
  Set the start point, stop point, and start delay duration *(☞ p. 234).*

8 Set the stop point.

Setting the start point and stop point automatically determines 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.
  Each time you press the button the stop point timecode is overwritten.
- Setting with the Cueup & Play menu:
  Set the start point, stop point, and start delay duration *(☞ p. 234).*

9 To set a start delay time, press the [DELAY] button in the device control block, and enter a value in the Flexi Pad. Alternatively, make the setting in the Cueup & Play menu.

If no setting is required, continue to step **10**.

10 Press the [STOR] button in the Flexi Pad.

11 Enter the register number to save with the numeric keypad buttons.

When overwriting the settings in the register recalled in step **3**, entering a number is not required.

12 Press the [ENTR] button.

Automatically running cue up and play

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 Flexi Pad, press the [EFF] button, turning it on.

2 Press the button corresponding to the region you want to select, 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.

4 Press the [REWIND] button.

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.

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

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

1 Open the Device >DDR/VTR >Cueup & Play menu (5331).

The status area shows the device number, register number, status information, current time, start point, stop point, and start delay time.

2 Select the device.

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.

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].

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

Select the device, then press [Clear] in the <Start TC> group, <Stop TC> group, <Delay> group, as required.

Selecting Loop or Recue as the playback mode

You can set the device operation mode to loop or recue.
Loop: Plays from the start point of a file to the stop point, then repeats playback from the start point.
Recue: Plays from the start point of a file to the stop point, then returns to the start point and stops.

Notes

- Loop and recue functions are only available when using the video disk communications protocol. Also, the functions may not operate depending on the connected device.
- To use the loop or recue function, it is necessary to enable the function in the Setup menu.

For details, ☞ "Setting the Serial Ports" (p. 340) and ☞ "Making Detailed Settings on the External Device Connected to the Serial Port" (p. 369).

1 Open the Device >DDR/VTR >Cueup & Play menu (5331).

The status area shows the device number, register number, status information, current time, start point, stop point, start delay time, and playback mode.

2 Select the device.

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 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

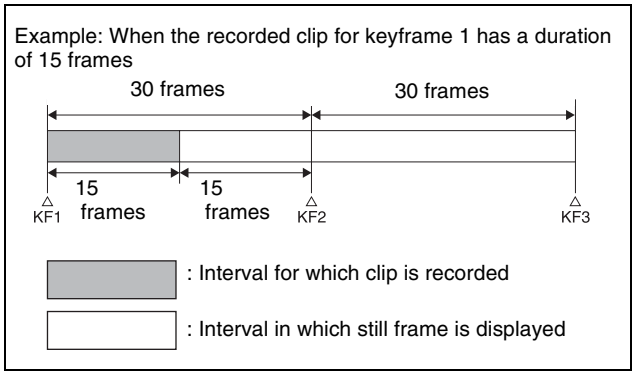
- Start
- Stop
- Cueup
- Variable speed

You can save the data set in the Device menu in keyframe effect registers. When you recall this register and start execution of the keyframe effect, and advance the effect to the keyframe point for which the action is set, an action command is output to the external device through the 9-pin serial port assigned to the VTR, disk recorder or Extended VTR.

Notes

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

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



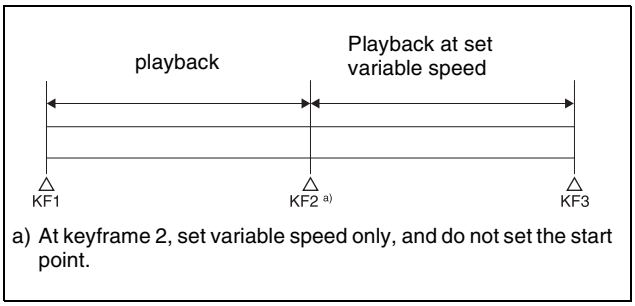
In this example, when keyframe 1 is executed, the first 15 frames consist of clip playback and the remaining 15 frames show the 15th frame as a still image.

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).



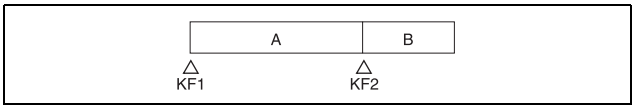
a) At keyframe 2, set variable speed only, and do not set the start point.

- 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.

  Press the [RUN] button to play to a point close to the end of a file, stop playback, then press the [RUN] button once more.

  In such cases, first recall a different register, then carry out the following sequence:

  Recall the original register again, press the [REWIND] button, then press the [RUN] button.
- Some operating limitations apply when the video disk communications protocol is used. These are explained with reference to the following figure, which illustrates creation of a timeline that plays from the video of file A to the video of file B.



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

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

- Partial operating limitation:

KF1 action setting	Operating status of file A	KF2 action setting
Start	Playback	Variable Speed set[a)]
Variable Speed set	Playback 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	Playback 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 about keyframe creation and editing operations, ☞ *"Creating and Editing Keyframes" (p. 250).*

To set an action in the menu

1 Open the Device >DDR/VTR >Timeline menu (5332).

Two lists appear in the status area. 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. The list 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 Select the device.

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 (5333).

Notes

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

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

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

Cueup: Outputs a command to cue up to the currently displayed start point.

Start: Outputs a Play command.

Notes

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

Stop: Outputs 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 If setting a start point, press [Set] in the <Start TC> group.

If not setting a 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].

8 If setting a stop point, press [Set] in the <Stop TC> group.

If not setting a stop point, skip to step **11**.

9 Set the stop point as a timecode value.

10 Press [Enter].

11 If setting a variable speed, in the <Variable Speed> group, carry out either of the following.

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

No.	Parameter	Adjustment
2	Variable	Variable speed

Repeat steps **2** to **11** if setting 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

Check that the [MENU] button is lit amber. If it is not lit, press it, turning it on.

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

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

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

To test an action command output

Select the desired device from the upper list in the status area, and press [Test Fire].

The action command is output from the switcher Remote 1 to Remote 4 ports or DCU 9-pin serial port.

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

Select the device from the upper list in the status area, then press [Clear] in the <Start TC> group, <Stop TC> group, <Variable Speed> group, as required.

To set the action for a rewind operation

On the VTR/disk recorder/Extended VTR timeline, when the [REWIND] button in the Flexi Pad 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 (5332), press [Rewind Action] to recall the Rewind Action menu (5332.1). 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 about the setting operation, ☞ "Setting the First Keyframe When a Rewind is Executed" (p. 341).

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.

Recalling a file

Before playback and similar operations on a disk recorder/Extended VTR, it is first necessary to display a list of the files.

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 switcher Remote 1 to Remote 4 ports or 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 details about file name settings, ☞ "Sharing disk recorder/Extended VTR file lists" (p. 339).

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

1 Open the Device >DDR/VTR >File List menu (5333).

Two lists appear in the status area.

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 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. For Extended VTR, the register number is shown as the file name.

2 Select the device.

3 Press [File List Update].

File list sharing

You can share the recalled file list across serial ports connected to the same disk recorder *(☞ p. 339)*.

Sorting files in the list

Select [File Name], [File No], or [Update] in the <Sort> group after step **2** above.
File Name: Sorts in alphabetical order of file name.
File No: Sorts in ascending file number order.
Update: Sorts 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.

Loading Files

Notes

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

1 Open the Device >DDR/VTR >File List menu (5333).

2 Select the device.

3 Select the file you want to recall.

4 Press [Load].

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 Open the Device >DDR/VTR >File List menu (5333).

2 Press [New File].

3 Enter a file name and press [Enter].

When using the Sony disk 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 about the file name character count mode in the video disk communications protocol,
☞ "Making Detailed Settings on the External Device Connected to the Serial Port" (p. 369).

When the loaded file is not a target for recording

1 Open the Device >DDR/VTR >File List menu (5333).

2 Press [Unload].

Chapter 12 Keyframes

Regions

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

Classification of the regions

The regions are classified as follows.

- Master region
- The following regions
  - Switcher: M/E-1, PGM/PST, User1 to User8
  - DME: DME ch1, DME ch2, DME ch5 to DME ch8 (inclusive of Global)
  - External devices: P-Bus, Router, Device1 to Device12, GPI, Macro

Only the regions assigned to the region selection buttons of the Flexi Pad and the memory recall buttons can be selected simultaneously *(☞ p. 327)*.

Notes

On the MVS-3000, DME ch1 and DME ch2 regions cannot be selected.

Regions applicable to keyframe operations

All the regions above except Router.

Regions applicable to snapshot operations

All the regions above, except external device regions P-Bus, Device1 to Device12, GPI, and Macro.

“User” regions

You can optionally assign the following regions to the regions User1 to User8 *(☞ p. 346)*. The User regions shown in parenthesis are the default assignments.

- Color backgrounds 1 and 2 (User1)
- AUX1 to AUX24 (User2)
- Frame Memory 1 to 8 (User4)

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 local 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/E-1 >PGM/PST >User1 >User2 >User3 >User4 >User5 >User6 >User7 >User8 >DME ch1>DME ch2 >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 Flexi Pad.

Registers

A register is an area of memory in a device which holds a snapshot *(☞ p. 267)*, keyframe, macro *(☞ p. 281)*, 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 (MVS-6520/6530/3000A only)

In addition to the 99 DME registers for each region (i.e. each channel), there are also shared registers 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

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].

P-Bus and Device registers

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

Overview of Keyframes

A keyframe represents an instantaneous state of an image, which 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 a result in which there is a continuous change from each keyframe to the next. This result is called an effect. You can save the sequence of keyframes representing a single effect in a register *(☞ p. 239)*. Then by recalling this register, you can replay the same effect.

Saving and Recalling Effects

To create a new effect, first recall an empty register, then create the keyframes one at a time in this register. To run an effect, it is also necessary to set the time and the path. To edit an existing effect, recall the register holding the effect, then make the changes.

When you have finished creating or editing the effect, save it in the recalled register or another specified register.

Auto save function

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

Effect Attributes

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

Types of attribute

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 temporarily enable or disable attributes. These are called “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: Inserts the current image as a keyframe. Inserting a keyframe in an existing effect may change the duration of the effect *(☞ p. 242)*.

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

Delete: Deletes 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 *(☞ p. 242)*.
After deleting a keyframe, you can reinsert the keyframe with a paste operation.

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

Paste: Pastes 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: Executes the effect the specified number of times through the keyframes in the specified range.

Undo an edit operation: Undoes 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 Flexi Pad *(☞ p. 256)*.

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

On the MVS-6520/6530/3000A, 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) *(☞ p. 256)*.

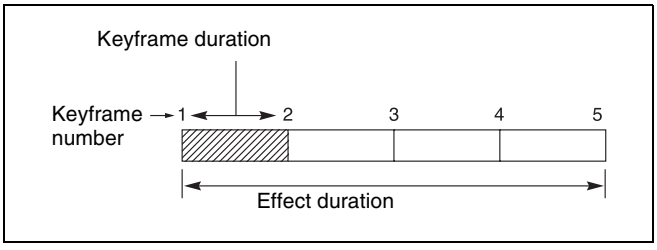
Time Settings

Keyframe duration and effect duration

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

Keyframe duration: This is the time from the keyframe to the next keyframe. You can set this time in the Flexi Pad *(☞ p. 258)*.
In constant duration mode *(☞ p. 241)*, 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 Flexi Pad *(☞ p. 259)*.
When you change the effect duration, the keyframe duration for each keyframe in the effect is automatically recalculated proportionally.



Keyframe duration and effect duration

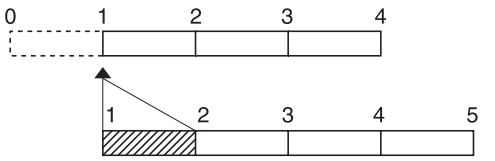
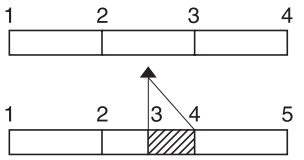
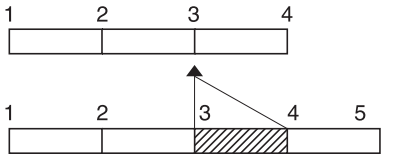
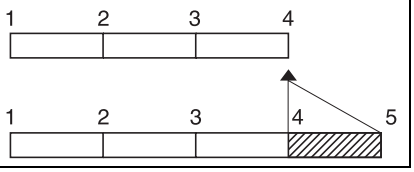
The effect duration may also be changed by inserting or deleting keyframes.

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 (☞ p. 241), 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	

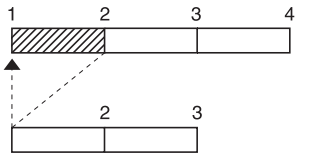
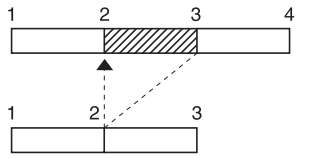
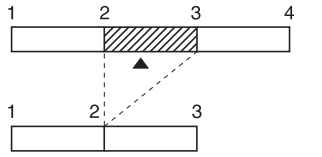
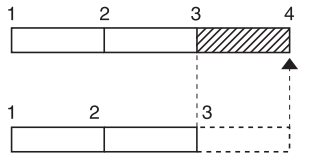
Keyframe insertion position and the change in effect duration

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 (☞ p. 241), 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 make this setting in the Flexi Pad.
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 about the path setting procedure, ☞ “Path Setting” (p. 259).

Switcher path settings

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

M/E-1 and P/P menus

Item	Paths that can be set
M/E-1, P/P All	For each M/E and PGM/PST, path settings for the following items are made simultaneously.

Item		Paths that can be set
Key1 to Key4		Overall path settings for items relating to keys 1 to 4 are made simultaneously.
	Key1 All to Key4 All	
	Source	Key source path for keys 1 to 4
	Fill	Key fill path for keys 1 to 4
	Proc	Proc path for keys 1 to 4
	Trans	Transition path for keys 1 to 4
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
	DME 2nd Video[a)]	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 PGM/PST bank

a) MVS-6520/6530/3000A only

User1 to User8 menus

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

For details, ☞ "Setting User Regions" (p. 346).

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 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 24	Paths for AUX 1 to 24
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

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 movement in 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 movement in 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
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.

Item		Paths that can be set
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)]
	Drop Shadow	Path for drop shadow[b)]
	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 MKS-6570 or MVE-8000A.
b) This cannot be used on the MVE-8000A or MVE-9000.

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

Item	Paths that can be set
Shadow	Path for shadow
Brick	Path for brick[a)]

a) This cannot be used on the MKS-6570.

Types of path

Path types for Curve

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

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

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 means of the [RUN] button in the Flexi Pad, you can play an effect as a continuously varying image. 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: Specifies the effect execution direction.

STOP NEXT KF: Runs the effect, and stops at the next keyframe.

EFFECT LOOP: Repeats the effect in an endless loop.

You make these settings in the Flexi Pad.

For details, ☞ "Setting the Run Mode" (p. 261).

Master Timelines

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

Master timeline registers can be saved or recalled using the Flexi Pad or a menu operation.

For details, ☞ "Creating and Saving a Master Timeline" (p. 262).

Sequence of Keyframe Operations

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

Recalling a register *(☞ p. 247)*
To create a new effect, recall an empty register; to edit an effect, open the register containing it.

⬇

Specifying the region and edit points *(☞ p. 249)*
Select the region in which editing applies, and set the edit points.

⬇

Creating and editing keyframes *(☞ p. 250)*
Create the keyframes that make up the effect, using operations to create, insert, modify, or delete keyframes.

⬇

Time settings *(☞ p. 258)*
Set the overall duration of the effect or the duration of each keyframe.

⬇

Path setting *(☞ p. 259)*
Set the type of interpolation used between successive keyframes.

⬇

Executing effects *(☞ p. 260)*
This provides a smooth effect, based on the time and path settings.

⬇

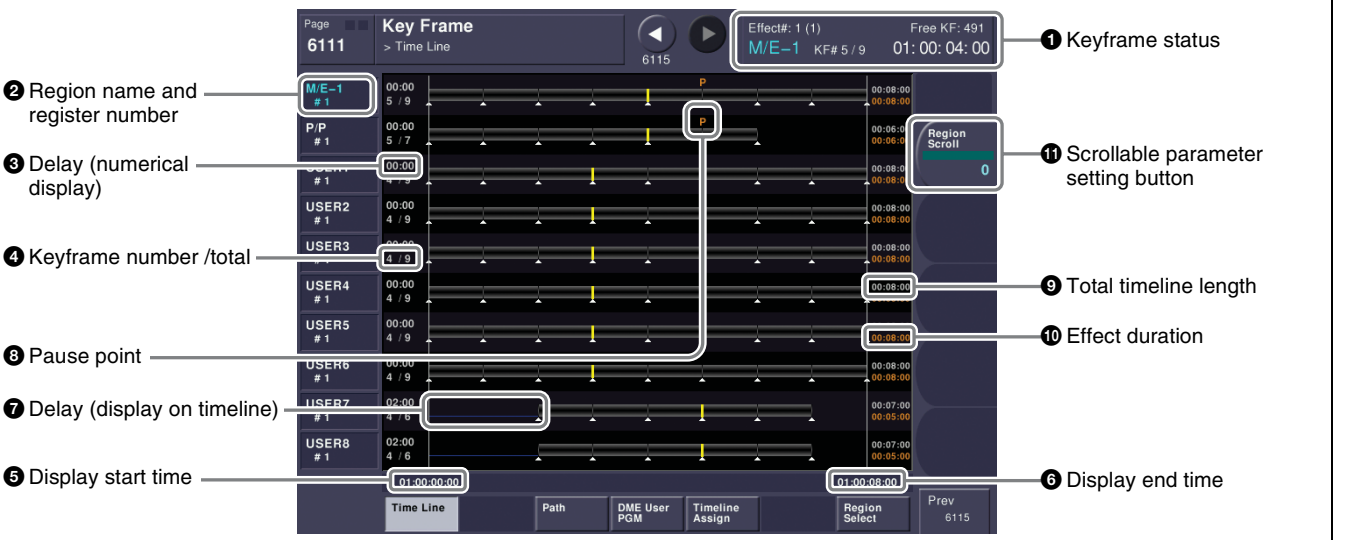
Saving effects *(☞ p. 261)*
Save a completed effect in a register.

Displaying the Timeline Menu

By displaying the Key Frame >Time Line menu (6111), you can view keyframe effects on the timeline for each region, and the associated information.

Interpreting the Timeline Menu

The menu screen consists of the following principal parts.



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 Scrollable parameter setting button
This button is used when scrolling the screen.
When the target region timeline is not displayed on the screen, turn the knob corresponding to the parameter setting button.

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 Open the Key Frame >Timeline Assign menu (6115).

The right of the status area shows a list of the regions (including the global region) assigned to the region selection buttons in the Flexi Pad. 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 Flexi Pad are lit are shown in the precedence order *(☞ p. 247)* 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 *(☞ p. 247)* and display on/off setting *(☞ p. 247)* 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, select the desired precedence order position and the region you want to insert.

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 the precedence order, select the precedence assigned to the region.

4 In the <Priority> group, press [Delete].

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, select the region.

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

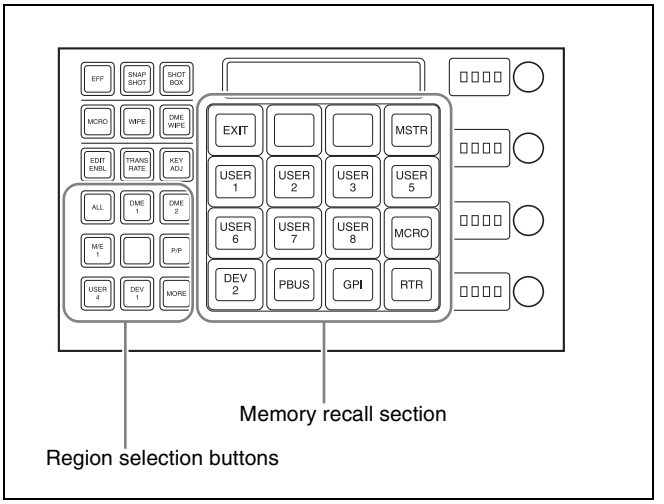
Use the Flexi Pad to recall a register. For each region there are 99 registers dedicated to keyframes, numbered from 1 to 99.
When creating an effect as a user programmable DME, use a 3-digit register number which is commonly used for all DME regions (channels).

For details about regions and registers, ☞ "Regions" (p. 239) and ☞ "Registers" (p. 239).

Selecting regions in the Flexi Pad

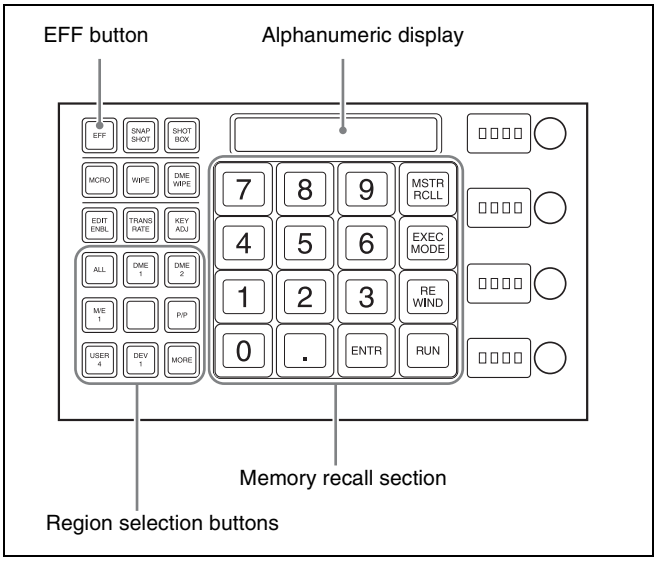
Press a region selection button or a button in the memory recall section to select a region.
If using buttons in the memory recall section, press the [MORE] button to display the region selection buttons in the memory recall section.

For details about assigning region selection buttons in the Flexi Pad, ☞ "Assigning Regions to Region Selection Buttons in the Flexi Pad" (p. 327).



Pressing the [MORE] button or the [EXIT] button in the memory recall section restores the memory recall section to the previous screen.

Recalling a register from the Flexi Pad



1 In the Flexi Pad, press the [EFF] button, turning it on.

2 Press the button corresponding to the region you want to select, turning it on.

You can select more than one button.
[M/E1], [P/P]: Selects the M/E-1 and PGM/PST regions, respectively.
[USER1] to [USER8]: Selects the User regions.
[DME1], [DME2], [DME5] to [DME8]: Selects the DME channels.
[PBUS]: Selects P-Bus.
[GPI]: Selects GPI.
[MCRO]: Selects Macro.
[DEV1] to [DEV12]: Selects devices.
[ALL]: Selects all regions.
[MSTR]: Selects the master timeline *(☞ "Creating and Saving a Master Timeline in the Flexi Pad" (p. 262))*.

For details about the method of region selection, ☞ "Selecting regions in the Flexi Pad" (p. 247).

Notes

The regions that can be selected simultaneously are those assigned to the region selection buttons and the memory recall section buttons *(☞ p. 327)*.
When [MSTR] and other regions are selected simultaneously, the master timeline takes precedence.

The first button pressed is lit green as the reference region. Subsequently pressed buttons turn amber for the region select buttons and yellow for the memory recall section buttons.
Pressing one of the amber or yellow lit buttons, while holding down the [EFF] button, turns the button green to indicate its corresponding region as the new reference region.

For details about the precedence order for becoming the reference region, ☞ "Reference region" (p. 239).

The alphanumeric display shows the name of the reference region and the number of the register previously recalled for that region.

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. 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.
To search for an empty register in the 200 range, press [2], [0], [0], [.] (period) in that order.
The entered register number or corresponding register number appears in the alphanumeric display. If the number is followed by a letter "e" or "E," this indicates the following.
e: Indicates the selected register is empty for the regions selected in step **2**.
E: Indicates that the corresponding register is empty in all selectable regions.

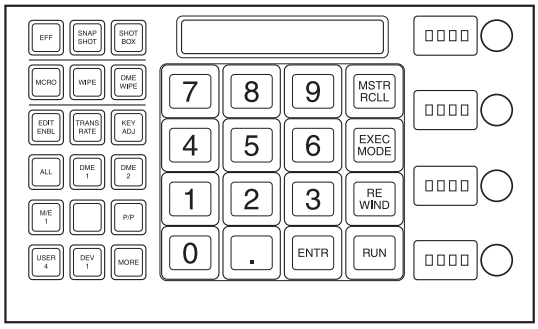
4 Press the [ENTR] button.

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

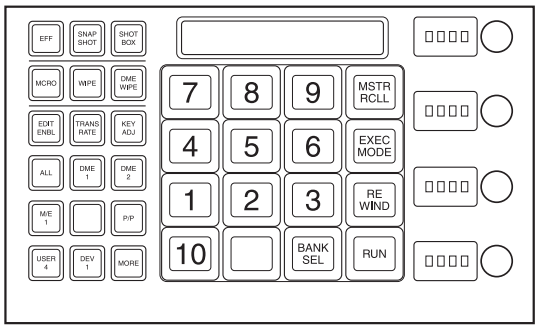
1 In the Flexi Pad, press the [EFF] button, turning it on.

This switches the memory recall section to effect operation mode.



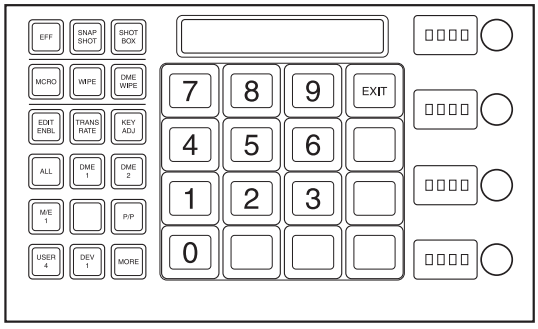
2 Press the [MSTR RCLL] button.

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 containing data
Off: Register in which nothing is saved

5 Press the number of the desired register.

The button you pressed lights yellow, and the master timeline is recalled. The alphanumeric display shows the selected register number.

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 Flexi Pad.

For details about the method of region selection, ☞ *"Selecting regions in the Flexi Pad" (p. 247).*

Selecting by menus

This is convenient for selecting some of the regions assigned to the Flexi Pad, or changing the reference region.

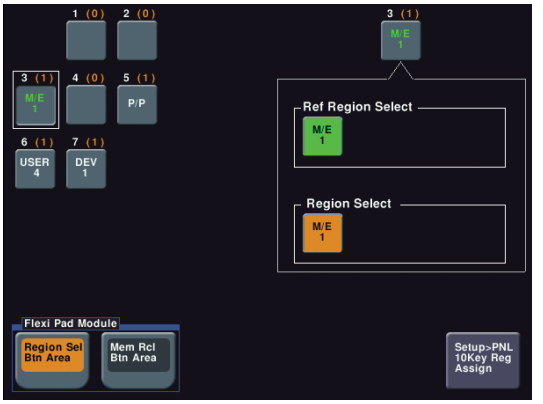
Notes

The function of region selection buttons in the Flexi Pad 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.

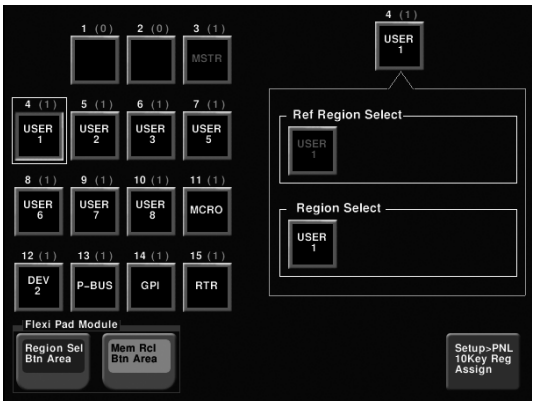
1 Open the Key Frame >Region Select menu (6117).

On the left of the status area, region selection buttons appear.
You can switch the display of regions between those assigned to the region selection buttons in the Flexi Pad or the memory recall buttons by pressing the [Region Sel Btn Area] or [Mem Rcl Btn Area] button, respectively, in the <Flexi Pad Module> group.

Selection screen for regions assigned to region selection buttons



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



Depending on the region selection state, the following indications appear.

Green text: Indicates that the assigned regions include the reference region.

Orange text: Indicates that one of the assigned regions is selected.

White text: Indicates that 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.

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.

Specifying an Edit Point

Use one of the following operations in the Flexi Pad.

For details about Flexi Pad operations, ☞ "Keyframe Creation and Editing in the Flexi Pad" (p. 250).

- 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] button.
- To move the edit point to the keyframe immediately before the current time, press the [<< PREV] button.
- To move the edit point to a keyframe specified by number, press the [GOTO KF] button, then enter the keyframe number with the numeric keypad, and press the [ENTR] button to confirm.
- To move the edit point to a specified timecode, press the [GOTO TC] button, then enter the timecode value, and press the [ENTR] button to confirm.

To enter a difference value

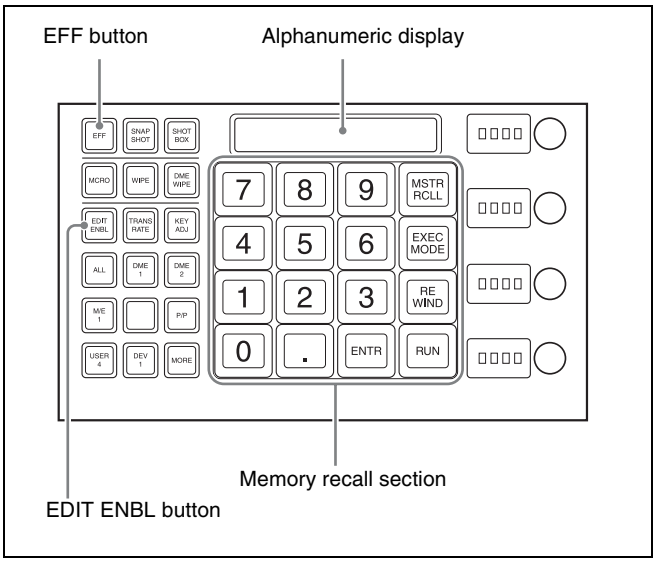
When moving to a point specified with the [GOTO KF] button or [GOTO TC] button, you can also enter the difference from the current keyframe number or timecode value.

Press the [+/–] button, and enter the difference, then press the [TRIM] button. Each time you press the [+/–] button, it toggles between plus (+) and minus (–).

Creating and Editing Keyframes

Keyframe Creation and Editing in the Flexi Pad

In the Flexi Pad, press the [EFF] button to switch to effect operation mode, then press the [EDIT ENBL] button. The [EDIT ENBL] button lights up, and the memory recall section switches to effect editing mode.



In effect editing mode, the memory recall section is composed of two pages. You use the buttons displayed on each page to create and edit keyframes.

Page 1 button display

- When the [PAGE 1/2] button is pressed, the display switches to page 2.

Page 2 button display

- When the [PAGE 2/2] button is pressed, the display switches to page 1.

Creation

Creating new keyframes

To create new keyframes, recall an empty register and then use the following procedure to create and insert each new keyframe.

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

This switches the memory recall section to effect editing mode.

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 [SHFT] 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.

1 Press the [EFF] button, then 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 [SHFT] 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, ☞ "Time Settings" (p. 241).

Modification

Modifying keyframes

1 Press the [EFF] button, then 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 *(☞ p. 241)*, 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 operating procedures.

- 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 [EFF] button, then 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.

This switches the memory recall section to numeric keypad entry mode.
The alphanumeric display shows the current keyframe number and the indication "TO."

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

The [FROM TO] button lights green.

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

For the difference in the result, ☞ "Differences in the changes when a number of keyframes are modified" (p. 253).

To modify all keyframes in the effect

1 Press the [EFF] button, then 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 green.

4 Press the [MOD] button. Alternatively, hold down the [SHFT] button and press the [MOD] button.

For the difference in the result, ☞ "Differences in the changes when a number of keyframes are modified" (p. 253).

To modify the keyframes in a specified range

1 Press the [EFF] button, then 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.

This switches the memory recall section to numeric keypad entry mode.
The alphanumeric display shows the current keyframe number and the indication "TO."

5 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 using the numeric keypad buttons, and press the [ENTR] button to confirm.
- To set the last keyframe in the range to be modified, enter the keyframe number using the numeric keypad, and press the [ENTR] button to confirm.

The [FROM TO] button lights green.

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

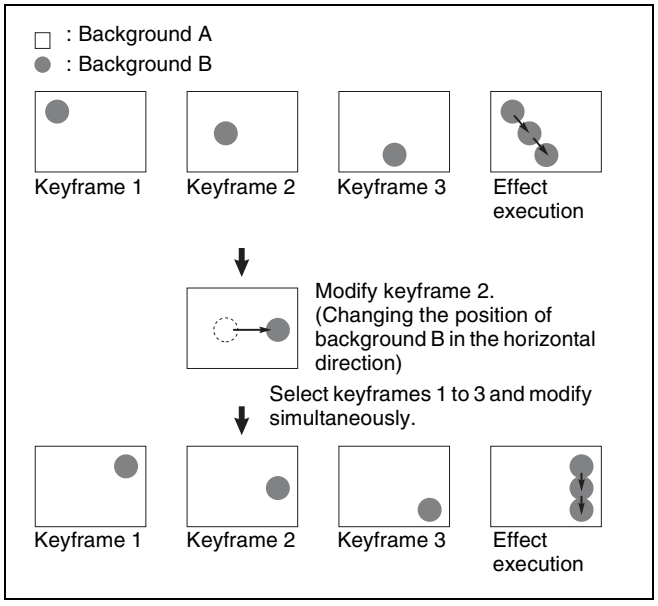
For the difference in the result, ☞ "Differences in the changes when a number of keyframes are modified" (p. 253).

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 [SHFT] button, the result of the operation differs as shown below.

Modifying the keyframes by pressing the [MOD] button alone

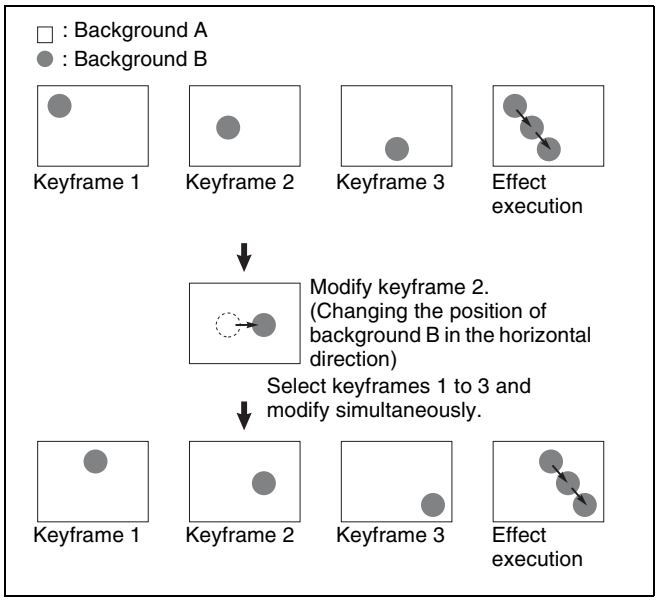
The modified parameter values are taken as absolute values, and applied to all of the selected keyframes.



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 [SHFT] 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 [EFF] button, then 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.

If you press the [FROM TO] button, specify the keyframe range.

For details about how to specify a range of keyframes, ☞ "Modifying more than one keyframe simultaneously" (p. 252).

4 Press the [DEL] button.

This deletes the keyframe.
Deleting a keyframe reduces the total duration of the effect.
In constant duration mode *(☞ p. 241)*, however, the duration does not change.

For details, ☞ "Changes in the effect duration caused by deleting a keyframe" (p. 242).

Movement

Moving keyframes

1 Press the [EFF] button, then 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 and specify the keyframe range.

For details about how to specify a range of keyframes, ☞ *"Modifying more than one keyframe simultaneously" (p. 252).*

4 Press the [DEL] button.

This deletes the specified keyframe and stores it in the paste buffer.

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

6 Press the [PSTE] 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 [SHFT] button, and press the [PSTE] button to insert the moved keyframe before the current keyframe.

Copying

Copying keyframes

1 Press the [EFF] button, then 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.

If you press the [FROM TO] button, specify the keyframe range.

For details about how to specify a range of keyframes, ☞ *"Modifying more than one keyframe simultaneously" (p. 252).*

4 Press the [COPY] button.

This copies the specified keyframe and stores it in the paste buffer.

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

6 Press the [PSTE] 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 [SHFT] button, and press the [PSTE] 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 [EFF] button, then 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 [PAUS] 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 [EFF] button, then 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.

This switches the memory recall section to numeric keypad entry mode.
The alphanumeric display shows the start point keyframe number.

```
FM  2 TO
```

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

4 Use the numeric keypad to 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 [ENTR] button to confirm the entry.

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

```
COUNT
```

6 Enter the loop count.

To specify a loop count, enter a number in the range 1 to 99.
To specify an endless loop, enter “0” (zero).
Here, by way of example, “15” is entered.

```
COUNT   15
```

7 Press the [ENTR] 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).

8 Press the [EXIT] button.

The [KF LOOP] button lights green.

To change the keyframe loop settings

While the [KF LOOP] button is lit green, press it, turning it orange, and then change the loop range and count using the same procedure as in *“Creating a new keyframe loop” (☞ p. 254)*.

Executing a keyframe loop

Press the [RUN] button.
The set loop range is executed repeatedly for the set loop count number of times.

The total loop count and the number of loops remaining are displayed in the timeline menu. 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.

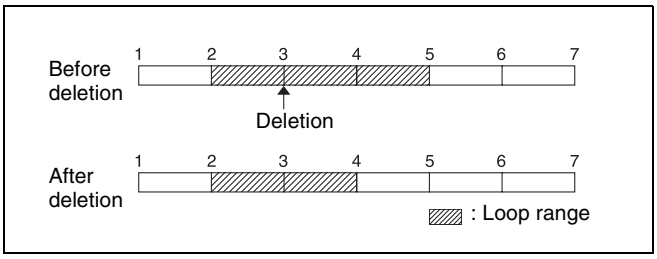
Canceling keyframe loop execution

Press the [REWIND] button.

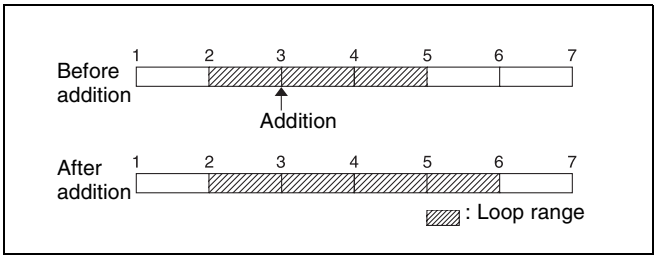
Changes to the loop range caused by keyframe insertion/deletion

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

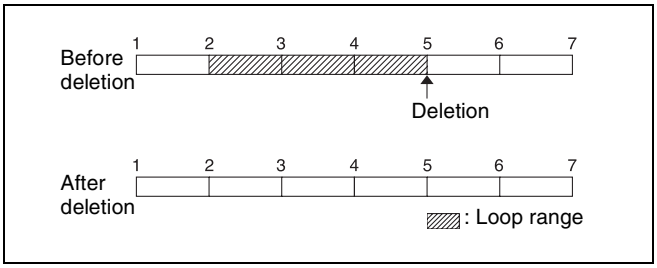
Example 1: If keyframe 3 is deleted, the loop end point moves forward as follows.



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. 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 *(☞ p. 241)*.

- To select variable duration mode, turn the [CNST DUR] button off.
- To select constant duration mode, turn the [CNST DUR] button on.

Transition Mode Settings for User Programmable DMEs

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

Notes

The MVS-3000 does not support user programmable DMEs.

User programmable DME transition modes

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 (P in P): 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 *(☞ p. 256)*.

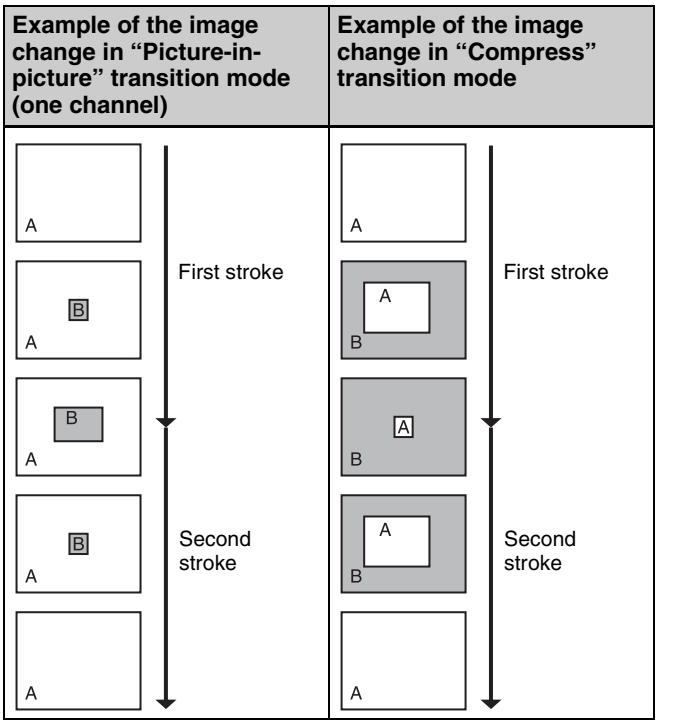
Frame in-out (Frame I/O): One-channel and two-channel frame in-out transition mode. When the first transition completes, if you move the position of the image, you can move it both horizontally and vertically *(☞ p. 256)*.

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 *(☞ p. 257)*.
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 *(☞ p. 257)*.

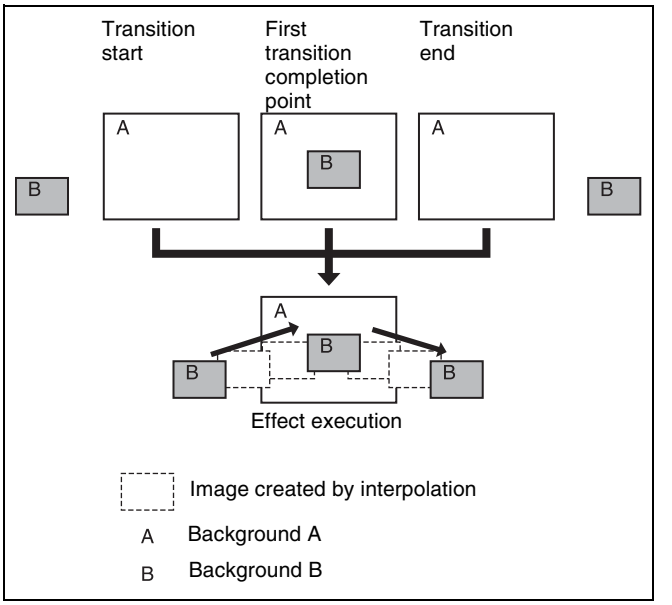
"Compress" transition mode

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."

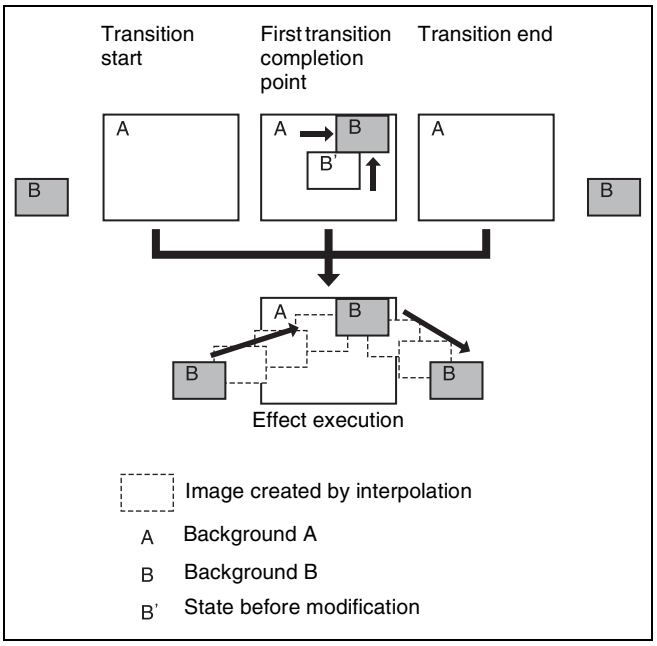


"Frame in-out" transition mode

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.

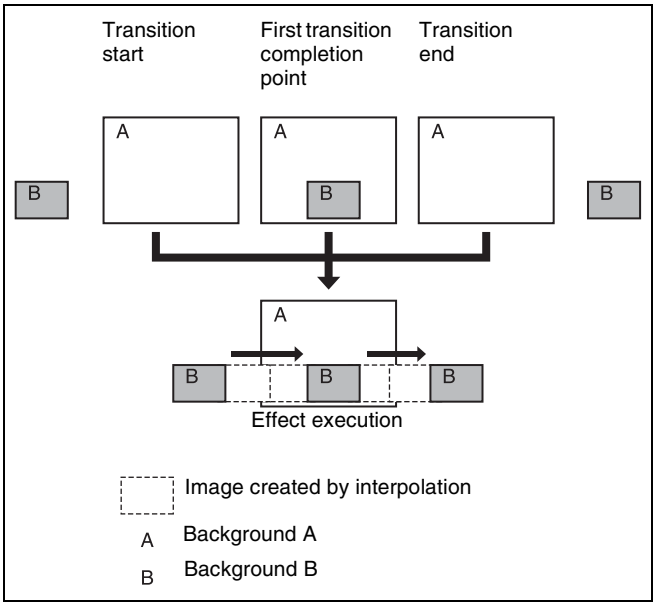


“Frame in-out H” transition mode

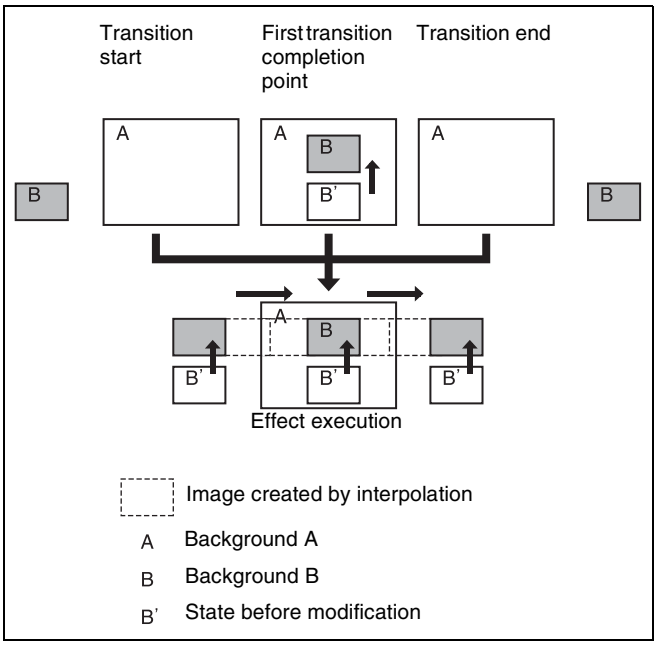
This mode is specified when creating a transition effect in the horizontal direction.

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.

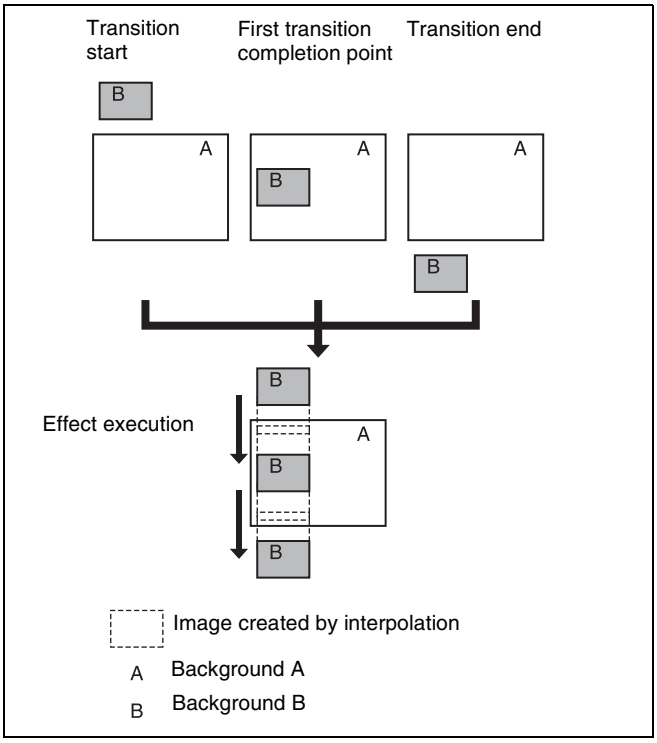


“Frame in-out V” transition mode

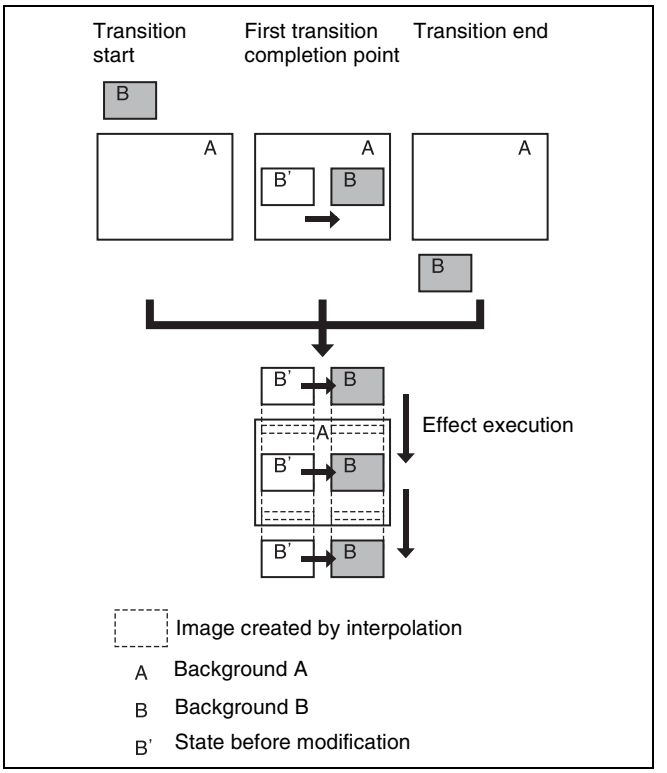
This mode is specified when creating a transition effect in the vertical direction.

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, 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.

Setting the transition mode

1 Open the Key Frame >DME User PGM menu (6114).

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

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

For details about creating an effect for user programmable DMEs, ☞ "Creating User Programmable DME Patterns" (p. 121).

Notes

The DME channel which is selected as the reference region (lit green) in the Flexi Pad is reflected in the <Transition Mode> group display.

Time Settings

You can determine the execution time of an effect by setting either the keyframe duration or the effect duration *(☞ p. 241)*.
You make these settings in the Flexi Pad.

For details about Flexi Pad operations, ☞ "Keyframe Creation and Editing in the Flexi Pad" (p. 250).

Setting the Keyframe Duration

1 Press the [EFF] button, then 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 alphanumeric display shows "KF DUR" followed by the duration of the current keyframe (seconds:frames).

4 Use the numeric keypad to enter the desired timecode value 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 *(☞ p. 250)*.

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

Notes

In addition to the above operation, the keyframe duration may also be automatically changed as a result of changing the effect duration.

For details, ☞ "Time Settings" (p. 241).

Setting the Effect Duration

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

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

The alphanumeric display shows “DUR” followed by the effect duration (minutes:seconds:frames).

3 Use the numeric keypad to enter the desired timecode value 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 *(☞ p. 250)*.

4 Press the [ENTR] 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, ☞ “Time Settings” (p. 241).

Delay Setting

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

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

The alphanumeric display shows “DELAY” followed by the current delay (minutes:seconds:frames).

3 Use the numeric keypad to enter the desired timecode value as a maximum of four digits.

You can also use the [TRIM] button to enter a difference value *(☞ p. 250)*.

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

Path Setting

The term “path” *(☞ p. 242)* refers to the specification of how interpolation is carried out from one keyframe to the next.
You set keyframe paths in the Key Frame >Path menu (6113).

Basic Path Setting Operations

Selecting the category

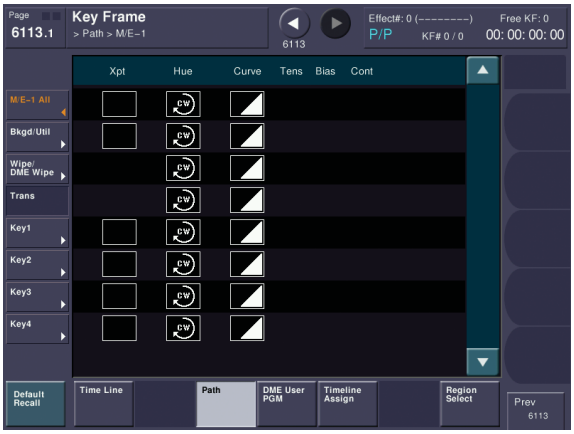
From the buttons in the function button area, select the category for which you want to make the setting.
1st row: Path settings for the switcher M/E-1 bank and PGM/PST bank
2nd and 3rd rows: Path settings for User1 to User8
4th row: Path settings for DME local channel and global channel 3D transforms and effects

Making switcher path settings

This section describes an example using key 1 on the M/E-1 bank.
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 Flexi Pad. The setting does not become effective unless the [MOD] button is pressed.



Changing the path type for Curve

1 In the Key Frame >Path menu (6113), press [M/E-1].

The M/E-1 menu (6113.1) appears.

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

A path selection window appears.

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

OFF: Executing the effect causes no change.

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

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

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

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

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

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

4 If you selected [Spline] as the path type, set the following parameters.

No.	Parameter	Adjustment
1	Tens	Spline interpolation tension
2	Bias	Spline interpolation bias
3	Cont	Spline interpolation continuity

Changing the path type for Hue

1 In the Key Frame >Path >M/E-1 (6113.1), press the [Hue] path type indicator for [Key1].

A path selection window appears.

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

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.

Changing the path type for Xpt

1 In the Key Frame >Path >M/E-1 (6113.1), press the [Xpt] path type indicator for [Key1].

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.

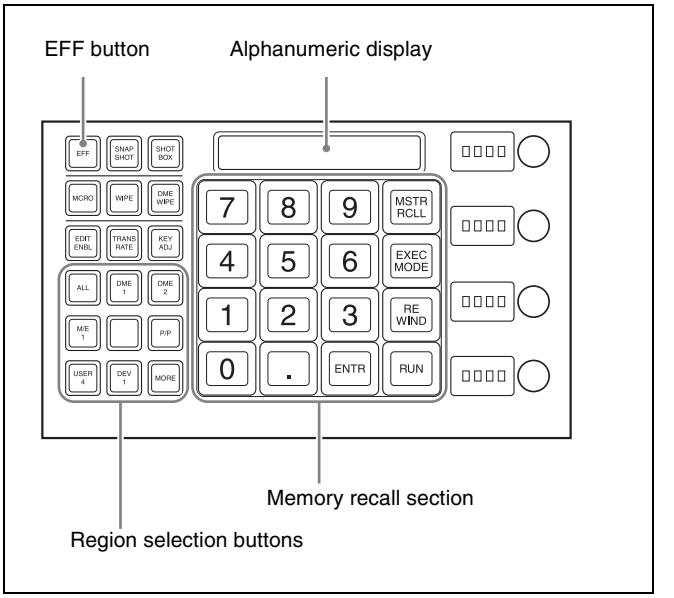
Xpt Hold on: When replaying a keyframe, do not change the inputs.

Executing Effects

By means of the [RUN] button in the Flexi Pad, you can play an effect as a continuously varying image. This is referred to as effect execution *(☞ p. 245)*.
It is also possible to execute an effect from the device control block.

Executing an Effect in the Flexi Pad

In the Flexi Pad, press the [EFF] button to switch to effect operation mode.
The [REWIND] button and [RUN] button are displayed in the memory recall section.
In addition, the alphanumeric display shows the number of the last recalled register.



You use the [REWIND] button and [RUN] button in the memory recall section to execute effects.

By pressing the [EXEC MODE] button to switch the memory recall section to run mode setting mode, you can set the operation mode when executing effects.

Executing an effect automatically

1 Press the region selection button corresponding to the region for which you want to execute, turning it on *(☞ p. 248)*.

2 Enter the number of the register in which the effect you want to execute is saved, and press the [ENTR] button.

This recalls the effect saved in the register.

3 Press the [RUN] button.

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

Executing an effect manually

In step **3** of the procedure in *"Executing an effect automatically" (☞ p. 261)*, operate the fader lever in the transition control block.

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

You can also assign the [KF] button functions to a transition type selection button in the transition control block *(☞ p. 327)*.
Press the [KF] button, turning it on, to execute a keyframe effect with the fader lever.

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

Press the [REWIND] button.

Setting the Run Mode

By pressing the [EXEC MODE] button to switch the memory recall section to run mode setting mode, you can set the operation mode when executing effects.

Specifying the effect execution direction

To specify the effect execution direction, press the [NORM] button or the [REV] button, turning it on. 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] button, turning it on.

2 Press the [RUN] button.

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

Repeating an effect

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

2 Press the [RUN] button.

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

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

Saving Effects

When you recall an effect, the currently recalled effect is automatically saved in a register. This is called the auto save function.
You can disable the auto save function in the Setup menu.
By means of the following operation, you can also specify a register and save an effect in it.

Saving an effect in a specified register

You make register settings in the Flexi Pad.

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

This switches the memory recall section to effect operation mode.

2 Press the region selection button corresponding to the region for which you want to save the register, turning it on (☞ p. 248).

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

This switches the memory recall section to effect editing mode.

4 Press the [STOR] button.

5 Enter the register number to save with the numeric keypad buttons.

To search for 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.
To search for an empty register in the 200 range, press [2], [0], [0], [.] (period) in that order.
The entered register number or corresponding register number appears in the alphanumeric display. If the number is followed by a letter "e" or "E," this indicates the following.
e: Indicates the selected register is empty for the regions selected in step **2**.
E: Indicates that the corresponding register is empty in all selectable regions.

6 Press the [ENTR] button.

This saves the effect in the specified register.

Creating and Saving a Master Timeline

Creating and Saving a Master Timeline in the Flexi Pad

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.

Creating and saving a master timeline

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

This switches the memory recall section to effect operation mode.

2 Recall the register number of the effect you want to save on the master timeline for each region (☞ p. 248).

3 Press the 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, turning it on.

This switches the memory recall section to effect editing mode.

6 Press the [STOR] button.

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

To search for an empty register, instead of entering a number, press the [.] (period) button.
The entered register number or corresponding register number appears in the alphanumeric display. If the number is followed by a letter "E," the register is empty.

8 Press the [ENTR] button.

The regions selected in step **3** and the register numbers recalled in those regions are saved in the master timeline register.

Notes

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

As an example, if you want to change the M/E-1 register from Effect 11 to Effect 15, use the following procedure.

1 Recall the master timeline register you want to change (☞ p. 249).

This simultaneously recalls M/E-1 register 11 and P/P register 11, and the [M/E1] 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/E1]), and recall the desired register (here, Effect 15).

This recalls M/E-1 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/E1] and [P/P]), turning them on.

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

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

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

This switches the memory recall section to effect editing mode.

7 Press the [STOR] button.

8 With the numeric keypad buttons, enter the number of the register in which you want to save the master timeline, and press the [ENTR] button.

This saves M/E-1 register 15 and P/P register 11 in the master timeline register.

Creating and Saving a Master Timeline with the Menu

1 Open the Effect >Master Timeline >Store menu (6211).

The status area shows the master timeline register names, register lock status, register number for each region, and so on.

2 If necessary, press one of the following buttons in the status area to change the region display.

M/E, P/P: Indicates assignment of M/E-1 (ME1), P/P (P/P).
User: Shows the allocations for User1 (USR1) to User8 (USR8).
DME: Indicates assignment of DME ch1 (DME1), ch2 (DME2), ch5 (DME5), ch6 (DME6), ch7 (DME7), and ch8 (DME8).
DEV1-8: Indicates assignments for Device1 (DEV1) to Device8 (DEV8).
DEV9-12: indicates assignments for Device9 (DEV9) to Device12 (DEV12).
Misc: Indicates assignment for P-Bus (PBUS), GPI (GPI), and Macro (MCRO).

3 Select the register in which you want to save the master timeline.

4 Press [Edit].

The Edit menu (6211.1) appears.
You can also use the [Master Reg] parameter to select the master timeline register in this menu.
The status area shows the status of each region in this master timeline.

5 Select a region.

You can select more than one region.
To select all regions, press [ALL]. To select all switcher-related regions (M/E, P/P, User), press [SWR ALL].

6 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 **5** is registered on the master timeline, and the parameters are now valid.

7 Select the number of the effect register.

No.	Parameter	Adjustment
3	Effect Reg	Effect register number

8 Repeat steps **5** to **7** as required to set all regions and register numbers to be saved on the master timeline.

9 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 (☞ p. 264)
- Effect Status Display (☞ p. 264)
- Effect Register Editing (☞ p. 264)

Here, the menu for dedicated effect registers 1 to 99 is described as an example.
You operate user programmable DME registers (MVS-6520/6530/3000A only) in the same way using the Effect 101-199 menu or Effect 201-299 menu.
For registers for P-Bus and Device1 to Device12, carry out similar operations using the DEV/PBUS Effect 1-250 menu.

Effect Attribute Settings

Applying effect dissolve

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

1. Open the Effect >Effect 1-99 >Attribute menu (6221).
2. Press the region display in the upper part of the list, and in the selection window select the region.

   You can select more than one region.
   To select all regions, press [ALL].
3. Press [OK].
4. Select a register.

   To select all registers, press [ALL].
5. Press [Effect Dissolve], turning it on.
6. Set the duration.

No.	Parameter	Adjustment
4	Eff Diss Duration	Dissolve duration

Setting the duration for a temporary attribute

Set the following parameter to set the duration for a temporary attribute in the Flexi Pad.

No.	Parameter	Adjustment
5	Temp Dur	Temporary attribute dissolve duration

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:** Merges 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. Open the Effect >Effect 1-99 >Lock menu (6222).
2. Press the region display in the upper part of the list, and in the selection window select the region.

   You can select more than one region.
   To select all regions, press [ALL].
3. Press [OK].
4. Select a register.

   To select all registers, press [ALL].
5. Press [Lock], turning it on.

To release the lock

Select the register you want to unlock, and press [Lock], turning it off.

Copying, moving, and swapping data between effect registers

This section describes the procedure for copying, as an example. You can move or swap data using the similar procedure.

1 Open the Effect >Effect 1-99 >Copy/Merge menu (6223).

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, and in the selection window select the region.

You can select more than one region.
To select all regions, press [ALL].

Operation between regions
Operation between regions is possible in the following cases.
- Between M/E-1 and P/P regions
- Between two of the User1 to 8 regions having the same configuration
- Between two of the DME ch1, ch2, ch5 to 8 (including Global) regions

3 Press [OK].

4 Select the source and destination registers.

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].

Merging effect registers

1 Open the Effect >Effect 1-99 >Copy/Merge menu (6223).

The left side of the status area shows a list for the register to be placed at the back when merged. The right side shows a list for the register to be placed at the front when merged.

2 Press the region display in the upper part of the list, and in the selection window select the region.

You can select more than one region.
To select all regions, press [ALL].

3 Press [OK].

4 Select the register to be at the back and the register to be at the front after the merge.

5 Press [Merge].

Deleting data from effect registers

1 Open the Effect >Effect 1-99 >Delete menu (6226).

2 Press the region display in the upper part of the list, and in the selection window select the region.

You can select more than one region.
To select all regions, press [ALL].

3 Press [OK].

4 Select a register.

To select all registers, press [ALL].

5 Press [Delete].

Attaching a name to an effect register

1 Open the Effect >Effect 1-99 >Rename menu (6227).

2 Press the region display in the upper part of the list, and in the selection window select the region.

You can select more than one region.
To select all regions, press [ALL].

3 Press [OK].

4 Select a register.

5 Press [Rename].

6 Enter a name of not more than eight characters, and press [Enter].

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 (6200) appears.
The status area shows a list of effect registers (1 to 99).

Register name display

For the same number, the register name for the M/E-1 region takes precedence.
If there is no data for the M/E-1 region, then the register name appears in the sequence P/P >User1 to 8 >DME ch1, ch2, ch5 to ch8 >Device1 to 12 >P-Bus >GPI >Macro.

Indication colors

Each register has a color-coded border, indicating its status.
Selected register: Pale blue border
Register containing data: Orange inner 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.

1. In the Effect >Status menu (6200), select the register.
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 orange.

Copying the contents of a register

This applies to all regions.

1. In the Effect >Status menu (6200), select the copy source register.
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.

1. In the Effect >Status menu (6200), select the register.
2. Press [Delete].

Renaming a register

This applies to all regions.

1. In the Effect >Status menu (6200), select the register.
2. Press [Rename].
3. Enter a name of not more than eight characters, and press [Enter].

Chapter 13 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.
- Flexi Pad *(☞ p. 268)*
- Menu *(☞ p. 271)*

Notes

If the M/E bank has the [Inhibit] setting *(☞ p. 325)*, 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 Flexi Pad.

For details about a region, ☞ “Regions” (p. 239).

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 Flexi Pad.

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 *(☞ p. 98)*.

Wipe snapshot: This includes the wipe settings of each of the banks *(☞ p. 107)*.

DME wipe snapshot: This includes the DME wipe settings of each of the banks *(☞ p. 121)*.

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 applied when the snapshot is saved or recalled.

Types of attribute

There are seven snapshot attributes, as follows.

Xpt Hold (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 about the setting operation, ☞ “Setting the operation mode of the key bus [XPT HOLD] button” (p. 357).

Effect Dissolve: The transition from the state before the snapshot recall to the snapshot settings is carried out smoothly, by a dissolve. The dissolve duration can be set in the Snapshot menu.

Auto Transition: An auto transition starts the instant the snapshot is recalled. The auto transition setting is valid only for M/E-1 and PGM/PST.

Notes

If both effect dissolve and auto transition are selected as attributes, the auto transition takes precedence.

GPI Output: A GPI output is sent to the allocated GPI port the instant the snapshot is recalled.
The trigger type depends on the switcher GPI output settings made in the Setup menu.

For details, ☞ "Interfacing with External Devices" (p. 360).

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, PGM/PST	User 1 to 8	DME ch1, ch2, ch5 to ch8
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 *(☞ p. 271)*.

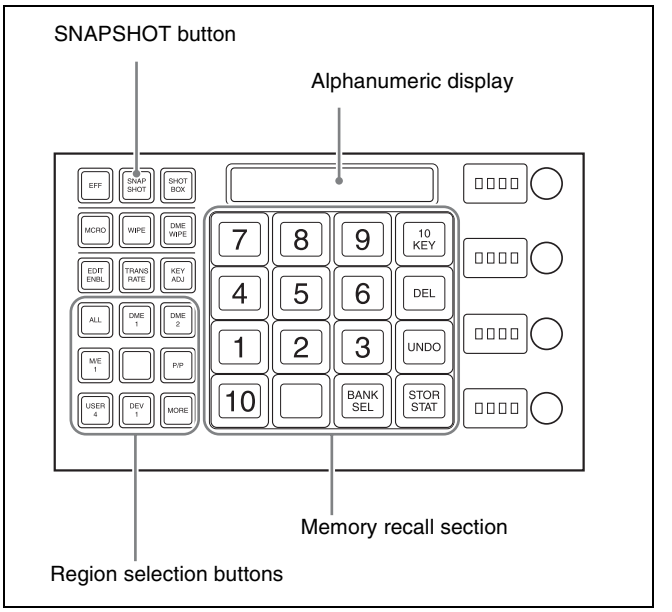
Temporary attributes

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 in the Flexi Pad



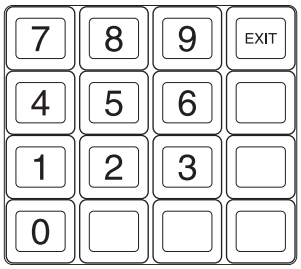
Banks and Registers

In order to support 99 registers, the Flexi Pad handles the registers 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 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

Selecting banks in the Flexi Pad

You press buttons in the memory recall section to select banks.
Pressing the [BANK SEL] button changes the memory recall section display as follows, and then press a button in the range [0] to [9].



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 containing a snapshot
Off: Register in which nothing is saved.
If you press the [SNAPSHOT] or [EFF] button on the Flexi Pad, you can change the memory recall button indicators to the register names using the Engineering Setup >Panel >Operation >Flexi Pad Mode menu (7326.3).

Saving and Recalling Snapshots

Saving a snapshot

As an example, to save a snapshot on the M/E-1 bank, proceed as follows.

1 In the M/E-1 bank, make the settings for the state you want to save as a snapshot.

2 In the Flexi Pad, press the [SNAPSHOT] button, turning it on.

This switches the memory recall section to snapshot operation mode.
The alphanumeric display shows the number of the last recalled register 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 button.

For details about the method of region selection, ☞ "Selecting regions in the Flexi Pad" (p. 247).

Notes

The regions that can be selected simultaneously are those assigned to the region selection buttons and the memory recall section buttons *(☞ p. 327)*.

The first button pressed is lit green as the reference region. Subsequently pressed buttons are lit amber for the region select buttons and yellow for the memory recall section buttons.
Pressing one of the amber or yellow lit buttons, while holding down the [SNAPSHOT] button, turns the button green to indicate its corresponding region as the new reference region.

For details about the precedence order for becoming the reference region, ☞ "Reference region" (p. 239).

The alphanumeric display shows the name of the reference region and the number of the register last recalled for that region.

4 Press the [BANK SEL] button, and select the desired bank with the register you want to save.

For details about the method of bank selection, ☞ "Banks and Registers" (p. 268).

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 is lit yellow, and this completes saving.

To enter the number of the register to save using the numeric keypad

After step **3** in *"Saving a snapshot" (☞ p. 269)*, 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 [.] (period) 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

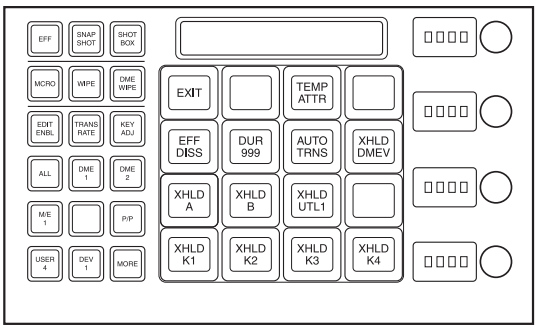
Hold down the [STOR STAT] button and press the [UNDO] button.
The color of the [STOR STAT] button changes to yellow.

Applying attributes

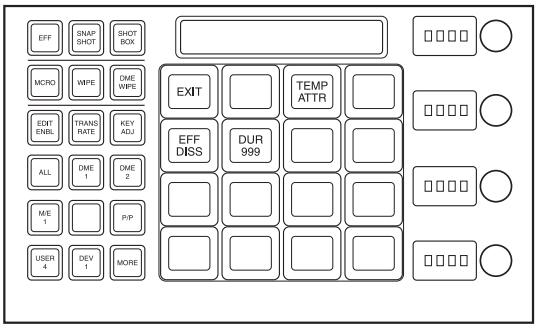
1 Press the [EDIT ENBL] button, turning it on.

The button display in the memory recall section changes as shown below.
To cancel applying attributes, press the [EDIT ENBL] button once more, or press the [EXIT] button.

- When the reference region is M/E-1 or P/P



- When the reference region is other than M/E-1 or P/P, and effect dissolve settings are possible



2 Apply attributes *(☞ p. 267)* with the following buttons.

[TEMP ATTR] button: Set a temporary attribute. Set this to Off when setting an attribute.
[EFF DISS] button: Apply the effect dissolve attribute.
[DUR xxx] button: Set the effect dissolve duration (where "xxx" is the currently set value). 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: Apply the auto transition attribute.
[XHLD xxx] button: Apply the bus cross-point hold attribute (where "xxx" is the applicable bus).

Recalling a snapshot

As an example, to recall a snapshot on the M/E-1 bank, use the following procedure.

1 In the Flexi Pad, press the [SNAPSHOT] button, turning it on.

This switches the memory recall section to snapshot operation mode.
The alphanumeric display shows the number of the last recalled register on the bank.

2 Press the region selection button corresponding to the region you want to recall, turning it on.

You can select more than one button.

For details about the method of region selection, ☞ "Selecting regions in the Flexi Pad" (p. 247).

Notes

The regions that can be selected simultaneously are those assigned to the region selection buttons and the memory recall section buttons *(☞ p. 327)*.
It is not possible to select [MSTR] and other regions simultaneously. If selected simultaneously, the master snapshot takes precedence.

The first button pressed is lit green as the reference region. Subsequently pressed buttons turn amber for the region select buttons and yellow for the memory recall section buttons.
Pressing one of the amber or yellow lit buttons, while holding down the [SNAPSHOT] button, turns the button green to indicate its corresponding region as the new reference region.

For details about the precedence order for becoming the reference region, ☞ "Reference region" (p. 239).

The alphanumeric display shows the name of the reference region and the number of the register previously recalled for that region.

3 Press the [BANK SEL] button, and select the desired bank with the register you want to recall.

For details about the method of bank selection, ☞ "Banks and Registers" (p. 268).

4 To apply a temporary attribute *(☞ p. 267)*, press the [EDIT ENBL] button and 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 (where "xxx" is the currently set value).
[AUTO TRNS] button: Auto transition.
[XHLD xxx] button: Bus cross-point hold (where "xxx" is the applicable bus).

To apply a temporary attribute with the cross-point control block buttons, press the following buttons, turning them on.

Temporary attribute to be applied	Button to press
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)]

a) When Xpt Hold mode is selected in the Setup menu.
b) When Key Disable mode is selected in the Setup menu.

For details about the operation mode of the [XPT HOLD] button, ☞ "Setting the operation mode of the key bus [XPT HOLD] button" (p. 357).

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 button in the memory recall section corresponding to the register you want to recall.

The button you pressed is lit yellow, and this recalls the snapshot.
The alphanumeric display shows the selected register number.

To enter the number of the register to be recalled using the numeric keypad

After step **1** in *"Recalling a snapshot" (☞ p. 270)*, 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.

To cancel a snapshot recall operation

Press the [UNDO] button.

Notes

It is not possible to cancel recalling a master snapshot.

Creating and saving a master snapshot

To create and save a master snapshot, refer to the operations in *"Creating and Saving a Master Timeline in the Flexi Pad" (☞ p. 262)*. Note, however, that in place of the [EFF] button in the Flexi Pad, the [SNAPSHOT] button is used.

Deleting a snapshot

As an example, to delete a snapshot on the M/E-1 bank, proceed as follows.

1 Press the [SNAPSHOT] button in the Flexi Pad, then press the region select button to select [M/E1] only.

This switches the memory recall section to snapshot operation mode.

The alphanumeric display shows the number of the last recalled register on the bank.

2 Press the [BANK SEL] button, and select the bank for the register with the saved snapshot you want to delete.

For details about the method of bank selection, ☞ "Banks and Registers" (p. 268).

3 Hold down the [DEL] button, and press the button in the memory recall section corresponding to the applicable register.

The button you pressed goes off, and this deletes the snapshot.

Snapshot Operations in the Menus

Operations in the Snapshot menu

You use the Snapshot menu to make snapshot settings. The Snapshot menu displays the status of each register, and is used to perform operations, such as to set snapshot attributes or copy/delete snapshot registers.

Operations in the Misc >Snapshot Menu

You can limit the snapshot setting to the M/E or PGM/PST bank.

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 Flexi Pad, or changing the reference region.

For details about the operations, ☞ "Selecting by menus" (p. 249).

Setting Snapshot Attributes

Applying snapshot attributes

1 Open the Snapshot >Snapshot >Attribute menu (6321).

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.

You can select more than one region.
To select all regions, press [ALL].

3 Press [OK].

4 Select a register.

To select all levels, 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 about attributes and available attributes, ☞ *"Snapshot Attributes" (p. 267)*.

To apply 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 the Setup menu.

For details, ☞ *"Selecting the Bank to Make the Settings" (p. 357)*.

1 Press [Xpt Hold].

The Xpt Hold (6321.1) menu appears.
The status area shows a list of the currently selected regions and bus names.

2 Select a bus.

When the region is set to RTR (Router), select a destination.
To select one or more buses/destinations, press [Plural] and then select. To select all buses/destinations, press [ALL].

3 If the region is set to RTR (Router), press [RTR Level Select].
If RTR (Router) is not selected, skip to step **5**.

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 apply the effect dissolve attribute

1 Press [Effect Dissolve], turning it on.

2 Set the dissolve duration.

No.	Parameter	Adjustment
3	Eff Diss Duration	Dissolve duration

To set the duration for a dissolve set as a temporary attribute effect

Set the following parameter to set the duration for a dissolve set as a temporary attribute effect in the Flexi Pad.

No.	Parameter	Adjustment
5	Temp Dur	Temporary attribute dissolve duration

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 Set the port number.

No.	Parameter	Adjustment
4	GPI Out Port	GPI output port number

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 about the assignment, ☞ *"Setting User Regions" (p. 346)*.

1 Press [Clip Event].

The Clip Event menu (6321.2) 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 >Snapshot >Attribute menu (6321) 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, 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 string	Attributes set
A, B	Cross-point hold is set for the A or B background bus.
1, 2, 3, 4	Cross-point hold is set for one of the key 1 to 4 buses.
U1	Cross-point hold is set for the utility 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.
RTR	Cross-point hold is set for the Router region.

- When an effect dissolve is set

Displayed character string	Attributes set
Duration value	The effect dissolve attribute is set, with the displayed duration.

- When an auto transition is set

Displayed character string	Attributes set
T	Auto transition is set.

- When a GPI output is set

Displayed character string	Attributes set
Port number	GPI output is set for the port of the displayed number.

- When a clip event is set

Displayed character string	Attributes set
On	Clip event is set.

Setting Key Snapshot Attributes

Applying key snapshot attributes

1 Open the Snapshot >Key Snapshot >Attribute menu (6351).

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, and in the selection window select the region.

You can select more than one region.

3 Press [OK].

4 Select a register.

5 In the <Recall Mode> group, set the state 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, recall the Snapshot >Master Snapshot >Store menu (6311) and refer to the operation in *"Creating and Saving a Master Timeline with the Menu" (☞ p. 263)*.

Recalling the Store menu

1 Open the Snapshot >Master Snapshot >Store menu (6311).

The status area shows the master snapshot register names, register lock status, register number for each region, and so on.

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

M/E, P/P: Indicates assignment of M/E-1 (ME1), P/P (P/P).
User: Indicates the User1 (USR1) to User8 (USR8) assignments.
DME: Indicates assignment of DME ch1 (DME1), ch2 (DME2), ch5 (DME5), ch6 (DME6), ch7 (DME7), and ch8 (DME8).
Misc: Indicates the Router (RTR) assignment.

Editing Snapshot Registers

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 about snapshot register operations, ☞ "Effect Register Editing" (p. 264).

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 (6300) appears.
The status area shows a list of snapshot registers (1 to 99).

For details about lock, copy, delete, and rename operations, ☞ "Displaying a List of Effect Registers for Editing" (p. 266).

Register name display

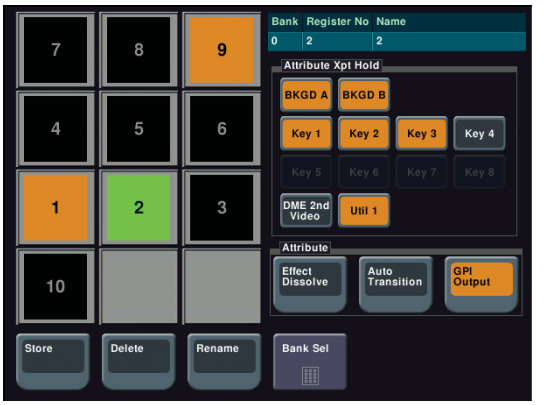
For the same number, the register name for the M/E-1 region takes precedence.
If there is no data for the M/E-1 region, then the register name appears in the sequence P/P >User1 to 8 >DME ch1, ch2, ch5 to ch8 >RTR.

Operations in the Misc >Snapshot Menu

To limit the snapshot setting to the M/E or PGM/PST bank, use the Misc menu for each bank.
This section describes an example on the M/E-1 bank.

Recalling a snapshot

1 Open the M/E-1 >Misc >Snapshot menu (1177).



2 As required, press [Bank Sel] to change the bank.

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 Open the M/E-1 >Misc >Snapshot menu (1177).

2 Set the state you want to save as a snapshot.

3 Press [Store].

4 As required, press [Bank Sel] to change the bank.

5 Press the button for the number or name you want to save.

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, ☞ "Selecting the Bank to Make the Settings" (p. 357).

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 selected, set the GPI number.

Deleting a snapshot

1 Open the M/E-1 >Misc >Snapshot menu (1177) and press [Delete].

2 As required, press [Bank Sel] to change the bank.

3 Press the button for the number or name you want to delete.

Renaming a snapshot register

1 Open the M/E-1 >Misc >Snapshot menu (1177) and press [Rename].

2 As required, press [Bank Sel] to change the bank.

3 Press the number or name button for the name you want to change.

4 Enter the new name, and press [Enter].

Chapter 14 Utility/Shotbox

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).
You can execute the utility functions from the following blocks.

- User preference buttons in the menu panel *(☞ p. 276)*
- Cross-point control block *(☞ p. 276)*

Executing a Utility with the User Preference Buttons (Menu Panel)

In the Setup menu, you can assign any 16 actions to the user preference buttons in the menu panel.

For details about assigning functions to buttons, ☞ "Setting Button Assignments" (p. 334).

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, turning the function on.
  To turn the function off, press the button once more.
- For other actions, the button you pressed momentarily lights amber, and then the function is executed.

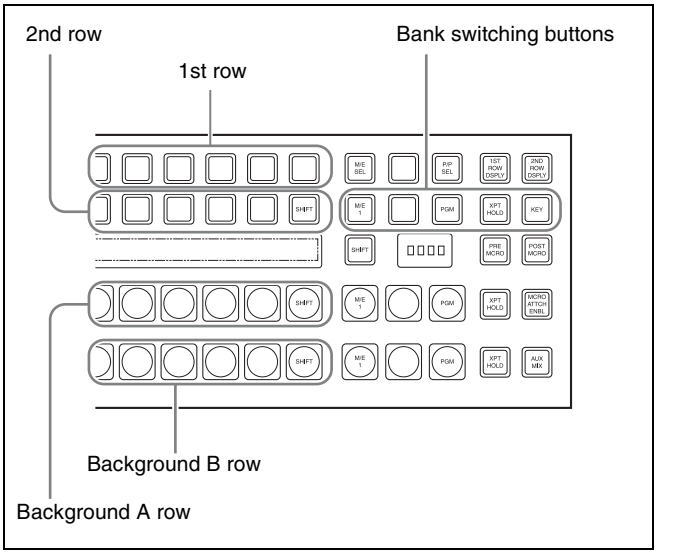
Executing a Utility with Cross-Point Buttons in the 2nd Row

You can use the bank 2nd row for utility/shotbox operations.

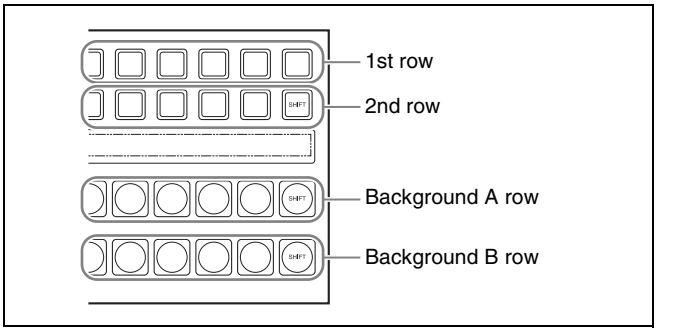
Notes

To use this function, you must first assign the utility/shotbox function switch button [UTIL/SBOX] to the 1st row.

For details about the assignment, ☞ "Assigning a Bus or Function to 1st Row Buttons" (p. 340).



Cross-point control block (ICP-6520/6530)



Cross-point control block (ICP-3000/3016)

You can assign any action to the cross-point buttons.

For details about the assignment, ☞ "Assigning a Function to 2nd Row Cross-Point Buttons" (p. 336).

To execute the assigned action

For details about executing a shotbox ☞ *"Executing a Shotbox Function with Cross-Point Buttons in the 2nd Row" (p. 280)*.

1 Press the [UTIL/SBOX] assigned to the 1st row, turning it on.

2 Press one of the bank switching buttons *(☞ p. 276)*, to select the bank.

These buttons correspond to banks 1 to 5 in sequence from the left.

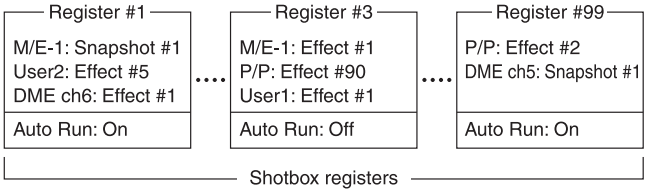
Notes

Banks cannot be selected on the cross-point control block of the ICP-3000/3016.

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 ch6 effect 1. For register 1, auto run is On, and therefore the User2 and DME ch6 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 Flexi Pad.

Shotbox Register Creation

You can create (save) shotbox registers using the Flexi Pad or from the menu.

Creating a Shotbox Register in the Flexi Pad

1 In the Flexi Pad, press the [SNAPSHOT] button, turning it on.

This switches the memory recall section 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 about the procedure for recalling a snapshot, ☞ *"Recalling a snapshot" (p. 270)*.

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

This switches the memory recall section to shotbox operation mode.

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

This switches the memory recall section to shotbox editing mode.

5 Press the [STOR] button.

The [SNAPSHOT] button lights green.
If not lit, 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 Press the region selection button corresponding to the snapshot region you want to save, turning it on.

7 Enter the shotbox register number to save with the numeric keypad buttons.

To search for an empty register, instead of entering a number, press the [.] (period) button.
The entered register number or corresponding register number appears in the alphanumeric display. If the

number is followed by a letter “E,” the register is empty.

8 Press the [ENTR] button.

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 changes color to orange. At the same time, the [RCLL] button lights yellow.

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 details about the procedure for recalling a keyframe effect, ☞ “Recalling a register from the Flexi Pad” (p. 248).

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.

13 Press the [ENTR] button.

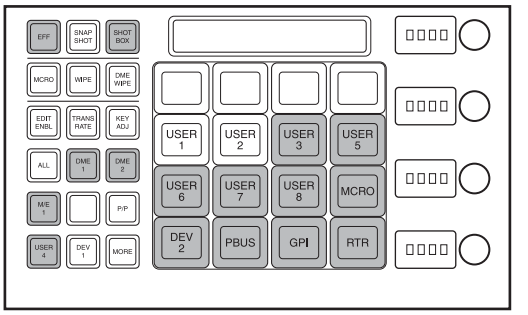
This saves the snapshot data, followed by the keyframe effect data, in the specified shotbox register, and the [STOR] button changes color to orange. At the same time, the [RCLL] button lights yellow.

To change the contents of a shotbox register

After recalling the shotbox register you want to change, refer to *“Creating a Shotbox Register in the Flexi Pad” (☞ p. 277)* and change the contents of the shotbox register, and save.

To check the region saved in a shotbox register

After step **5** in *“Creating a Shotbox Register in the Flexi Pad” (☞ p. 277)*, press the following buttons to continue.
To check the snapshot region: [SNAPSHOT] button
To check the keyframe effect region: [EFF] button
The buttons in the memory recall section change as follows. For buttons corresponding to regions with stored data, region select buttons are lit amber and memory recall section buttons are lit yellow.



To recall an assigned effect and simultaneously execute it

Press the [AUTO RUN] button, lighting it green, then save the shotbox register.

Creating a Shotbox Register using the Menus

1 Open the Shotbox >Register >Store/Recall menu (6411).

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 (where “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, press one of the following buttons in the status area to change the region display.

M/E, P/P: Indicates assignment of M/E-1 (ME1), P/P (P/P).
User: Shows the allocations for User 1 (USR1) to User 8 (USR8).
DME: Indicates assignment of DME ch1 (DME1), ch2 (DME2), 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 Select a register.

4 Press [Edit].

The Edit menu (6411.1) appears.
You can also use the [Shotbox Reg] parameter to select the register in this menu.
In the status area, the shotbox register status for each region appears.

5 Select a region.

You can select more than one region.
To select all regions, press [ALL]. To select all switcher-related regions (M/E, P/P, User), press [SWR ALL].

6 In the <Assign> group, select the snapshot or effect to be allocated to the region.

Snapshot: Allocate a snapshot.
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 in the shotbox, and the parameters are now valid.

7 Depending on the selection in step **6**, set the following parameters.

When a snapshot is selected

No.	Parameter	Adjustment
3	Snapshot	Snapshot register number

When an effect is selected

No.	Parameter	Adjustment
3	Effect	Keyframe effect register number

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.
- Flexi Pad *(☞ p. 279)*
- Cross-point control block *(☞ p. 280)*

Executing a Shotbox in the Flexi Pad

1 In the Flexi Pad, press the [SHOTBOX] button, turning it on.

This switches the memory recall section to shotbox operation mode.
The alphanumeric display shows the number of the last recalled register.

2 Using any of the following methods, 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]).

For details about the correspondence between banks and registers, *☞ "Banks and Registers" (p. 268)**.*

This selects the bank, and the buttons in the memory recall section show the register states as follows.
Lit yellow: Last executed register
Lit orange: Register containing shotbox settings
Off: Register in which nothing is saved

3 Press the button in the memory recall section corresponding to the register you want to run.

The selected button lights yellow, and the shotbox register is run.
The alphanumeric display shows 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.

Executing a Shotbox Function with Cross-Point Buttons in the 2nd Row

You can use the bank 2nd row for utility/shotbox operations.

Notes

To use this function, you must first assign the utility/shotbox function switch button [UTIL/SBOX] to the 1st row.

For details about the assignment, ☞ "Assigning a Bus or Function to 1st Row Buttons" (p. 340).

You can assign any shotbox register to the cross-point buttons.

For details about the assignment, ☞ "Assigning a Function to 2nd Row Cross-Point Buttons" (p. 336).

1. Press the [UTIL/SBOX] assigned to the 1st row, turning it on.
2. Press one of the bank switching buttons *(☞ "Bank switching buttons" (p. 276))*, to select the bank.

   Supports banks 1 to 5, numbered from left to right.

   Notes

   Banks cannot be selected on the cross-point control block of the ICP-3000/3016.
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 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.

The procedures for shotbox register editing are similar to the procedures described in *"Effect Register Editing" (☞ p. 264)*.

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

Macros

Chapter 15

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 *(☞ p. 295)*.

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
Cross-point control block	• Cross-point selection • Recalling a function assigned to a 2nd row key button • AUX mix transition on/off[a)]
Transition control block	• Auto transition and cut for the transition execution section • Auto transition and key on/off for independent key transition[b)] • Next transition setting • Transition type selection • Pattern limit on/off • Key snapshot recall • VTR/disk recorder/Extended VTR / frame memory clip playback, stop, cue-up[c)]
Flexi Pad	Recalling the following data • Effects • Snapshots • Shotbox • Wipe snapshots • DME wipe snapshots • Key snapshots Following operations • Selection of effect execution, rewind, fast forward, execution direction • Auto transition and key on/off for independent key transition[b)] • Pattern limit on/off
Device control block	• VTR/disk recorder/Extended VTR / frame memory clip playback, stop, fast forward, rewind, cue-up, start point setting • VTR/disk recorder record • Frame memory clip loop setting
Menu panel	• Disk recorder/Extended VTR file recalling • Recalling the functions assigned to [PREFS 1] to [PREFS 16] buttons • Execution of a menu macro • Frame memory clip recalling

a) ICP-6520/6530 only.
b) 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 inserts/deletes a key, when the macro is executed, if the key was inserted it is deleted, but otherwise nothing occurs as concerns keying.
c) Function valid only when [PLAY], [STOP], and [CUE] have been set in the Setup menu.

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 panel *(☞ p. 334)*, and then turn the relevant button on.

Macro AT with Rate (Macro Auto Trans Event with/without Rate): When registering an auto transition macro event in the transition control block, include the transition rate.

Macro AT with A/B Bus (Macro Auto Trans Event with/without A/B Bus): When registering an auto transition macro event in the transition control block, include the background A/B bus cross-point.

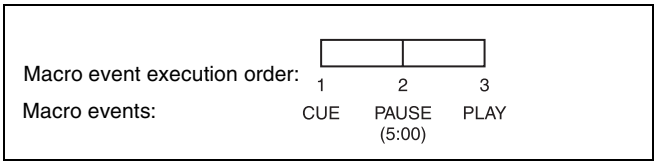
Macro TL with Region (Macro Timeline with Region): When registering an effect execution, rewind, or fast forward as a macro event, save the affected region together in the macro.

Events requiring adjustment when creating a macro

The following events require time for execution to complete, and therefore when executed within a macro sequence, a pause event must be inserted to adjust the timing.

- Rewinding effects involving external device control
- VTR/disk recorder/Extended VTR cue-up

For example, create a macro to cue up a VTR and then play back as follows.



Auto insert mode on/off setting

You can switch on or off the mode (auto insert mode) in which at the same time that a control panel operation is carried out, the event is automatically saved in a macro.

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 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 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.

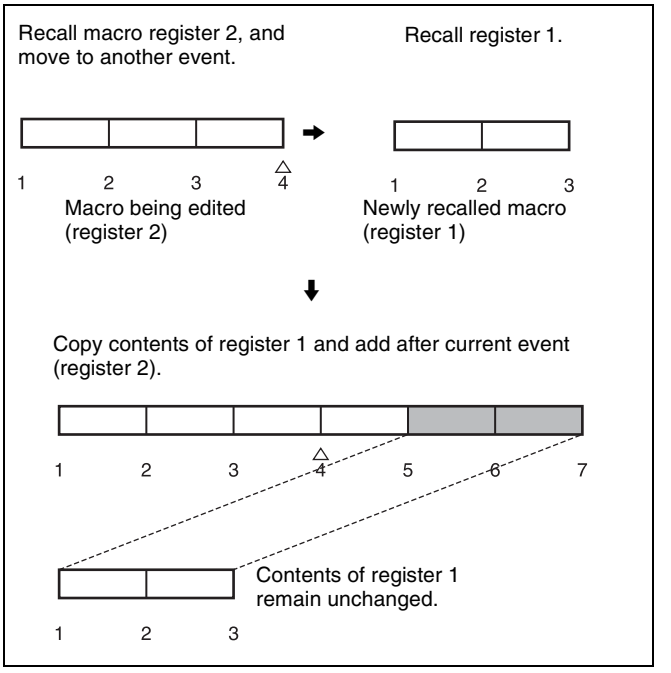
Undoing an edit operation

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

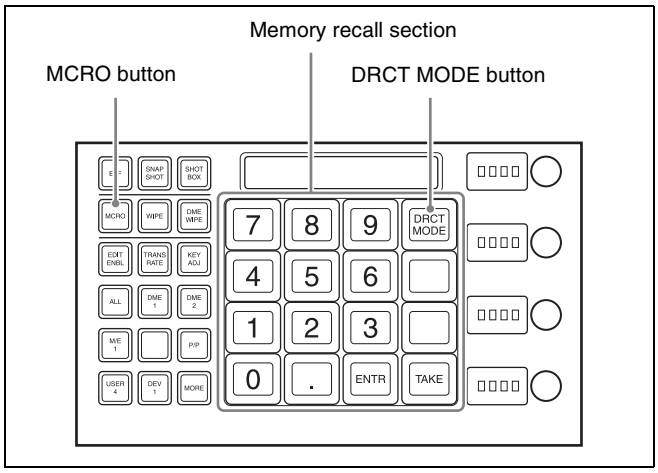
When a paused macro is restarted, this is referred to as a “Take” operation.

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 details about GPI input settings, ☞ *“Making Control Panel GPI Input Settings” (p. 337)* *and* ☞ *“Making DCU GPI Input Settings” (p. 366)**.*

Macro Operations in the Flexi Pad



Recalling a Macro Register and Executing a Macro

A macro operation is performed by recalling a macro register.
You can edit a macro by recalling an empty register.
Recalling a register holding a macro executes the macro immediately.
To recall a macro register, use the following procedure.

Recalling by entering a register number

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

This switches the memory recall section to macro mode.

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 entered register number or corresponding register number appears in the alphanumeric display. If the number is followed by a letter “E,” the register is empty.

3 Press the [ENTR] button.

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 the Setup menu.

  For details, ☞ "Setting the Macro Execution Mode" (p. 343).

- Individual events stored in a macro are executed according to the settings in the Setup menu. If you change the settings in the Setup menu, 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.
- If you recall a macro from the Flexi Pad while executing another macro using a button with a macro attachment, the operation depends on a setting in the Setup menu.

  For details, ☞ "Setting the Macro Execution Mode" (p. 343).

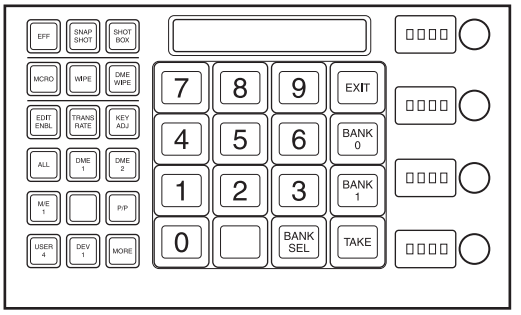
Recalling using a button in the memory recall section

The buttons in the memory recall section can operate registers 1 to 99. The 99 registers are grouped in banks 0 to 9.

For details about the correspondence between banks and registers, ☞ "Banks and Registers" (p. 268).

1 Press the [MCRO] button and then press the [DRCT MODE] button in the memory recall section.

The memory recall section changes to direct recall mode, enabling macros to be recalled using the buttons.



2 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 containing macro data
Off: Register in which nothing is saved

3 Press the button in the memory recall section corresponding to the register to recall.

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 selected register number.

Macro execution modes

You can execute a macro in normal execution mode or step execution mode.

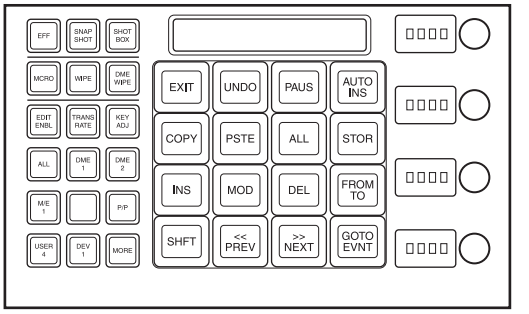
Normal execution mode: In this mode the macro events are automatically executed in sequence. However, if there is a pause event set at some point, execution pauses at that point. Then pressing the [TAKE] button in the memory recall section resumes execution.

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 menu *(☞ p. 343)*.

Creating and Editing a Macro

To create or edit a macro, recall a register and then press the [EDIT ENBL] button in macro operating mode.
The [MCRO] button and [EDIT ENBL] button light red, and the memory recall section switches to macro editing mode.



Switching auto insert mode on/off

In 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 memory recall section for each operation to register an event.

To switch auto insert mode on or off, press the [AUTO INS] button.

Creating a new macro

1 Recall an empty register *(☞ p. 283)*.

2 Press the [MCRO] button and then press the [EDIT ENBL] button.

This switches the memory recall section to macro editing mode.

3 If required, press the [AUTO INS] button to toggle the auto insert mode on or off.

4 Create the events (carry out the control panel operations to be registered as events in the macro).

You can include pause events *(☞ p. 287)*.

For details about events that can be registered, ☞ "Events" (p. 281).

When auto insert mode *(☞ p. 284)* is on, execution of a control panel operation automatically registers an event in the macro.
When auto insert mode is off, proceed to step **5**.

Notes

- During macro editing, if you press any of the mode selection buttons in the Flexi Pad other than the [MCRO] button ([WIPE] button, [DME WIPE] 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 following buttons: [EFF LOOP], [STOP NEXT], [NORM], [REV], [NORM/REV], [REWIND], [RUN]
- During macro editing, if you press a button for which a macro attachment is set, the outcome is as described in *"To merge a macro for which a macro attachment is set" (☞ p. 285)*.

5 When auto insert mode is off, press the [INS] button to register the event.

6 Repeat steps **4** and **5** 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.

7 Press the [STOR] button.

8 Enter the register number to save with the numeric keypad buttons.

There is no need to enter a number if saving into the register recalled in step **1**.

9 Press the [ENTR] button.

This saves the created macro in the register, and editing ends. The [MCRO] button lights amber.

To merge 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 stored in the paste buffer. Pressing the [PSTE] button merges it with the macro being edited.

Specifying an edit point

1 Recall the register for the macro (1 to 250) you want to edit *(☞ p. 283)*.

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

This switches the memory recall section to macro editing mode.

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] button.
- To move the edit point to the event immediately preceding the current macro event, press the [<< PREV] button.
- 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 [GOTO EVNT] button, then enter the event number and confirm with the [ENTR] button.

Inserting an event

1 Specify the edit point *(☞ p. 285)*.

2 If required, press the [AUTO INS] button to toggle the auto insert mode on or off.

3 Create the event.

When auto insert mode *(☞ p. 284)* 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.

5 Repeat steps **3** and **4** to insert the required events in the macro.

Modifying a single event

1 Specify the edit point *(☞ p. 285)*.

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.

Modifying a particular range of events

1 Carry out steps **1** to **3** of the procedure in *"Modifying a single event" (☞ p. 286)*.

2 Press the [FROM TO] button.

This switches the memory recall section to numeric keypad entry mode.
The alphanumeric display shows the current event number and the indication "TO."

3 Carry out the following operations.

- To set the first event in the range to be modified, press the [CLR] button, then enter the event number using the numeric keypad buttons, and press the [ENTR] button to confirm.
- To set the last event in the range to be modified, enter the event number using the numeric keypad, and press the [ENTR] button to confirm.

The [FROM TO] button lights green.

4 Press the [MOD] button.

Modifying all events at the same time

1 Carry out steps **1** to **3** of the procedure in *"Modifying a single event" (☞ p. 286)*.

2 Press the [ALL] button, turning it on green.

3 Press the [MOD] button.

Deleting an event

1 Specify the edit point *(☞ p. 285)*.

2 To delete a number of events in a single operation, press the [FROM TO] button or the [ALL] button.

If you press the [FROM TO] button, specify the event range.

For how to specify a range of events, ☞ "Modifying a particular range of events" (p. 286).

3 Press the [DEL] button.

Moving events

1 Specify the edit point for the start of the range to be moved *(☞ p. 285)*.

2 To move a number of events in a single operation, press the [FROM TO] button and specify the event range.

For how to specify a range of events, ☞ "Modifying a particular range of events" (p. 286).

3 Press the [DEL] button.

This deletes the specified events from the macro, and stores them in 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 insert the move target events after the edit point, press the [PSTE] button.
To insert the move target events before the edit point, hold down the [SHFT] button and press the [PSTE] button.

Copying events

1 Specify the edit point for the start of the range to be copied.

2 To copy a number of events in a single operation, press the [FROM TO] button or the [ALL] button.

If you press the [FROM TO] button, specify the event range.

For how to specify a range of events, ☞ "Modifying a particular range of events" (p. 286).

3 Press the [COPY] button.

This copies the specified events and stores it in 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 insert the copied events after the edit point, press the [PSTE] button.
To insert the copied events before the edit point, hold down the [SHFT] button and press the [PSTE] button.

Inserting a pause event

1 Press the [PAUS] button.

2 If required, press the [AUTO INS] button to toggle the auto insert mode on or off.

3 Enter the pause duration (0 or 1 to 999 (frames)).

4 Press the [ENTR] button.

If auto insert mode *(☞ p. 284)* is on, this sets the pause duration, and inserts the pause event.
If auto insert mode is off, continue to step **5**.

5 If auto insert mode is off, press the [INS] button to insert the pause event.

Undoing a macro edit operation

To undo an event insert, modify, delete, or paste operation immediately after execution, press the [UNDO] button.

Editing Macros 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, local disk, or removable disk 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.
For details about the display, *☞ "Effect Status Display" (p. 264)*. However, region names are not displayed.
The operations for macro register editing are the same as those for effect register editing *(☞ p. 264)*.
However, it is not necessary to select a region in macro register editing.

Online Editing of Macro Events

You use the On Line Edit menu to 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) The Flexi Pad switches to macro editing mode *(☞ "Creating and Editing a Macro" (p. 284))*.

2 In any of the following menus, select the same register as the register recalled in step **1**, and press [On Line Edit].

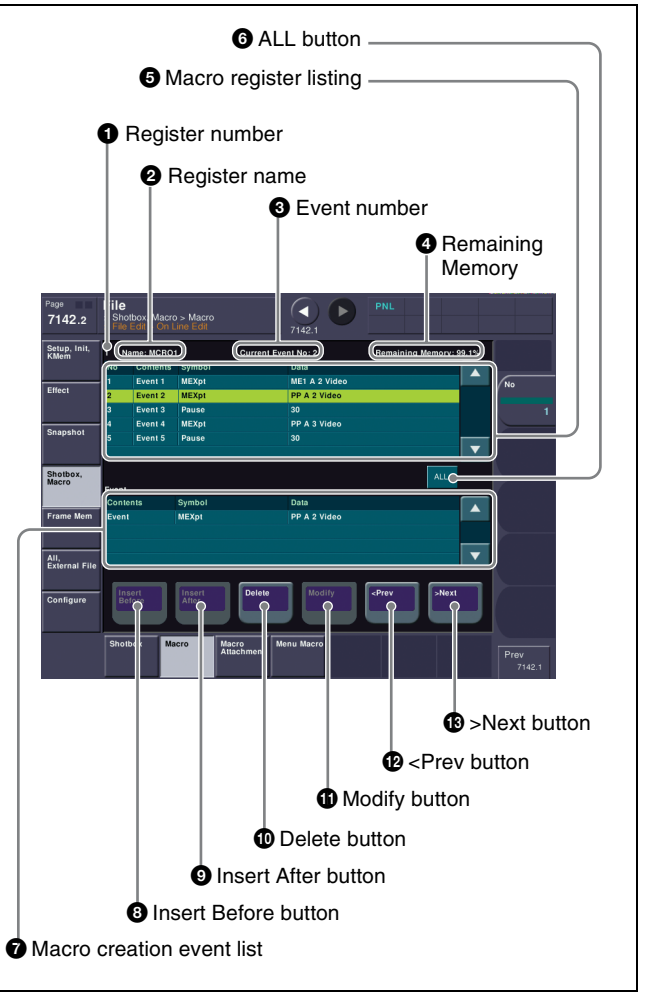
- Macro >Register >Lock menu (5412)
- Macro >Register >Delete menu (5416)
- Macro >Register >Rename menu (5417)
- File >Shotbox, Macro >Macro >File Edit menu (7142.1)

The On Line Edit menu (7142.2) 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 ([Local Disk] or [Removable Disk]) 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 Flexi Pad 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 about the event components, ☞ "Macro File Editing Rules" (p. 423).

The cursor shows the current event in the list, in reverse video. You can use the [No] parameter to scroll the list, without changing the cursor position.
Depending on the switcher status, the cursor color changes as follows.

- **Yellow:** 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

Notes

It is not possible to save editing results using the On Line Edit menu. 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 details about the display, ☞ "Macro File Editing Rules" (p. 423).

3 In the macro register listing, press [<Prev] or [>Next] to select the position where you want to insert the created event.

4 Select any 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 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 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, create a macro event.

The modified event appears in the macro creation event list.

For details about the display, ☞ "Macro File Editing Rules" (p. 423).

4 Press [Modify].

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 has been pressed

5 Operate the control panel to save the editing result.

Offline Editing of Macro Events

You use the Off Line Edit menu to 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

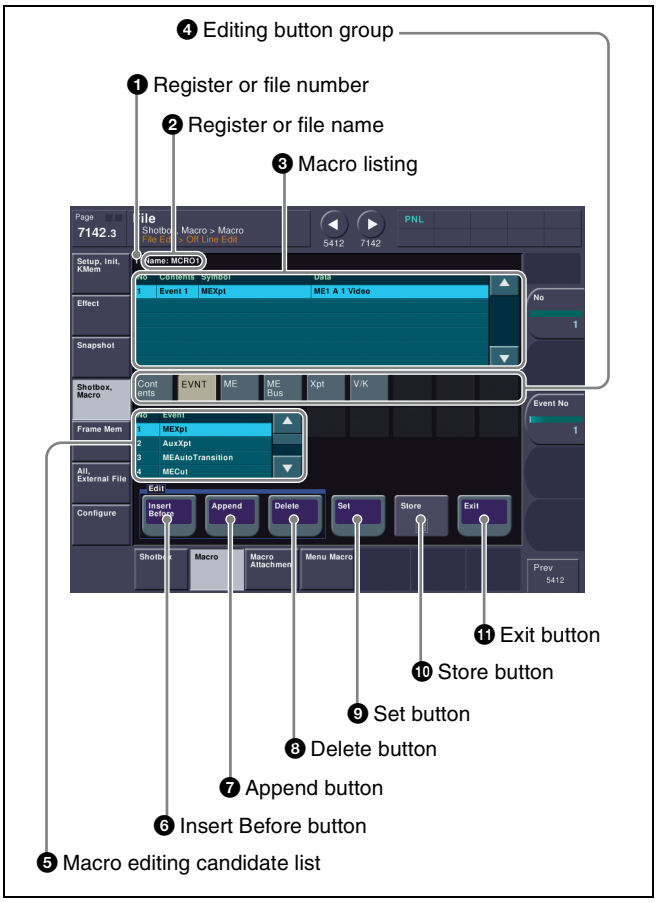
In any of the following menus, select the register or device holding the macro you want to edit, and press [Off Line Edit].
- Macro >Register >Lock menu (5412)
- Macro >Register >Delete menu (5416)
- Macro >Register >Rename menu (5417)
- File >Shotbox, Macro >Macro >File Edit menu (7142.1)

The Off Line Edit menu (7142.3) appears, and the selected macro register or macro file is recalled, enabling offline editing.

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 details about the event components, ☞ "Macro File Editing Rules" (p. 423).

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

To insert an event

1 In the macro listing, select the event at the position where you want to insert, and select one of the following.

To insert before the event selected in the list: Press [Insert Before].
To insert at the end of the list: Press [Append].

A blank row is added at the end of the macro listing.

2 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 about the items, ☞ "Macro File Syntax" (p. 423).

3 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.

4 In the editing button group, press the button that has just appeared.

The item corresponding to the button appears in the macro editing candidate list.
If you press [EVNT], the symbol indicating the event contents appears *(☞ p. 424)*.

5 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.

6 Repeat steps **4** and **5**, to edit the event components.

At the event insertion position of the macro listing, the item is added as an event component.
To add further events, repeat steps **1** to **6**.

7 Press [Store].

8 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 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.

3 Press [Store].

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].

- Macro >Register >Lock menu (5412)
- Macro >Register >Delete menu (5416)
- Macro >Register >Rename menu (5417)
- File >Shotbox, Macro >Macro >File Edit menu (7142.1)

The Off Line Edit menu (7142.3) appears.

2 Carry out steps **2** to **7** of the procedure in *“To insert an event” (☞ p. 290)* to create an event.

To close the Off Line Edit menu without saving the editing results

Press [Exit].

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

You select the mode using the following buttons.

Mode	Buttons	
	ICP-6520/6530	ICP-3000/3016
Pre-macro	Press the [PRE MCRO] button on the cross-point control block.	Press the [PRE MCRO] button assigned to the 1st row on the cross-point control block.
Post-macro	Press the [POST MCRO] button on the cross-point control block.	Press the [POST MCRO] button assigned to the 1st row on the cross-point control block.

Mode	Buttons	
	ICP-6520/6530	ICP-3000/3016
Macro only	• Press the user preference button on the menu panel with the “Macro Only Set” assignment. • Press the [PRE MCRO] and [POST MCRO] buttons simultaneously.	

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 • Cross-point buttons of the bus assigned to the 2nd row. • 2nd row buttons assigned by the utility/shotbox function[a)] • Buttons set to “Inhibit”
Device control block	Buttons assigned the function of the VTR/disk recorder/frame memory operating mode [PLAY], [CUE], [STOP], and [START TC] buttons
Transition control block	Fader and buttons assigned the following functions • Next transition selection • Transition type selection • Wipe direction selection • Auto transition, cuts • Device control (CUE, PLAY, STOP) • Pattern limit On/Off • Independent key transition type selection • Independent key transition auto transition, cuts[b)]
Flexi Pad	[AUTO TRNS][b)], [KEY ON][b)], [RUN], [REWIND], [NORM], [REV], and [NORM/REV] buttons
Menu panel	[PREFS 1] to [PREFS 16] buttons

a) Shotbox recall, macro recall, some utility commands (Inhibit Set, Inhibit All Clear, K-SS Store, and macro operating commands) cannot be set to assigned buttons.
b) In the case of an event that inserts or deletes a key with an independent key transition, the state (inserted or not inserted) prior to event registration 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 inserts/deletes a key, when the macro is executed, if the key was inserted it is deleted, but otherwise nothing occurs as concerns keying.

Notes

- 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 may disappear.
- 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 and Canceling a Macro Attachment

Notes

- On the ICP-3000/3016, the [PRE MCRO] and [POST MCRO] functions must be assigned to buttons in the 1st row of the cross-point control block. The assignment is carried out in the Engineering Setup >Panel >Operation >Key/AUX/Function Assign menu (7326.13) *(☞ p. 340)*.
- In order to select macro only mode, it is first necessary to assign the “Macro Only Set” function to a user preference button in the menu panel. Carry out this assignment in the Engineering Setup >Panel >Prefs/Utility menu (7324) *(☞ p. 334)*.

Setting a macro attachment to a button

This section describes an example of setting a macro attachment to a background A row cross-point button.

For details about buttons that can have a macro attachment, ☞ “Setting a macro attachment to a button” (p. 291).

1 Recall the macro register (1 to 250) that you want to assign to the button *(☞ p. 283)*.

2 To set in pre macro mode, hold down the [PRE MCRO] button, 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 >Macro menu (7326.6) *(☞ p. 343)*.

To make a macro attachment setting in macro only mode

1 Recall the macro register (1 to 250) that you want to assign to the button *(☞ p. 283)*.

2 Press the user preference button with the "Macro Only Set" assignment, turning it on.

Operation switches to macro only mode.

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 user preference button with the "Macro Only Set" assignment turns off.

You can also set a macro attachment in macro only mode, without switching to macro only mode in step **2**, by pressing and holding down the [PRE MCRO] and [POST MCRO] buttons simultaneously and then pressing the desired button in the background A row.

To check macro attachment settings

Hold down the [PRE MCRO] button or [POST MCRO] button in the cross-point control block. 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.

1 Recall the macro register (1 to 250) that you want to assign to the fader lever *(☞ p. 283)*.

2 Move the fader lever to the position where you want to set the macro attachment.

3 Hold down the [PRE MCRO] button or [POST MCRO] button[1)] in the cross-point control block, and press the [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] button 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.

- **Fader status indicator in the transition execution section:** An arrow appears 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 in the cross-point control block, and press the flashing button 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] button or [POST MCRO] button in the cross-point control block, and press the [PRIOR SET] button in the control block containing the fader lever having the macro attachment set.

To delete individual macro attachment settings

You can delete individual settings of a macro attachment assigned to a button.

1 Open the Macro >Attachment menu (5421).

2 Select the macro attachment settings you want to delete.

3 Press [Delete].

4 Check the message, then press [Yes].

To delete all macro attachment settings in a single operation

1 Open the Macro >Attachment menu (5421).

2 Press [All Clear].

3 Check the message, then press [Yes].

Switching the macro attachment assignment mode (button number mode/ pair number mode)

When assigning a macro attachment to a cross-point button, you can select the mode as either by button number or by pair number (video and key).

Notes

If you change the mode using the following procedure, all macro attachment data relating to cross-point buttons is lost.

1 Open the Macro >Attachment menu (5421).

2 In the <Xpt Attachment Mode> group, select one of the following.

Button Mode: Button number mode. Assign an attachment combination of bus and button numbers.

Pair Mode: Pair number mode. Assign an attachment combination of bus and pair numbers.

3 Check the message, then press [Yes].

Notes

- In pair number mode, carry out operations as follows.
  - When a single pair number is assigned to multiple cross-point buttons, pressing any of them executes the macros of all cross-point buttons to which the same pair number is assigned. Further, if you delete any of these assignments, this deletes all assignments to the same pair number.
  - If you reassign a pair number to a different cross-point button, the attachment settings are also transferred to the new cross-point button.
- When macro attachment data is loaded to overwrite existing data, this also changes the button number mode or pair number mode setting.

Displaying the Macro Attachment List

In the Macro >Attachment menu (5421), 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 about the macro modes, ☞ "Setting a macro attachment to a button" (p. 291).

For details about the macro attachment listing, ☞ "About the Macro Attachment List Display" (p. 429).

Moving within the list from one block to another

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.
- **Others:** Move to a block in a location other than the PGM/PST bank or M/E-1 bank

Executing a Macro by Macro Attachment

You use the following buttons to execute a macro attachment.

Macro attachment location	Buttons	
	ICP-6520/6530	ICP-3000/3016
M/E bank, PGM/PST bank	[MCRO ATTCH ENBL] button on the cross-point control block	[MCRO ATTCH ENBL] button in the 1st row on the cross-point control block
All other locations	• User preference button on the menu panel with the "Macro Attachment Enbl" assignment • 2nd row button on the cross-point control block with the "Macro Attachment Enbl" assignment using the utility/shotbox function	

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 (or the button with the “Macro Attachment Enbl” assignment), 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 the Setup menu.

  For details, ☞ “Setting the Macro Execution Mode” (p. 343).
- Individual events stored in a macro are executed according to the settings in the Setup menu. If you change the settings in the Setup menu, 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 (or the button with the “Macro Attachment Enbl” assignment), 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 about switching stroke mode, ☞ “Setting a preset color mix” (p. 356).
- 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 the Setup menu *(☞ p. 343)*.
- Individual events stored in a macro are executed according to the settings in the Setup menu. If you change the settings in the Setup menu, 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 edit 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, *☞ "Menu Operations Not Recorded in a Menu Macro" (p. 430).*

Recalling a Menu Macro Register and Executing a Menu Macro

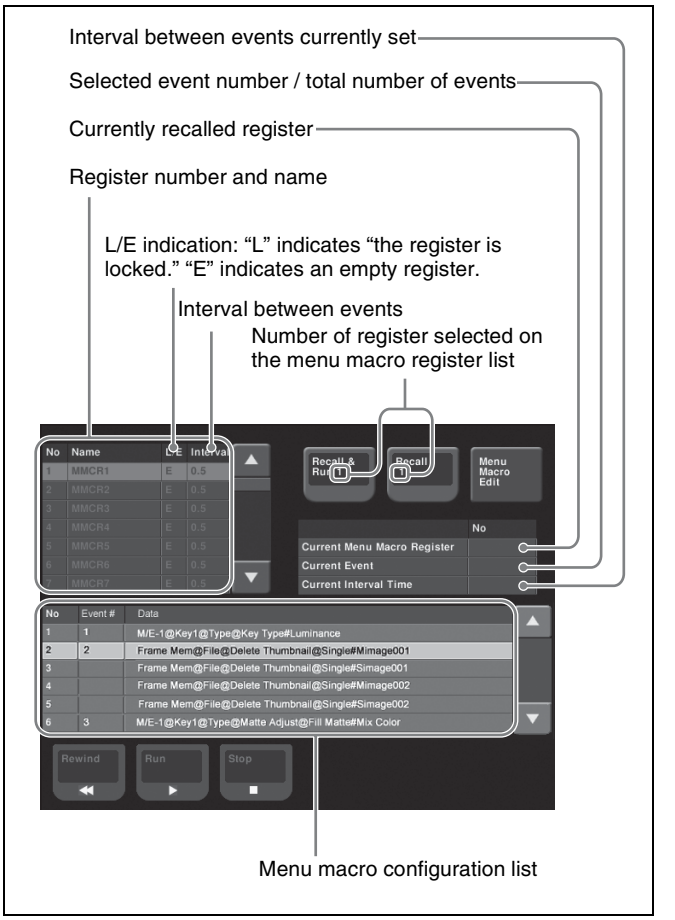
Menu macro operation is carried out by recalling a menu macro register.

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 Open the Macro >Menu Macro Register >Recall & Run menu (5431).



2 Select a register.

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 (5431), check that you are not in macro editing mode, then use the following procedure.

1 Select the opening event to execute.

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.

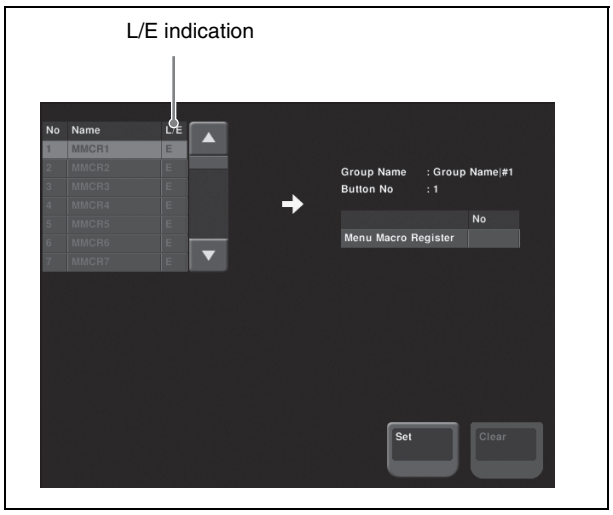
For details about recalling operations, ☞ "Macro Operations in the Flexi Pad" (p. 283) and ☞ "Editing Macros using Menus" (p. 287).

Registering a Menu Macro in the Shortcut Menu

1 In the Home >Favorites >Button Edit menu (0023), select a button to register.

2 Press [MenuMacro Set].

The Menu Macro Set menu (0023.1) 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 from the shortcut menu

1 Open the Home >Favorites >Shortcut menu (0021).

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].

Creating and Editing a Menu Macro

Notes

It is not possible to execute a menu macro during editing. To run the macro, first press the [Store] button to end editing.

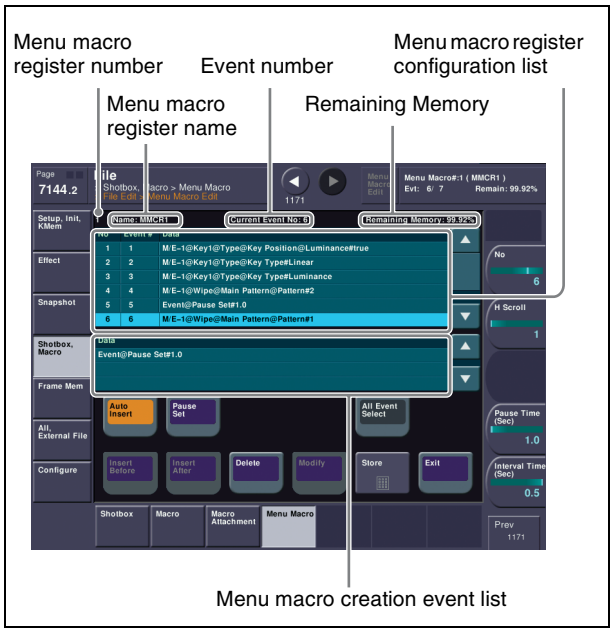
Creating a new menu macro

1 In the Macro >Menu Macro Register >Recall & Run menu (5431), select an empty register in the menu macro register list.

For details about the method of operation, ☞ "Recalling a Menu Macro Register" (p. 296).

2 Press [Menu Macro Edit].

The Menu Macro Edit menu (7144.2) appears.
The menu macro register is recalled, and the system is now in menu macro editing mode.



3 If required, press the [Auto Insert] button to toggle 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 about menus that can be recorded, ☞ "Menu macro events" (p. 296).

When auto insert mode is on, carrying out a menu operation automatically saves the event in a menu macro.
When auto insert mode is off, proceed 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 register the required events in the menu macro.

7 Set the event execution interval.

No.	Parameter	Adjustment
5	Interval Time (Sec)	Event interval (seconds)

The settings are applied to each menu macro register.

8 Press [Store].

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.

No.	Parameter	Adjustment
4	Pause Time (Sec)	Pause duration (seconds)

2 Press [Pause Set].

When auto insert mode is on, this sets the pause duration, and inserts the pause event.
When auto insert mode is off, use the same operations as in step **5** of *"Creating a new menu macro" (☞ p. 297)* to save the event.

Editing a menu macro

1 In the Macro >Menu Macro Register >Recall & Run menu (5431), select the target register in the menu macro register list *(☞ p. 296)*.

2 Press [Menu Macro Edit].

The Menu Macro Edit menu (7144.2) appears.
The menu macro register is recalled, and the system is now in menu macro editing mode.

3 Select an event.

4 If required, turn [Auto Insert] on or off.

5 Carry out the editing operations.

When auto insert mode is on: Carrying out a menu operation automatically inserts after the selected event.

When auto insert mode is off: Perform one of the following.

- To overwrite the selected event, carry out the new menu operation, then press the [Modify] button.
- To insert an event before the selected event, carry out the new menu operation, then press [Insert Before].
- To insert an event after the selected event, carry out the new menu operation, then press [Insert After].

To delete the selected event
Press [Delete].
To delete all events, select [All Event Select] and press [Delete].

6 Set the event execution interval using the same operation as step **7** of *"Creating a new menu macro" (☞ p. 297)*.

7 Save the register using the same operation as steps **8** and **9** of *"Creating a new menu macro" (☞ p. 297)*.

To exit the Menu Macro Edit menu without saving the results of editing

Press [Exit].

To scroll the event display using the menu macro listing

Select the event to display, and then use the [H Scroll] parameter to scroll the characters in the "Data" field.

About the menu macro editing mode display

If you switch to another menu while in menu macro editing mode, the display is as shown below.

Screen when the keyframe status is displayed

The keyframe status section appears as follows.
- Menu macro register number
- Menu macro register name
- Current event number / total number of events
- Remaining memory

Menu shortcut button to Menu Macro Edit menu

The Previous page button shows one of the following:
- When [Auto Insert] is on, “Menu Macro Auto Insert” appears.
- When [Auto Insert] is off, “Menu Macro Insert After” appears, but operates as [Insert After].

Screen when the keyframe status is not displayed

The Default Recall button shows the following.
Menu shortcut button to Menu Macro Edit menu

The Previous page button shows one of the following:
- When [Auto Insert] is on, “Menu Macro Auto Insert” appears.
- When [Auto Insert] is off, “Menu Macro Insert After” appears, but operates as [Insert After].

Menu Macro Register Editing

You can display the current state of a menu macro register using the Menu Macro Register menu.
For details about the display, ☞ *“Effect Status Display” (p. 264)*. However, region names are not displayed.

In the Menu Macro Register 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 *(☞ p. 264)*. However, it is not necessary to select a region in 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 (1-99), STORE (1-99), 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

The following keyframe 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 >Timeline menu (5441) *(☞ p. 300)*. 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 Flexi Pad.

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.

Forcibly ending a macro timeline

- If the timeline has completed but a macro is still executing, press the [REWIND] or [RUN] button in the Flexi Pad 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 about timeline operations, ☞ "Keyframes" (p. 239).

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 Flexi Pad.

  For details about the region assignment, ☞ "Assigning Regions to Region Selection Buttons in the Flexi Pad" (p. 327).

- 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 about keyframe operations, ☞ "Creating and Editing Keyframes" (p. 250).

Registering a keyframe

The register operations use the Macro >Timeline >Timeline menu (5441) and the [INS] button in the Flexi Pad.

1 In the Flexi Pad, press the [EFF] button, then press the [EDIT ENBL] button.

This switches the memory recall section to effect editing mode.

2 Open the Macro >Timeline >Timeline menu (5441).

3 Select one of the actions (Recall, Take, Take All, No Action) that appear on the right.

If you selected Recall or Take, select the number of the macro register.

No.	Parameter	Adjustment
3	Reg No	Selection of macro register

4 Press [Set].

The selected action appears in the Action column on the left.

5 Press the [INS] button in the Flexi Pad.

This creates keyframe 1 on the macro timeline.

To set the action for a rewind operation

On the macro timeline, when the [REWIND] button in the Flexi Pad 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, press [Rewind Action] in the

Macro >Timeline >Timeline menu (5441) to recall the Rewind Action menu (5441.1). 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 about the setting operation, *☞ "Setting the First Keyframe When a Rewind is Executed" (p. 341).*

Chapter 16 Files

Overview of File Operations

You can save register data, including setup information and snapshot information, as a file on a local disk or removable disk, 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.

Local disks and removable disks

A "local disk" refers to an internal flash memory drive in a control panel. A "removable disk" refers to generic USB-compatible external storage devices connected to the system.

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
- 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: Saves the data in a register to a local disk or removable disk.
Load: Loads a file from a local disk or removable disk.
Copy: Copies a file within a directory or from one directory to another. When a remote panel is used, this function applies to it, too.
Rename: Renames a file on a local disk or removable disk.
Delete: Deletes a file from a local disk or removable disk.

When operating on files or registers in a batch

The Save, Load, Copy and Delete operations above are available.

Notes on transferring multiple frame memory files together to removable disk

- Transferring all of the files within frame memory together fails if the capacity of the removable disk is too small to hold all of the images.
  In this case, replace with a larger capacity removable disk, or delete files until saving is possible.
  The following table roughly shows the relation between removable disk capacity and number of files that can be saved.

Removable disk capacity	Number of files that can be saved	
	SD system	HD system (except 720P)
256 MB	214	46

  When transferring to a local disk, make sure 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 a local disk or removable disk, then an image which was not completely transferred will not be reproducible. Avoid canceling such operations.
- When loading a file from a local disk or removable disk, 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: Imports a file in a different format from a local disk or removable disk into frame memory after changing its format.

Export: Exports a file in a register to a local disk or removable disk after changing its format.

You can import the following types of files 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 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.

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.

About import image size

Pay attention to the following, depending on the signal format which you use.

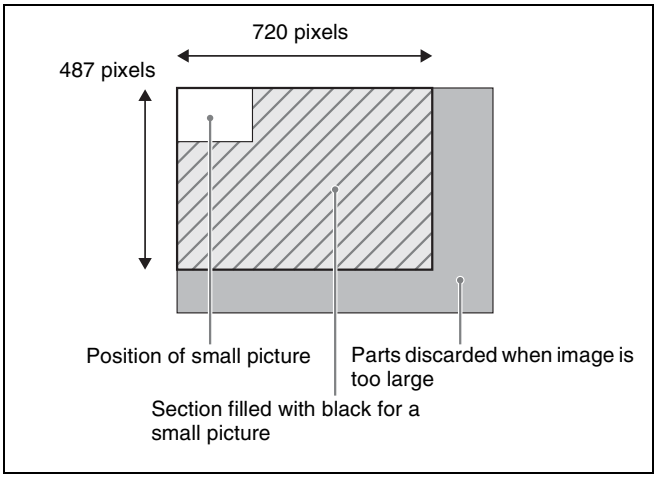
SDTV (480i)

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 cropped.



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 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	

Signal format	Image size (H × V)
720P/50	1280 × 720
720P/59.94	

Importing 720P movie material

To import movie material in 720P format, it is necessary to treat each frame as a separate image file.

Directory operations

You can create a new directory on a local disk or removable disk, rename, or delete a directory *(☞ p. 310)*.

Copying files between different unit IDs

Switcher and DME files within a local disk or removable disk are managed by unit ID.
To copy files between different unit IDs, use the Unit ID Copy menu *(☞ p. 311)*.

Saving data recalled by autoload

At power on, you can automatically recall data previously stored on the local 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 *(☞ p. 311)*.

For details, ☞ "Setting Automatic Loading of Register Data at Power On (Autoload Function)" (p. 317).

Locking file recall operations

For each of the following categories, you can apply a lock on recalling files in the Setup menu *(☞ p. 324)*.
Setup, Initial Status, Key Memory, Effect, Snapshot, Wipe Snapshot, DME Wipe Snapshot, Key Snapshot, Shotbox, Macro, Macro Attachment, Menu Macro, User Setup
A locked file cannot be downloaded from the File menu.

Errors when transferring files

If an error occurs when transferring files, an error message appears in the Error Information menu (9900).
In that case, save the data or recall the file again. If the error message persists, contact your Sony service representative.

Operations on Individual Files

You can save or load the contents of an individual file or register.

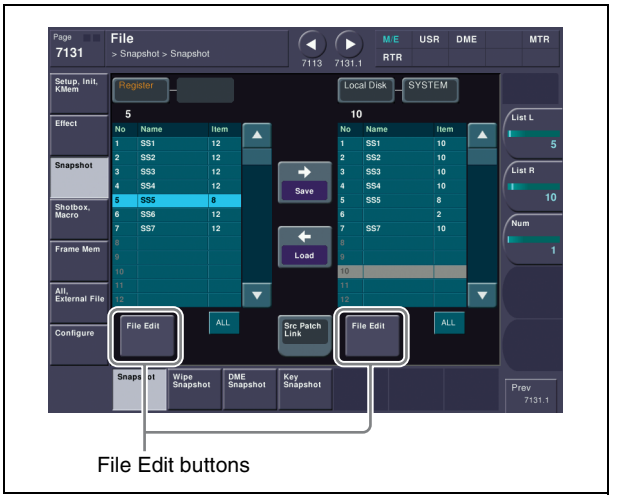
The following description refers to the example of carrying out operations on snapshot files, but the procedure is similar in the other menus.

Viewing Detailed File Information

As an example, to view detailed snapshot file information, carry out the following procedure.

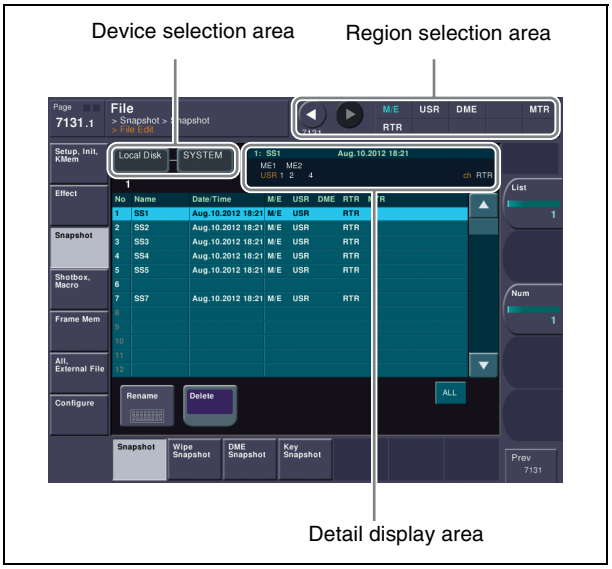
1 Open the File >Snapshot >Snapshot menu (7131).

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 item is also shown.
Pair: In the case of a pair file, “P” 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
- 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 previous figure).

   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, local disk, removable disk, and so on. You can then further select a directory.

Notes

- Files saved on a local disk may be lost if the local disk fails. Always keep separate backup copies of important files on a removable disk.
- Format a removable disk before using it for the first time *(☞ p. 322)*.

As an example, to select a removable disk, use the following procedure.

1. In the File menu, press the device selection indication above the file list.

   A pull-down menu appears.

2. Press [Removable Disk].

   A list of directories on the removable disk appears (maximum 40 per page).
   The maximum number of directories is 120 on a removable disk, or 200 on a local disk.

3. As required, press the ◀ or ▶ button, to switch directory pages.

4. Press the name of the directory you want to use.

Saving Files

As an example, to save snapshot register data on a local disk or removable disk, 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 *(☞ p. 379)*.

1. Open the File >Snapshot >Snapshot menu (7131).

2. In the device selection area on the left, select [Register].

3. In the device selection area on the right, select [Local Disk] or [Removable Disk], then select a directory.

4. Select the data to be saved, and the file in which to save it.

You can select more than one file.

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.

Saving frame memory files

Between steps **3** and **4** of the procedure in *"Saving Files" (☞ p. 305)*, do as follows.

1 To select the frame memory folder, press [Default] in the device selection in the list on the left.

2 Press the required folder name in the pull-down menu.

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 all types of file, press [All].

Loading Files

As an example, to load a snapshot file from a local disk or removable disk to a register, use the following procedure.

1 Open the File >Snapshot >Snapshot menu (7131).

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 ([Local Disk] or [Removable Disk]), and then specify a directory.

4 Select the register to which you want to load, and the file to be loaded.

5 Press [← Load].

This loads the contents of the selected file from the specified location.

Loading frame memory files

Between steps **3** and **4** of the procedure in *"Loading Files" (☞ p. 306)*, do as follows.

1 To select the frame memory folder, press [Default] in the device selection in the list on the left.

2 Press the required folder name in the pull-down menu.

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 all types of file, press [All].

Copying Files

You can copy files either within a directory or between directories on a local disk or removable disk.
As an example, to copy a snapshot file from a removable disk to a local disk, use the following procedure.

1 Open the File >Snapshot >Snapshot menu (7131).

2 In the device selection area on the left, specify the location of the file to be copied (in this case [Removable Disk] and a directory).

3 In the device selection area on the right, select the destination of the copied file (in this case [Local Disk] and a directory).

4 Select the source and destination files.

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.

Copying frame memory files

Between steps **3** and **4** of the procedure in *"Copying Files" (☞ p. 306)*, do as follows.

1 To select the frame memory folder, press [Default] in the device selection in the list on the left.

2 Press the required folder name in the pull-down menu.

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 all types of file, press [All].

Renaming Files

You can rename a file or register on a local disk or removable disk.
As an example, to rename a snapshot file, use the following procedure.

1. Open the File >Snapshot >Snapshot menu (7131).
2. Press [File Edit].

   A detailed list appears. Here too, you can select a device or specify a directory.
3. Select the file to be renamed.
4. Press [Rename].
5. Enter a name of up to eight characters, and press [Enter].

Notes

- Within the switcher, the names for Initial Status and Setup data are fixed.
  You can change the file names on a local disk or removable disk, 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

1. Open the File >Frame Mem >Frame Memory menu (7151).
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 all types of file, press [All].
4. Select the file to be renamed.

   If you selected [Clip] in step **3**, you cannot select multiple files.
5. Press [Rename].
6. Depending on the selections in steps **3** and **4**, enter a name as follows and press [Enter].

   - If you selected a single file with [Still] or [All]: Enter a name of not more than eight characters.
   - If you selected more than one file with [Still] or [All]: Enter a name of not more than four characters.
   - If you selected [Clip]: Enter a name of not more than four characters.

Notes

If you select [Register] in the operation device selection block and select and rename multiple files using [Still] or [All], the still images are converted to a clip.

Deleting Files

You can delete data from a local disk or removable disk, and snapshot or effect data from a register. As an example, to delete a snapshot file, use the following procedure.

1. Open the File >Snapshot >Snapshot menu (7131).
2. Press [File Edit].

   A detailed list appears. Here too, you can select a device or specify a directory.
3. Select the file to be deleted.
4. Press [Delete].
5. Check the message, then press [Yes].

Deleting frame memory files

Between steps **2** and **3** of the procedure in *"Deleting Files" (☞ p. 307)*, do as follows.

1. To select the frame memory folder, press [Default] in the device selection in the list.
2. Press the required folder name in the pull-down menu.
3. Select the type of data to be displayed.

   - To display still image files, press [Still].
   - To display clip files, press [Clip].
   - To display all types of file, press [All].

Creating a frame memory folder on the device (local disk or removable disk)

1. Open the File >Frame Mem >Frame Memory menu (7152).

2 In the pull-down menu of the device selection section, select [Local Disk] or [Removable Disk], and then specify the directory.

3 Press [New].

4 Enter a name of up to eight characters, and press [Enter].

Notes

- The following names cannot be used.
  Default, Flash1, Flash2
  CON, PRN, AUX, CLOCK$, NUL
  COM0, COM1, COM2, COM3, COM4, COM5, COM6, COM7, COM8, COM9
  LPT0, LPT1, LPT2, LPT3, LPT4, LPT5, LPT6, LPT7, LPT8, LPT9
- It is not possible to create 12 or more directories in the frame memory folder.

To rename a frame memory folder

1 Select a folder.

2 Press [Rename].

3 Enter a name of up to eight characters, and press [Enter].

To delete a frame memory folder

1 Select a folder.

2 Press [Delete].

3 Check the message, then press [Yes].

Saving the List of Frame Memory Files to a Local Disk or Removable Disk

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 on a local disk or removable disk.

1 Open the File >Frame Mem >File Name Data menu (7153).

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 [Local Disk] or [Removable Disk], then specify the directory.

4 Select the destination file for saving.

5 Carry out the following operation.

- 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.

Batch Saving Files

To save the data of all registers to a local disk or removable disk, use the following procedure.

Notes

- Files saved on a local disk may be lost if the local disk fails. Always keep separate backup copies of important files on a removable disk.
- Format a removable disk before using it for the first time *(☞ p. 322)*.
- You cannot perform the following operation when [Src Patch Link] is lit on the menu screen *(☞ p. 379)*.

1 Open the File >All, External File >All menu (7161).

2 In the device selection area of the All menu, select the destination for saving the files ([Local Disk] or [Removable Disk] and directory).

3 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] *(☞ “Files that can be manipulated” (p. 302))*.

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 [⟶ Save].

5 Check the message, then press [Yes].

Batch Loading Files

To batch load files from a local disk or removable disk, use the following procedure.

Notes

It is not possible to recall a file from a category for which recall operations are locked *(☞ p. 324)*.

1 Open the File >All, External File >All menu (7161).

2 In the device selection area, select the location where the files are saved ([Local Disk] or [Removable Disk], and the directory).

3 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] *(☞ "Files that can be manipulated" (p. 302))*.

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 *(☞ p. 379)*.

4 Press [⟵ Load].

5 Check the message, then press [Yes].

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 execution of the load.

Batch Copying Files

To copy files between a local disk and removable disk, use the following procedure.

1 Open the File >All, External File >All menu (7161).

2 In the operating device selection section, select the storage location ([Local Disk] or [Removable Disk] and directory) of the source files.

3 In the operating device selection section, select the destination storage location ([Local Disk] or [Removable Disk] and directory) of the source files.

4 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].

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.

5 Press [⟶ Copy].

If there is already data in the specified location, a confirmation message appears.
Select [Yes] to overwrite the data.

Importing and Exporting Files

You can import or export frame memory image data from or to external media.

Import: Transfers a file in a different format from a local disk or removable disk to frame memory as image data.

Export: Changes the file format of register data and saves the data on a local disk or removable disk.

For details about the formats supported for import and export, *☞ "Importing or exporting files to or from frame memory" (p. 303)*.

Importing Frame Memory Data

As an example, to import data in a bitmap format from a removable disk to a frame memory register, use the following procedure.

For details about the points you should take note of when importing data, ☞ "About import image size" (p. 303).

1 Open the File >All, External File >Import/Export menu (7162).

2 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.

3 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].

All of the selected type of frame memory data appears in the list on the left.

4 In the folder selection area on the left, select the frame memory folder to which you want to import the file.

5 Press the device selection area on the right to select [Removable Disk].

6 Select the directory to hold the imported files.

Notes

Files on a removable disk to be imported must always be in a directory immediately below root.

7 Select the file to be imported.

8 Press [← Import].

Exporting Frame Memory Data

As an example, to save image data from frame memory in a bitmap format on a removable disk, use the following procedure.

1 Open the File >All, External File >Import/Export menu (7162).

2 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.

3 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].

All of the selected type of frame memory data appears in the list on the left.

4 Press the device selection area on the right to select [Removable Disk].

5 Select the directory to which to export the files.

Notes

The displayed directories are only those directories immediately below root.

6 In the folder selection area on the left, select the frame memory folder that contains the file you want to export.

7 Select the file you want to export from the list on the left.

8 Press [→ Export].

This adds the image data from the frame memory in a bitmap format on the removable disk.
If the specified destination file name already exists, an overwriting confirmation message appears.
Select [Yes] to overwrite the data.

Directory Operations

You can create a new directory on a local disk or removable disk, rename, or delete a directory.

Creating a New Directory

You can create a maximum of 120 directories on a removable disk, or 200 on an internal local disk.

1 Open the File >Configure >Directory menu (7171).

2 In the device selection pull-down menu, select [Local Disk] or [Removable Disk].

3 Press [New].

4 Enter a name of up to eight characters, and press [Enter].

Notes

The following names cannot be used for directories:
CON, PRN, AUX, CLOCK$, NUL
COM0, COM1, COM2, COM3, COM4, COM5, COM6, COM7, COM8, COM9

LPT0, LPT1, LPT2, LPT3, LPT4, LPT5, LPT6, LPT7, LPT8, LPT9

Renaming a Directory

1 Open the File >Configure >Directory menu (7171).

2 In the device selection pull-down menu, select [Local Disk] or [Removable Disk].

3 Select a directory.

4 Press [Rename].

5 Enter a new name of not more than eight characters, and press [Enter].

Deleting a Directory

1 Open the File >Configure >Directory menu (7171).

2 In the device selection pull-down menu, select [Local Disk] or [Removable Disk].

3 Select a directory.

4 Press [Delete].

5 Check the message, then press [Yes].

Copying Files between Different Unit IDs

Switcher and DME files on a local disk or removable disk are handled separately for each unit ID *(☞ p. 313)*. With the normal file copy operation, it is not possible to copy files between different unit IDs. To copy files between different unit IDs, grouped by category, use the following procedure.

Notes

The following operation applies to frame memory data.

1 Open the File >Configure >Unit ID Copy menu (7172).

2 In the Unit ID Copy menu, press the category selection section at the top right of the screen.

3 Press the categories you do not want to select, turning them off.

4 Press [OK].

5 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.

6 Select the copy source and copy destination unit IDs.

7 Press [→ Copy].

8 Check the message, then press [Yes].

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 a local 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 information about the data recalled by the autoload function, *☞ "Saving data recalled by autoload" (p. 304)*.

For information about enabling or disabling the autoload function, *☞ "Setting Automatic Loading of Register Data at Power On (Autoload Function)" (p. 317)*.

For example, to save snapshot data, use the following procedure.

1 Open the File >Snapshot >Snapshot menu (7131).

2 In the device selection area on the left, select [Register].

3 In the device selection area on the right, select [Local Disk].

Be sure to select [Local Disk] 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

Engineering Setup >System >Start Up menu (7314). If set to Off, the directory does not appear.

5 Select the data to be saved, and the file in which to save it.

6 Press [⟶ Save].

If there is already data in the specified location, a confirmation message appears.
Select [Yes] to overwrite the data.

System Setup

Chapter 17

System Settings

Carry out operations relating to setup for the whole system in the Engineering Setup >System menu.
Here the "whole system" refers to all devices connected on the system switcher LAN.

Setting the unit ID

If an MVE-8000A or MVE-9000 is connected to an MVS-6520/6530/3000A/3000, the unit ID must be set to 2.
In addition, the switcher processor, DME (MKS-6570), and control panel are all tied to unit ID of 1.

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

Notes

The MVS-3000 does not support the MKS-6570 DME board.

Network Settings

This provides automatic configuration of all devices connected to the switcher system LAN, and displays a list of them.

Setting the Group ID

1. In the Engineering Setup >System >Network Config menu (7311), press [Group ID].
2. Enter a number (1 to 8) in the pop-up menu, and press [Enter].
3. Check the message, then press [Yes].

Authenticating the IP Address Automatically

1. In the Engineering Setup >System >Network Config menu (7311), press [Auto Config].
2. Check the message, then press [Yes].

   Devices with the same group ID within the network are detected and displayed.
3. To register the list of detected devices as the setting values at power-on, press [Define].
4. Check the message, then press [Yes].

Setting the Signal 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. When you press [Execute], some data is lost (such as frame memory images).
If you press [FC Format Execute], this data is not lost.

Setting the Signal Format

Specify the signal format to be handled by the devices. The combinations of signal formats that can be selected are as follows.

Notes

The DME1 signal format is in common with the switcher.

System	Field frequency	Effective number of scan lines
HD system	50	1080i
	59.94	
	23.976	1080PsF
	24	
	50	720P
	59.94	
SD system	59.94	480i
	50	576i

1 In the Engineering Setup >System >Format menu (7313), select the device for operations.

2 Press [Signal Format].

3 Press the button for the desired signal format.

Switching the Input Reference Signal for HD System

Notes

The DME1 input reference signal is common to the switcher.

In the <Ref Input Format> group of the Engineering Setup >System >Format menu (7313), select one of the following.
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	BB	
1080i/59.94	59.94	Black Burst 59.94	Sync 59.94
1080i/50	50	Black Burst 50	Sync 50
1080PsF/24	48	–	
1080PsF/23.976	47.952	–	
720P/59.94	59.94	Black Burst 59.94	Sync 59.94
720P/50	–	Black Burst 50	Sync 50

Setting Conversion Formats

The format conversion is valid only when [BB] is selected in the <Ref Input Format> group.
The format conversion is assigned to primary inputs and outputs in advance.

For details about the assignment, ☞ "Selecting the Primary Input to be Used in the Format Converter" (p. 348) and ☞ "Selecting the Output to be Used as the Format Converter" (p. 353).

Format converter

The following video signal conversion formats are supported by the format converter.
- Up-conversion: SD (4:3) to HD (16:9)
- Down-conversion: HD (16:9) to SD (4:3)
- Cross-conversion: HD (720P) to HD (1080i), or HD (1080i) to HD (720P)

The number of format converter inputs and outputs can be set to one of the following in "FC Config" *(☞ p. 322)*.
- 8 inputs, no outputs
- 4 inputs, 2 outputs

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, ☞ "To delay unconverted input signals (frame delay function)" (p. 315).

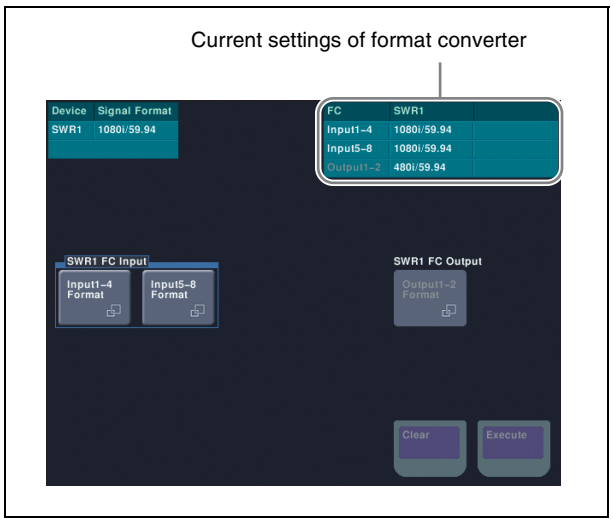
Conversion format combinations

The combinations of switcher signal formats and supported format converter formats are as follows.

Switcher signal format setting	Format converter signal format setting	
	FC Input 1 to 8	FC Output 1, 2
480i/59.94	720P/59.94 1080i/59.94	720P/59.94 1080i/59.94
576i/50	720P/50 1080i/50	720P/50 1080i/50
720P/50	576i/50 1080i/50	576i/50 1080i/50
720P/59.94	480i/59.94 1080i/59.94	480i/59.94 1080i/59.94
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

Setting the conversion format

1 Open the Engineering Setup >System >Format menu (7313).



2 Press [Format Converter].

The Format Converter menu (7313.4) appears.

3 To select the conversion format for format converter inputs 1 to 4, press [Input 1-4 Format] in the <SWR1 FC Input> group.

4 Press the button for the desired signal format in the pop-up window

5 Set one of the following, as determined by the setting in "FC Config" *(☞ p. 322)*.

- If [8 in] is selected, press [Input 5-8 Format] and then set the desired signal format in the same way as in step **4**.
- If [4 in 2 out] is selected, press [Output 1-2 Format] in the <SWR1 FC Output> group and then press the the button for the desired format.

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 in step **4** 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 in units of frames, up to eight frames.

For details, ☞ "Selecting the Input to which the Frame Delay Function Applies" (p. 349).

Setting the Screen Aspect Ratio

Switches the screen aspect ratio to 16:9 or 4:3.

Setting the screen aspect ratio

1 In the Engineering Setup >System >Format menu (7313), press [Aspect].

The Aspect menu (7313.1) 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**.

IF you selected [Switcher Aspect]: In each of the <M/E-1>, <P/P>, and <User> groups, select either [16:9] or [4:3].
If you selected [DME Aspect]: In each of the <CH1> and <CH2> groups (for DME1) or <CH1> to <CH4> groups (for DME2), select either [16:9] or [4:3].

5 Press [Aspect Execute].

6 Check the message, then press [Yes].

Selecting the State After Power-on

Sets 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.

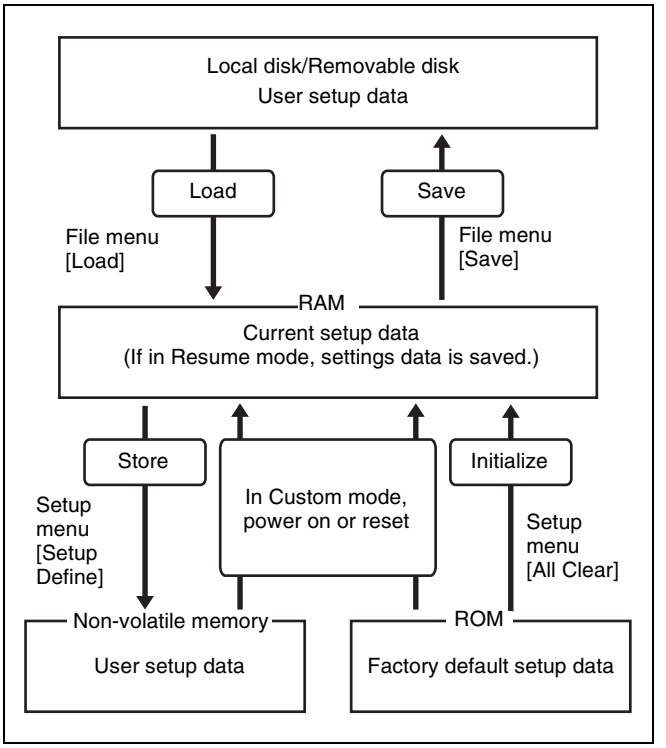
- **Setup mode:** Selects the setup state to be used after powering on from the following.
  User: Starts up using the user data previously saved with [Setup Define].
  Factory: Starts up with the factory default settings.
- **Initial status mode:** Selects the state of each device after powering on (excluding the settings to which "setup" applies).
  User: Starts up using the user data previously saved with [Initial Status Define].
  Factory: Starts up with the factory default settings.

For details, ☞ "Saving and Recalling Setup Data" (p. 316) and ☞ "Data Saved by [Setup Define] and [Initial Status Define]" (p. 431).

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



Updating the switcher or control panel setup data saves the updated setup data in RAM in the switcher.

- In Resume mode *(☞ p. 315)*, even if the switcher is reset or powered off, the data is preserved in RAM, and recalled when the power is turned back on.

Notes

Resume mode cannot be used for DMEs and DCUs.

- In Custom mode *(☞ p. 316)*, the user-defined settings (user setup data) saved in non-volatile memory or factory default setup data held in ROM are recalled when a reset is made or the power is turned back on *(☞ p. 316)*.

Note that the setup data in RAM can also be saved to the control panel local disk or removable disk.

Notes

It is not possible to set the DCU state for start-up, but its settings can be saved in the switcher.

Selecting the State at Start-up

1 In the status area of the Engineering Setup >System >Start Up menu (7314), 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 *(☞ p. 315)*.
Custom: When this is on, Custom mode is enabled *(☞ p. 316)*.

Notes

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, ☞ "Saving User-Defined Settings" (p. 317).

Factory: When this is on, factory default settings are used for the Setup or Initial Status settings.

4 Press [Execute].

5 Check the message, then press [Yes].

Saving User-Defined Settings

1 Open the Engineering Setup >System >Start Up menu (7314).

2 Select the target device, and then select one of the following.

- To save the Setup settings, press [Setup Define].
- To save the Initial Status settings, press [Init Status Define].

For details about the settings which will be saved, ☞ "Data Saved by [Setup Define] and [Initial Status Define]" (p. 431).

3 Check the message, then press [Yes].

Setting Automatic Loading of Register Data at Power On (Autoload Function)

To have specified data read in at power on, press [Power On File Load] in the Engineering Setup >System >Start Up menu (7314), turning it on.
This enables the autoload function.
When the autoload function is enabled, a directory "PWON_LD" appears in the corresponding File menu.

For details about saving data which can be loaded by the autoload function, ☞ "Saving data recalled by autoload" (p. 304).

Reset and Initialization

You can carry out a reset or memory initialization for a device.

- **Reset:** Resets state after powering on.
- **All Clear:** Clears the memory and restores the factory default settings. The Network 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 details, ☞ "Saving and Recalling Setup Data" (p. 316).

Notes

- Resetting SWR1 also resets DME1 at the same time.
- Resetting SWR1 also resets PNL1 at the same time. However, resetting PNL1 does not reset SWR1.

1 In the status area of the Engineering Setup >System >Initialize menu (7315), select the device.

2 In the <Initialize> group, select one of the following modes.

Reset: Resets the target device, causing it to restart in the start-up state.
All Clear: Initializes the target device, causing it to restart in the factory default state.

3 Press [Execute].

4 Check the message, then press [Yes].

Setting the Control Panel Type

You use this procedure to set the type of ICP-series control panel connected to the MVS system.

1 In the Engineering Setup >System >Install/Unit Config menu (7316), select "PNL1" and press [Unit Config].

The Unit Config menu (7316.8) appears.

2 In the <ICP Type> group, select the type of the control panel.

You can select [ICP-6530], [ICP-6520], [ICP-3000], or [ICP-3016].

3 Press [Execute].

4 Check the message, then press [Yes].

Installation and Device Setup

This installs the software and firmware in all devices (including the DCU) connected to the LAN.

Notes

The DME1 software is included in the MVS-6520/6530/3000A software.

Displaying installation details

In the Engineering Setup >System >Install/Unit Config menu (7316), press [Detail Information].
This accesses the Detail Information menu (7316.1), and displays the detailed information on the software and firmware installed in the currently selected device.

Notes

When DME1 is selected, the Detail Information menu is not displayed.

Installing Software

1 Insert the removable disk containing the software to the DEVICE connector on the control panel or menu panel.

2 In the Engineering Setup >System >Install/Unit Config menu (7316), press [Install].

The Install menu (7316.10) 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 a check mark.

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, select the relevant device.

Notes

When DME1 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.

5 Press [Set].

The selection is reflected under “Install” and “Title” in the upper list.

6 Press [Install].

The “Install” column shows “On,” confirming that this is to be installed. To cancel this installation setting, press “Install” once more, making the column blank.

7 Repeat steps **3** to **6**, to confirm all software to be installed.

8 Press [Execute].

9 Check the message, then press [Yes].

This carries out the installation, and when it completes normally, the “Install” column shows “OK.”

Configuring the Software for Use

To use the software listed below, you are required to enter an install key. If the software has been factory installed, the install key is not required.

BZDM-9050	Texture Lighting Software (for MVE-9000)

Ask your Sony representative about entering the install key.
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 Engineering Setup >System >Install/Unit Config menu (7316) of the switcher, using the following procedure.

Entering the install key

1 In the Engineering Setup >System >Install/Unit Config menu (7316), select the device for which you want to register the license.

2 Press [License].

The License menu (7316.6) appears.

3 Press directly on the name of the software you want to license (the “Condition” column is blank).

4 Press [License Management].

The License Management menu (7316.7) appears.

5 Press [Activate License].

6 Enter the 16-character install key you have been given in the keyboard window, and press [Enter].

7 Press [OK].

The status area “Condition” column shows “Active.”

8 Using either of the following methods, restart the device.

- In the Engineering Setup >System >Initialize menu (7315), 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.

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 by the MKS-6570 or MVE-8000A.

For details about spotlighting and texture patterns, ☞ *“Spotlighting Settings” (p. 208).*

The procedure for adding a texture pattern is as follows.

Prepare a texture file *(☞ p. 319)*

↓

Create the texture package *(☞ p. 320)*

↓

Install the texture package *(☞ p. 321)*

Preparing a texture file

Create a texture file meeting the following conditions, and save it on a removable disk.

File format: Windows bmp (“bitmap”) (extension: bmp, 24-bit RGB)

File name: Alphanumeric (maximum 8 characters) + extension (bmp)
Example: wood_01.bmp

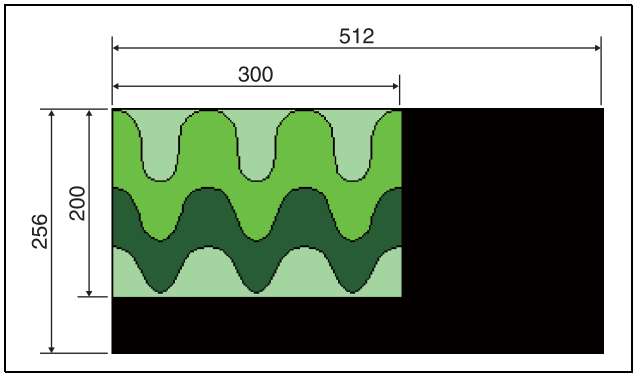
Image size (horizontal × vertical): 128 × 128 to 1024 × 1024 pixels

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

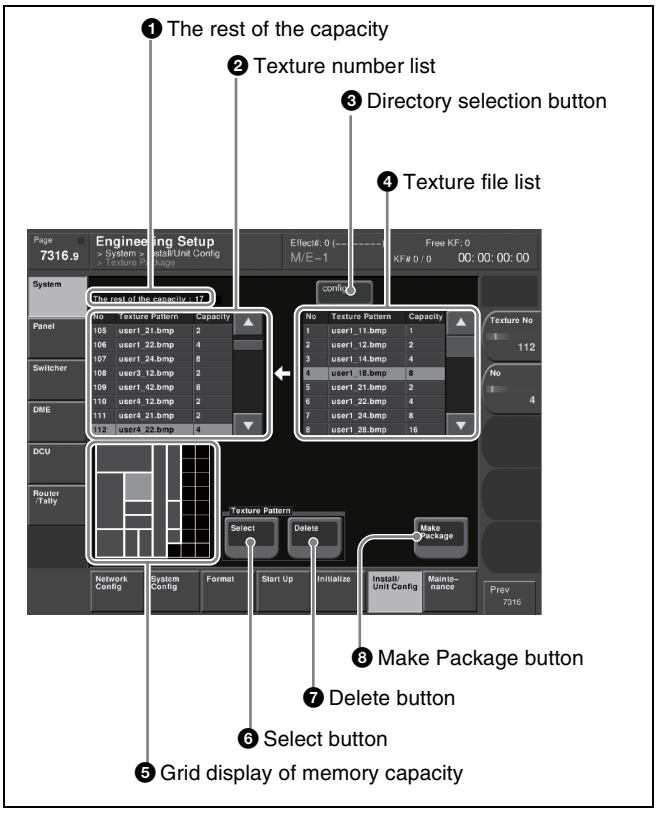
Notes

- 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 a removable disk.

❹ Texture file list
This shows the texture files stored on a removable disk.
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 a grid display of how the texture files are stored in memory.
An 8 × 8 grid of 64 squares, where each square represents 128 × 128 pixels.
It 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 removable disk containing the texture file to the DEVICE connector on the control panel or menu panel.

2 Open the Engineering Setup >System >Install/Unit Config menu (7316).

3 Select a DME for which the spotlighting license is valid.

4 Press [Texture Package].

The Texture Package menu (7316.9) opens.

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.

6 Select a texture file in the texture file list.

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].

10 Check the message, then press [OK].

The texture package is created in the same location that the texture file is stored on the removable disk (extension: zsp, file name generated automatically).

Notes

- If you remove the removable disk 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 removable disk, 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 removable disk to store the texture package, an error message appears, and the process is aborted. If this happens, delete unwanted files from the removable disk using your computer, so that there is enough free space on the removable disk, 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 removable disk containing the texture package to the DEVICE connector on the control panel or menu panel.

2 Open the Engineering Setup >System >Install/Unit Config menu (7316).

3 Press [Install].

The Install menu (7316.10) 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 a check mark.

4 Select a DME for which the spotlighting license is valid from the upper list.

5 Press [Display All Software], turning it on.

The lower list shows the texture packages.

6 Select the texture package you want to install from the lower list.

7 Press [Set].

The selection is reflected under "Install" and "Title" in the upper list.

8 Press [Install].

The "Install" column shows "On," confirming that this is to be installed. To cancel this installation setting, press [Install] once more, making the column blank.

9 Press [Execute].

10 Check the message, then press [Yes].

This carries out the installation, and when it completes normally, the "Install" column shows "OK."

Saving a Frame Memory Clip with Ancillary Data

1 In the Engineering Setup >System >Install/Unit Config menu (7316), select "SWR1" and press [Unit Config].

The Unit Config menu (7316.8) appears.

2 Press [FM Ancillary], turning it on.

On: Save with ancillary data.
Off: Save without ancillary data.

Notes

Switching on/off reinitializes all frame memory data. Always back up the required data before switching.

3 Press [Execute].

4 Check the message, then press [Yes].

Setting the Number of Format Converter Input/Outputs

1 In the Engineering Setup >System >Install/Unit Config menu (7316), select "SWR1" and press [Unit Config].

The Unit Config menu (7316.8) appears.

2 In the <FC Config> group, press one of the following.

8 in: 8 inputs (no outputs)
4 in 2 out: 4 inputs and 2 outputs

3 Press [Execute].

4 Check the message, then press [Yes].

System Maintenance

Setting the Date and Time

1 In the Engineering Setup >System >Maintenance menu (7317), set the following parameters.

Parameter group [1/2]

No.	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]

No.	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" column in the status area.

2 Press [Set Date/Time].

Using Removable Disks

Displaying removable disk information

1 Insert the removable disk to the DEVICE connector on the control panel or menu panel.

2 In the <USB Storage Device> group of the Engineering Setup >System >Maintenance menu (7317), press [Refresh].

Formatting a removable disk

Notes

Format the removable disk if this is the first time the removable disk has been used.

1 Insert the removable disk to the DEVICE connector on the control panel or menu panel.

2 In the Engineering Setup >System >Maintenance menu (7317), select the removable disk.

3 In the <USB Storage Device> group, press [Format].

4 Check the message, then press [Yes].

Carrying Out the Primary Setting

To specify a removable disk as a primary device, use the following procedure.

Notes

Without this setting, you cannot use the "Removable Disk" item in the File menu to access a removable disk. Be sure to configure this setting.

1 In the Engineering Setup >System >Maintenance menu (7317), select the removable disk.

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

Making the primary setting automatic
In the <USB Storage Device> group, press [Auto Detect].

Formatting a Local Disk

If a file system corruption error has occurred on the local disk, you should format the local disk.

1 In the <Local Disk> group of the Engineering Setup >System >Maintenance menu (7317), press [Format].

Notes

When the local disk is operating normally, pressing [Format] has no effect.

2 Press [Yes].

3 Press [OK].

Locking the Setup Menu Settings

To protect data, you can inhibit operations in selected areas of the Setup menu. Use the following procedure. It is not possible to lock the Setup Operation Lock menu.

1 In the Engineering Setup >System >Maintenance menu (7317), press [Setup Operation Lock].

The Setup Operation Lock menu (7317.1) appears.

2 In the <VF Group> group, select the group including the desired menu.

3 Select the menu or the set of menus as candidates for the locking operation.

You can also select a menu while it is open.

For details, ☞ "Selecting an opened Setup menu for locking" (p. 323).

4 Press [Lock Item Select].

This makes the selected menus candidates for locking, and a padlock icon appears in the "Lock" column (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" column.

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].

7 Enter the password with a maximum of 16 characters in the keyboard window, 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

1 In the Setup Operation Lock menu (7317.1), press [Lock].

2 Enter the password in the keyboard window.

Changing the lock password

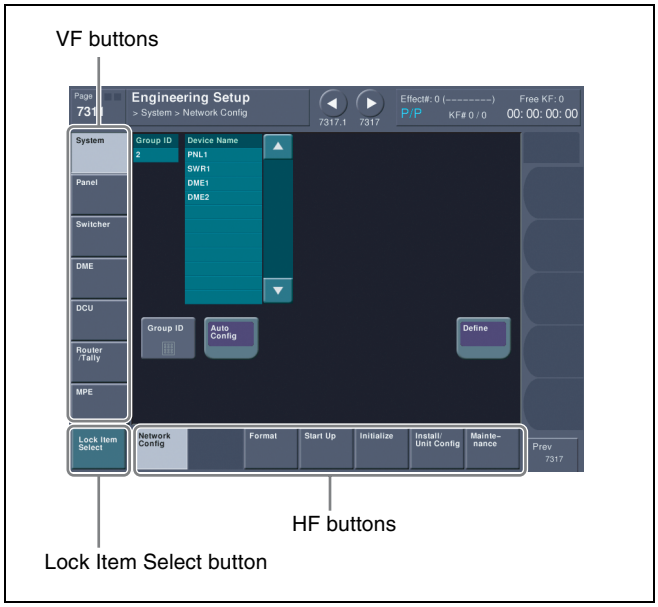
1 In the Setup Operation Lock menu (7317.1), press [Change Password].

2 Press [Yes].

3 Enter the old password and new password when prompted.

Selecting an opened Setup menu for locking

With the menu you want to lock open, press [Lock Item Select] at the lower left.



[Lock Item Select] turns red, and a padlock icon appears.

This selection is reflected in the lock candidate list in the Setup Operation Lock menu.

Notes

If there are already one or more locked menus, selection of lock candidates is not possible.
In this case, the indication of [Lock Item Select] changes as follows.

When the displayed menu is locked

When a menu other than the displayed menu is locked

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 Engineering Setup >System >Maintenance menu (7317), press [File Load Lock].

The File Load Lock menu (7317.2) appears.

2 Select the category as the candidate for the locking operation.

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 column.

To deselect a lock candidate
After selecting a category, press [Clear] to clear the indication “Lock” in the Lock column.

4 Repeat steps **2** and **3** to select all of the lock candidates.

5 Press [Execute].

6 Enter the password with a maximum of 16 characters in the keyboard window, 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 column both change to white.

Releasing the lock

1 In the File Load Lock menu (7317.2), press [Lock].

2 Enter the password in the keyboard window.

Changing the lock password

1 In the File Load Lock menu (7317.2), press [Change Password].

2 Press [Yes].

3 Enter the old password and new password when prompted.

Chapter 18 Control Panel Setup

Overall Control Panel Settings

In panel setup, you carry out settings particular to the control panel.

Interchanging the Bank Order or Disabling Operation

You can set the assignments for the M/E and PGM/PST banks, and then enable, disable, or inhibit operations for each of the M/E and PGM/PST banks.

1 In the Engineering Setup >Panel >Config menu (7321), select the Bank you want to set.

The Bank selection here indicates the physical position on the control panel.
On the ICP-6520/3000/3016 (2-row control panel), this corresponds to the 2nd row and 3rd row from the top; the 1st row cannot be used.
On the ICP-6530 (3-row control panel), this corresponds to the 1st row, 2nd row, and 3rd row from the top.

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.

3 For the selected Bank number, in the <M/E Operation> group, select one of the following.

Enable: Enables panel display and operation of the bank.
Disable: Enables only panel display, and disables operation of the bank.
Inhibit: Disables both the panel display and operation of the bank.

Notes

When this is set to [Inhibit], snapshots of the bank are not recalled.

Linking Switcher Bus and Router Destination

To provide links between the switcher bus and router destination, make the following settings as required.
Matrix selection: Selects the target of link setting from the eight matrices (1 to 8).
Matrix position definition: Sets the start address and level for the source and destination on the S-Bus.
Link table setting: Links a switcher cross-point button and matrix source.
Link bus setting: Links a switcher bus address and router destination.

Selecting a matrix number

1 Open the Engineering Setup >Panel >Config >External Bus Link menu (7321.3).

2 Set the following parameters.

No.	Parameter	Adjustment
1	Link No	Link number
2	Link Matrix	Matrix number

3 Press [Link Matrix Set].

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. Open the Engineering Setup >Panel >Config >External Bus Link >Link Matrix Adjust menu (7321.4).

   In this menu too, you can use the [Link Matrix] parameter to select the matrix number.

2. Define the position of the matrix to be linked.

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].

Setting a link table

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

1. Open the Engineering Setup >Panel >Config >External Bus Link >Link Matrix Adjust >Link Table Adjust menu (7321.5).

   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. Select the switcher cross-point button and the matrix source to be linked to the button.

3. To confirm the matrix source selection made in step **2**, press [Link Source Set].

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

1. In the Link Matrix Adjust menu (7321.4), press [Init Link Table].

2. Check the message, then press [Yes].

Making link bus settings

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

1. Open the Engineering Setup >Panel >Config >External Bus Link >Link Bus Adjust menu (7321.6).

   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 the [Link No] parameter to set the link number.

2. Select the switcher bus and the router destination to be linked to the switcher bus.

3. To confirm the bus selected in step **2**, press [Master Bus Set], and to confirm the destination press [Linked Dest Set].

Linking Transitions between Keyers

You select whether or not to link transitions between keyers, and if so which keyer to link to.

1. Open the Engineering Setup >Panel >Config >Key Trans Link menu (7321.2).

2. Select the keyer to be master.

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

Linking the Next Transition Selection Buttons

To use 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 (Key2 and Key3) are linked with the master keyer (Key1), pressing the [KEY1] next transition selection button also selects the [KEY2] and [KEY3] buttons.

1. Set the transition links between keyers.

   For details about the operation, ☞ *"Linking Transitions between Keyers" (p. 326)*

2. Press [Next Trans Link], turning it on.

   The [KEY1] to [KEY4] 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.

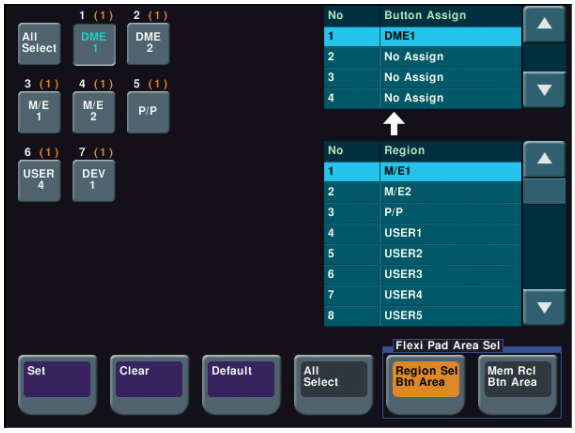
Notes

These settings apply to the whole Key Trans Link menu. It is not possible to make separate settings for each master keyer.

Assigning Regions to Region Selection Buttons in the Flexi Pad

You can set a maximum of four regions to each of the region selection buttons in the Flexi Pad.
In the Flexi Pad, 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 Flexi Pad, it is not possible to assign a region to the [EXIT] button.

1 Open the Engineering Setup >Panel >Config >Region Button Assign menu (7321.7).



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 In the <Flexi Pad Area Sel> group, press one of the following.

Region Sel Btn Area: When assigning a region to the region selection buttons
Mem Rcl Btn Area: When assigning a region to the numeric keypad buttons in the memory recall section

3 Press the indication of the button for the assignment.

4 Select one of the four regions for the setting.

5 Select the region to be assigned.

6 Press [Set], to confirm the selection.

Notes

Only regions assigned here can be used for keyframe or snapshot recall.

To return the region assignment to the factory default state

In the Region Button Assign menu (7321.7), press [Default].

To delete a region assignment

In step **3** of the procedure in *"Assigning Regions to Region Selection Buttons in the Flexi Pad" (☞ p. 327)*, make the selection to which the operation applies, then press [Clear].

Setting the region selection buttons selected when the [ALL] button is pressed

1 In the Engineering Setup >Panel >Config >Region Button Assign menu (7321.7), 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

1 Open the Engineering Setup >Panel >Config >Transition Module menu (7321.9).

2 Select the bank of the transition control block you want to set in the <Bank Select> group.

3 Press the button whose assignment you wish to change.

4 Select the function you want to assign from the list on the right.

5 Press [Set].

To cancel the assignment
Press [Clear].

To make the assignment the default
Press [Default].

Assigning Devices or Functions to the Region Selection Buttons of the Device Control Block

1 Open the Engineering Setup >Panel >Config >Trackball Module menu (7321.17).

2 In the button indications on the left, press the button for the assignment.

3 Select the device or function to be assigned.

4 Press [Set].

To cancel an assignment
Select the button, then press [Clear].

To return all button assignments to the factory default state
Press [Default].

Inhibiting Utility Bus and Key Operations

You can inhibit operations on the utility bus and keys of the M/E and PGM/PST banks from the menu.
This inhibition applies to the following control blocks.
- Cross-point control block
- Transition control block

1 Open the Engineering Setup >Panel >Config >Util Bus/Key Inhibit menu (7321.18).

2 In the list in the status area, select the switcher bank for which operations are to be inhibited.

3 In the <Util Bus/Key Inhibit> group, press the utility bus or key button ([Util1 Bus] or [Key1] to [Key4]) for the operations to be inhibited.

Inhibiting DME Channel Selection Operations

You can inhibit DME channel selection operations from the device control block.

1 Open the Engineering Setup >Panel >Config >TB Module DME Ch Inhibit menu (7321.27).

2 In the list in the status area, select the DME channel for operations to be inhibited.

3 Press [Inhibit].

Assigning Functions to the Menu Panel Top Menu and User Preference Buttons

1 Open the Engineering Setup >Panel >Config >Menu Panel menu (7321.19).

The left side of the status area shows the Top menu selection buttons and user preference buttons. The right side shows a list of the menus and actions that can be assigned.

2 In the button indications on the left, press the button for the assignment.

3 Select the menu or action to be assigned.

4 Press [Set] to confirm the setting.

To cancel an assignment
Select the corresponding button, then press [Clear].

To return all preview selection button assignments to the factory default state
Press [Default].

Assigning Functions to the Buttons in the Flexi Pad

You can assign functions to the buttons in the various parts of the Flexi Pad in the following menus.
Mode selection buttons: Multi Function Module menu
Region selection buttons: Region Button Assign menu
Memory recall buttons: Multi Function Module menu

For details about assignment of regions to the region selection buttons, ☞ "Assigning Regions to Region Selection Buttons in the Flexi Pad" (p. 327).

1 Open the Engineering Setup >Panel >Config >Multi Function Module menu (7321.20).

2 Press one of the following three buttons displayed in the button area.

Mode Sel Assign: Assigns a function to the mode selection buttons

Eff Edit Assign: Assigns 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: Assigns a function to a button in the memory recall section for macro editing (when the [MCRO] and [EDIT ENBL] buttons are pressed)

3 In the button indications on the left, press the button for the assignment.

4 Select the mode or function to be assigned.

The following modes and functions can be selected.

- **Mode selection buttons**

Mode	Button indication
Effect	EFF
Snapshot	SNAPSHOT
Shotbox	SHOTBOX
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

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 [2] 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

5 Press [Set] to confirm the setting.

To cancel an assignment

Select the corresponding button, then press [Clear].

To return all button assignments to the factory default state

Press [Default].

Cross-Point Settings

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 Engineering Setup >Panel >Xpt Assign menu (7322) or Engineering Setup >Panel >Xpt Assign >Table Button Assign menu (7322.1), press [Main, V/K Pair Assign].

The Main, V/K Pair Assign menu (7322.5) 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 about audio mixer cross-point assignment operations, ☞ *"Setting the audio mixer cross-points" (p. 332).*

2 Select the button number.

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. One or the other is always on.

4 Select the signal.

5 Using the buttons in the <Xpt Assign> group, assign the selected signal to the button number currently selected in the main table.

Set: Deletes the signal currently assigned to the selected button number and makes a new assignment.

Insert: Moves the signal currently assigned to the selected button number to the next number, and makes a new assignment.

Notes

When a button number above 121 is selected, execution of [Insert] is impossible. If an [Insert] execution attempts to change a signal assignment to a button number above 121, the signal assigned to 120 is automatically deleted while signal assignments to 121 and above are maintained.

To disable a button

Select the button you want to disable, and press [Inhibit].

To delete an assigned signal

Select the button for 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 moves up one line.

Notes

When a button number above 121 is selected, execution of [Delete] is impossible.
If [Delete] execution attempts to change a signal assignment to a button number above 121, the move ends when the signal assigned to 120 moves to 119, and the signals assigned to numbers 121 and above are maintained.

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 Engineering Setup >Panel >Xpt Assign menu (7322), press [Table Button Assign].

The Table Button Assign menu (7322.1) 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/Src Color menu.

2 Select the table number.

No.	Parameter	Adjustment
1	Table No	Selection of the table to be set

3 Select the button number.

4 Select the pair number.

5 Using the buttons in the <Button Assign> group, assign the selected pair number to the button number currently selected in table 1.

Set: Deletes the signal currently assigned to the selected button number and makes a new assignment.

Insert: Moves the signal currently assigned to the selected button number to the next number, and makes a new assignment.

If a button number above 121 is selected, see "Notes" in step **5** in *"Creating the main table" (☞ p. 329)*.

To disable a button

Select the button you want to disable, and press [Inhibit].

To delete an assigned signal

Select the button for 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 moves up one line.
If a button number above 121 is selected, see "Notes" in *"To delete an assigned signal" (☞ p. 330)*.

Returning the table to its default state

1 In the Engineering Setup >Panel >Xpt Assign >Main, V/K Pair Assign menu (7322.5) or Engineering Setup >Panel >Xpt Assign >Table Button Assign menu (7322.1), press [Default Recall].

2 Check the message, then press [Yes].

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 Engineering Setup >Panel >Xpt Assign >Main, V/K Pair Assign menu (7322.5) or Engineering Setup >Panel >Xpt Assign >Table Button Assign menu (7322.1), 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 cross-point button 24 (16 on the ICP-3016).

Setting the action of the [SHIFT] button in the cross-point control block

The function of the shift button is set in the <Display Shift Mode> group of the Engineering Setup >Panel >Xpt Assign >Main, V/K Pair Assign menu (7322.5) or Engineering Setup >Panel >Xpt Assign >Table Button Assign menu (7322.1).

Shift All Bus: When this is On, it functions as a shift button for all buses. When this is Off, it functions as a shift button for the source name display section.

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].

Setting the source signal name

1 Open the Engineering Setup >Panel >Xpt Assign >Src Name/Src Color menu (7322.6).

2 Select the signal to be set.

No.	Parameter	Adjustment
1	Source No	Source signal selection
2	Num	Number of source signals to be selected

3 Press [Source Name].

4 Enter a 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 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 the [Source No] parameter to "2," and set the [Num] parameter 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 Cross-point Button Color for Each Signal

You can set the color of cross-point buttons for background A bus and background B bus on the M/E and P/P banks.

1 Open the Engineering Setup >Panel >Xpt Assign >Src Name/Src Color menu (7322.6).

2 Select the signal to be set.

3 In the <Source Color> group, press one of [User Color 1] to [User Color 3].

To change the color assigned to User Color 1 to 3

1 Press [User Color Select].

The User Color Select menu (7322.12) appears.

2 Select the object to set in the "Target" field on the left.

3 Select the desired color in the "Color" field on the right.

The selected color is displayed in the list on the left.

4 Repeat steps **2** and **3** above to change colors, as required.

5 Press [Execute].

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 Open the Engineering Setup >Panel >Xpt Assign >Table Copy menu (7322.8).

2 Select the copy source and copy destination table numbers.

3 Press [Copy].

4 Check the message, then press [Yes].

Selecting Cross-Point Assign Tables

You can select the cross-point assign table to be used for the M/E-1 or PGM/PST bank.

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 Engineering Setup >Panel >Xpt Assign menu (7322), select the bank or bus.

2 Select a table.

3 Press [Table Assign Set].

Exporting Source Names and Destination Names

To send the source names and destination names to the S-Bus, use the following procedure.

1 Open the Engineering Setup >Panel >Xpt Assign >Name Export menu (7322.9).

2 Set the destination station ID.

No.	Parameter	Adjustment
1	Station ID	Station ID setting[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

Linking 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, ☞ "Serial Port Settings" (p. 369).

1 In the Engineering Setup >Panel >Xpt Assign menu (7322), select the bank or bus.

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 Open the Engineering Setup >Panel >Xpt Assign >Mixer Xpt Assign menu (7322.11).

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 about side flag operation, ☞ *“Side Flag Settings” (p. 154).*

1 Open the Engineering Setup >Panel >Xpt Assign >Side Flags Button Assign menu (7322.10).

2 Press [Side Flags Btn Assign], turning it on.

Router Remote Control Settings

Assigning a Destination to a Destination Selection Button

1 Open the Engineering Setup >Panel >Router Remote >RTR Mode Setting menu (7323.1).

2 Select a destination selection button and the destination to be assigned to the button.

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.

3 Press [Dest Set] to confirm the selection.

4 If in step **2** you selected a value in the range 1 to 64, select the source table.

No.	Parameter	Adjustment
3	Source Table	Source table selection

5 Press [Source Table Set] to confirm the selection.

6 Repeat steps **2** to **5** as required.

Setting the Source Table

1 Open the Engineering Setup >Panel >Router Remote >RTR Mode Setting >Table Assign menu (7323.3).

2 In the <Source Table Select> group, select the source table you want to manipulate.

3 Select a source selection button and the source you want to assign.

4 Press [Source Set] to confirm the selection.

Assigning Levels to a Level Selection Button

You can assign levels to the level selection buttons ([Level 1] to [Level 4]) in the Router >Router Control >Router Control menu (5111).

1 Open the Engineering Setup >Panel >Router Remote >RTR Mode Setting >Level Button Assign menu (7323.4).

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 multiple levels. You can also make a selection that overlaps that of another button.

Selecting a Destination Selection Button for a Snapshot

1 In the Engineering Setup >Panel >Router Remote >RTR Mode Setting menu (7323.1), select the destination selection button to set.

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

You can assign the [PREFS 1] to [PREFS 16] buttons in the menu panel and the cross-point control block buttons. This assigns recalling frequently used menus (menu shortcuts), enabling/disabling functions (recalling utility commands) and recalling shotbox registers or macro registers.

Assigning Functions to User Preference Buttons

You make settings for the user preference buttons in the menu panel.

1 In the Engineering Setup >Panel >Prefs/Utility menu (7324), select the button to be assigned.

2 In the <Action> group, select the function to be assigned.

Menu Shortcut: Assigns a frequently used menu to be recalled (menu shortcut).
Utility Command: Assigns a function enable/disable or similar operation (utility command).
Macro Recall: Assigns a macro register recall.
Shotbox Recall: Assigns a shotbox register recall.

3 Depending on the selection in step **2**, make the following settings.

If [Menu Shortcut] is selected: With the user preference buttons flashing, press one of the user preference buttons after displaying the menu for which you want to create a shortcut to assign the menu shortcut. To finish the assignment, press [Menu Shortcut] again.
If [Utility Command] is selected: Select the command you want to assign on the right side of the status area.

No.	Parameter	Adjustment
3	Command	Command selection
4	GPI No	GPI number[a)]

a) SWR GPI Test Fire, Panel GPI Test Fire, and DCU GPI Test Fire commands only.

If [Macro Recall] is selected: Select the macro register you want to assign.

No.	Parameter	Adjustment
3	Macro	Macro register selection

If [Shotbox Recall] is selected: Select the shotbox register you want to assign.

No.	Parameter	Adjustment
3	Shotbox	Shotbox register selection

4 If you selected a function other than [Menu Shortcut] in step **2**, press [Action Set].

To cancel an assignment

Select the button, then press [Clear].

To display register names in the “Utility Command” column

If in step **2** you select [Macro Recall] or [Shotbox Recall], press [Reg Name Display] to select whether or not register names appear in the “Utility Command” column.

Using the [PREFS 9] to [PREFS 16] settings

There are sixteen user preference buttons that can be set, [PREFS 1] to [PREFS 16], but there are only eight user preference buttons present in the menu panel. 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 assign these settings to buttons in the menu panel in the Engineering Setup >Panel >Config >Menu Panel menu (7321.19).

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 RemoteS1 Enbl SWR RemoteS2 Enbl	Switcher Remote S1 enabled/disabled Switcher Remote S2 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
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 Monitor Video ST[b)]	DME MonitorVideo output safe title on/off	On	Off
DME Monitor Key ST[b)]	DME MonitorKey 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 | AUX24 ST	AUX1 output safe title on/off | AUX24 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
DME2 GPI Enbl	Enable/disable DME2 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	Execution suspended	When the function is assigned
Macro Cancel	Cancel a macro	Lit only at the instant the button is pressed	When the function is assigned
Macro Auto Ins	Macro auto insert mode on/off	On	Off
Macro AT with Rate	When registering an auto transition macro event, on/off setting of mode to save transition rate	On	Off
Macro AT with A/B Bus	When registering an auto transition macro event for the transition control block, on/off setting of mode to save A/B Bus cross-point settings	On	Off
Macro TL with Region	When registering a timeline macro event, on/off setting of mode to save applicable region	On	Off
DME Override[b]	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
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[c]	Enabled	Disabled

a) For the safe title on/off commands (from ME1 PGM1 ST–ME1 PGM4 ST to AUX1 ST–AUX24 ST), the name of the assigned output signal is shown.
b) MVS-6520/6530/3000A only.
c) Pressing this button to turn it on enables key snapshot operations for all control blocks.

Assigning a Function to 2nd Row Cross-Point Buttons

You can assign functions to the 2nd row cross-point buttons for the M/E-1 and PGM/PST banks.

1 Open the Engineering Setup >Panel >Prefs/Utility >Xpt Module Src/Reg Btn Assign menu (7324.2).

2 Select the button to be assigned.

3 In the <Action> group, select the function to be assigned.

Menu Shortcut: Assigns a frequently used menu to be recalled (menu shortcut).
Utility Command: Assigns a function enable/disable or similar operation (utility command).
Macro Recall: Assigns a macro register recall.
Shotbox Recall: Assigns a shotbox register recall.

4 Depending on the selection in step **3**, make the following settings.

If [Menu Shortcut] is selected: With the 2nd row cross-point buttons flashing, press one of the

cross-points buttons after displaying the menu for which you want to create a shortcut to assign the menu shortcut. To finish the assignment, press [Menu Shortcut] again.

If [Utility Command] is selected: Select the command you want to assign on the right side of the status area.

No.	Parameter	Adjustment
3	Command	Command selection
4	GPI No	GPI number[a)]

a) SWR GPI Test Fire, Panel GPI Test Fire, and DCU GPI Test Fire commands only.

If [Macro Recall] is selected: Select the macro register you want to assign.

No.	Parameter	Adjustment
3	Macro	Macro register selection

If [Shotbox Recall] is selected: Select the shotbox register you want to assign.

No.	Parameter	Adjustment
3	Shotbox	Shotbox register selection

5 If you selected a function other than [Menu Shortcut] in step **3**, press [Action Set].

This assigns the selected action, which is reflected in the status area.

To cancel an assignment

Select the button, then press [Clear].

To display register names in the "Utility Command" column

If in step **3** you select [Macro Recall] or [Shotbox Recall], press [Reg Name Display] to select whether or not register names appear in the "Utility Command" column.

For details about utility commands, ☞ *"List of utility commands and user preference button status" (p. 335)*. Note that the "System Manager Enbl" command cannot be assigned to cross-point buttons in the 2nd row.

Interfacing with External Devices

Making Control Panel GPI Input Settings

You can set the GPI input ports and trigger type, and make the action settings.

1 Open the Engineering Setup >Panel >Device Interface >GPI Input menu (7325.1).

2 Select the port to set.

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

(Rising Edge): Applies the trigger on the rising edge of an input pulse.

(Falling Edge): Applies the trigger on the falling edge of an input pulse.

(Any Edge): Applies the trigger on a change in the polarity of the input signal.

(Level): Carries out the specified operation when the input is low or high.

No Operation: Applies no trigger on an input pulse.

4 In the <Target> group, select the action block.

M/E-1 and P/P: Sets an action for the M/E or PGM/PST bank.

Common/Setup: Sets an action for something other than the above, or a setup action.

5 Select the action to set.

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

Selectable actions for various trigger types

- **When the trigger type is other than "Level"**
  (The x in M/E-x is the M/E bank number, the x in DSKx is the DSK number, and the x in Keyx is the key number).
  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 "Rising Edge" or "Falling Edge"**
  Aux ? O'ride Src ??
  Select a source from the following.
  Primary inputs: 1 to 48 (33 to 48 are disabled on the MVS-6520/3000A/3000)
  Format converter dedicated inputs: 49 to 56

- **When the trigger type is “Level”**
  When Target is M/E-x: No Action
  When Target is Common/Setup: System Format (overall system settings), 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” (or “System Aspect”) and “System Format” (or “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 Aspect”) or “System Format” (or “Format”) by GPI input.
  If a GPI to switch “Aspect” (or “System Aspect”) or “System Format” (or “Format”) occurs when system power is turned 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, for example, on the rising edge the set AUX bus input is used, and on the 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.

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 Engineering Setup >Panel >Device Interface >GPI Input menu (7325.1), select the action to be set, and press [H/L Set].

The H/L Set menu (7325.2) appears.

2 Select the setting.

3 To apply the selection made in step **2** when the input is the GPI high level, press [H Set]. To apply the selection the input is low, press [L Set].

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” (☞ p. 337)*.

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

You can set the GPI output ports and trigger type, and make the action settings.

1 Open the Engineering Setup >Panel >Device Interface >GPI Output menu (7325.3).

2 Select the setting.

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

⎍ **(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 Select the pulse width and timing.

No.	Parameter	Adjustment
3	Pulse Width	Pulse width
4	Timing	Output timing[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 and P/P: Sets an action for the M/E or PGM/PST bank.

Common: Sets an action for error status.

6 Select the action to set.

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

Selectable actions for various trigger types

- **When the trigger type is other than "Status"**
  (The x in M/E-x is the M/E bank number, the x in DSKx is the DSK number, and the x in Keyx is the key number.)
  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
- **When the trigger type is "Status"**
  (The x in M/E-x is the M/E bank number, the x in DSKx is the DSK number, and the x in Keyx is the key number.)
  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

Test firing the trigger

Press [Test Fire].
This outputs a trigger from the selected output port. This is no output when the trigger type is "Status."

Assigning a Parallel Output Port

This sets the Tally/GPI OUTPUT port on the rear panel of the switcher.

1. Open the Engineering Setup >Panel >Device Interface >Tally/GPI Output Config menu (7325.12).
2. Select the setting.
3. In the <Parallel Output Assign> group, select one of the following.

   Tally Output: Assigns a tally output.
   Switcher: Assigns a switcher GPI output.
   Panel: Assigns a control panel GPI output.
4. Select the output you want to assign from the list on the right.
5. Press [Action Set].

Setting the Control Mode for P-Bus Devices

This sets the control mode for external P-Bus (Peripheral II protocol) devices.
In the <P-Bus Control> group of the Engineering Setup >Panel >Device Interface menu (7325), 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: Controls the external device as a keyframe effect controlled by the center control panel.

Associating a Port with a Device Selection Button

1. Open the Engineering Setup >Panel >Device Interface >Device Assign menu (7325.4).
2. Select the port to set.
3. In the <Assign> group, press one of the [DEV1] to [DEV12] buttons.

   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.

Sharing disk recorder/Extended VTR file lists

You can share files between devices connected to ports on the same disk recorder/Extended VTR.

1. Select the port to set.
2. Select the device selection button for sharing the file list.
3. Press [Same File List Set].

Setting the Serial Ports

This sets the Remote1 to Remote4 ports on the rear panel of the switcher.

1. Open the Engineering Setup >Panel >Device Interface >Serial Port Assign menu (7325.5).
2. In the list on the left, select the port for the setting.
3. In the list on the right, select the device type.

Notes

The following device types can be selected for the Remote1 to Remote4 ports on the rear panel of the switcher.
- DDR SD9P (Sony disk 9-pin protocol)
- Mixer ESAM-II
- AS ES-BUS

4. Press [Device Type Set].
5. To attach a name to the selected port, push [Set] in the <Assign> group and enter a port name in the keyboard window.
6. To display detail information about the selected port, press [Port Setting].

For details about [Port Setting], ☞ *"Making Detailed Settings on the External Device Connected to the Serial Port" (p. 369).*

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 Engineering Setup >Panel >Device Interface menu (7325), 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 *(☞ p. 366)*.

Operation Settings

Setting the On-Air Tally

To set the high tally state reflected on the control panel, use the following procedure.

1. Open the Engineering Setup >Panel >Operation >Button Tally menu (7326.9).
2. In the <Tally Type> group, select either of the following.

   [R1] to [R8]: Reflect the tally state of the tally group (1 to 8).
   Independ: Reflects the tally state of the switcher only.
3. Press [Execute].

Assigning a Bus or Function to 1st Row Buttons

Assigns keys AUX bus, and other functions that are selectable in the 1st row of the cross-point control block.

1. Open the Engineering Setup >Panel >Operation >Key/AUX/Function Assign menu (7326.13).
2. In the list on the left, select the button.
3. Select the bus or function you want to assign from the list on the right.
4. Press [Set].

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: Displays 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 Open the Engineering Setup >Panel >Operation >Effect Mode menu (7326.2).

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.

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 (7326.2).

Notes

When an effect is executed by pressing the [RUN] button with this setting on, the first keyframe action is not executed.

GPI: Settings for the GPI timeline.
P-Bus: Settings for the P-Bus timeline.
DDR/VTR: Settings for the VTR/disk recorder/Extended VTR timeline.
Macro: Settings 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 *(☞ p. 374)*.

1 In the <Source/Dest Name> group of the Engineering Setup >Panel >Operation menu (7326), select the names to be used.

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 names set in the router (fixed length of eight characters)

2 In the <Name Display Mode> group, select the method of display in the source name displays.

Auto: Optimizes the display according to the number of characters. Line breaks occur every four characters, with up to the first twelve characters shown in three lines.
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 Menus

Makes settings for the display of buttons in the Flexi Pad and menus.

1 Open the Engineering Setup >Panel >Operation >Flexi Pad Mode menu (7326.3).

2 Make the following settings, as required.

Settings for memory recall buttons in the Wipe Snapshot menu and DME Wipe Snapshot menu: Press [Pattern] or [Register Name] in the <Wipe/DME Display> group to select the buttons.

Settings for memory recall buttons in the Misc >Snapshot menu: Press [Register No] or [Register Name] in the <Snapshot/Effect Display> group to select the buttons.

Coupling the transition type selection with the Flexi Pad 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 mode is [WIPE] or [DME WIPE], 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], [EFF], or [MCRO], select [Register No] or [Register Name] in the <Snapshot/Effect Display> group.

Setting the Button Operation Mode

1 Open the Engineering Setup >Panel >Operation >Custom Button menu (7326.4).

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:** Continues the transition.
- **Cancel:** Cancels the transition and returns to the state before starting the 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:** Continues the effect.
- **Cancel:** Cancels the effect and returns to the state before starting the execution.

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

Transition preview operation mode: For the operation mode of the [TRANS PVW] button, select [Lock] or [Hold] in the <Trans Pvw> group. The setting as to whether to use the "One-time mode" in which the transition preview terminates when the transition completes, or to use button control, is made on the switcher side *(☞ p. 355)*.

[KEY] button operation mode for 2nd row buttons in the cross-point control block: When a bus is selected with the 1st row buttons, set 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.

Operation mode of the [XPT HOLD] buttons in the 1st row of the cross-point control block: Sets the operation mode of the [XPT HOLD] buttons assigned in the 1st row in the <Xpt Hold> group, as follows.
- **A/B Bus:** When the [XPT HOLD] button is pressed, turning it on, enables only A bus and B bus cross-point hold.
- **All Bus:** When the [XPT HOLD] button is pressed, turning it on, enables cross-point hold for all buses used in the corresponding bank (A/B bus, Key1 to Key4 bus, utility bus, DME external video bus).

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 Open the Engineering Setup >Panel >Operation >Custom Button >Next Trans All menu (7326.11).

2 Press the button for the next transition you want to select with the [ALL] button, turning it On.

Setting Trackball and Button Double-Click Sensitivity

You can adjust the sensitivity of the trackball and button double-clicks.

1 Open the Engineering Setup >Panel >Operation >Sensitivity menu (7326.5).

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 [$^1/_8$].

Touch sensitivity for recalling menus by double-clicking buttons: In the <Double Click> group, select [Fast], [Normal], or [Slow].

Setting the Macro Execution Mode

1 Open the Engineering Setup >Panel >Operation >Macro menu (7326.6).

2 In the <Macro Execution Mode> group, select the macro execution mode.

Normal: Normal execution mode
Step: Step execution mode

3 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: Enables cross-point button operations.
W/o Btn Function: Disables cross-point button operations.

4 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: Resumes execution of a macro that has been stopped (executing macros continue execution).
Cancel: Terminates execution of a stopped or executing macro.

5 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: Ignores macro recalls.
Enable: Executes other macros.

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

Using the Menu Panel Screen Saver

1 In the Engineering Setup >Panel > Maintenance menu (7327), press [Screen Saver], turning it on.

2 Adjust the following parameter.

No.	Parameter	Adjustment
1	Sleep Time	Time until screen saver starts operation

Using Panel Sleep Mode

The brightness of all indicators on the control panel, with the exception of the menu screen, can be dimmed.

1 In the Engineering Setup >Panel >Maintenance menu (7327), press [Panel Sleep Mode], turning it on.

2 Set the following parameter.

No.	Parameter	Adjustment
1	Sleep Time	Time of inactivity until panel sleep mode starts.

Adjusting the Brightness

You can adjust the brightness of the following hardware parts.
LCD Btn Brightness: Adjusts the brightness of the LCD buttons in the transition control block (ICP-6520/6530 only) and the Flexi Pad.
Display Brightness: Adjust the brightness of the organic EL panel for the source name displays, etc.
Switch Brightness: Adjusts the brightness of the panel switches.
The following describes the LCD brightness, as an example. Use a similar process for the other adjustments.

1 In the Engineering Setup >Panel >Maintenance menu (7327), press [LCD Btn Brightness].

2 Adjust the following parameter.

No.	Parameter	Adjustment
1	Brightness	LCD button brightness

Setting the Touch Operation Beep Sound

In the Engineering Setup >Panel >Maintenance menu (7327), press [Touch Beep].
Each time you press this button, it toggles the beep setting on and off.

Calibrating the Touch Panel

1 In the Engineering Setup >Panel >Maintenance menu (7327), 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 then reappears on the diagonal.

4 Press the center of the plus sign.

Setting the Menu to be Shown When the Menus Are Started

1 In the Engineering Setup >Panel >Maintenance menu (7327), press [Initial Menu Set].

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, ☞ "Selecting the State After Power-on" (p. 315).

Setting the Mouse Wheel Scrolling Direction for Parameter Setting

In the <Mouse Wheel Direction> group of the Engineering Setup >Panel >Maintenance menu (7327), press one of the following buttons.

Scrl Down = Clockwise: Turning the mouse wheel in the direction to scroll down is the same as moving the parameter setting button indicator to the right.

Scrl Up = Clockwise: Turning the mouse wheel in the direction to scroll up is the same as moving the parameter setting button indicator to the right.

Selecting the Mouse Button for the Parameter Setting Buttons

In the <Mouse Slider Control> group of the Engineering Setup >Panel >Maintenance menu (7327), press one of the following buttons.

Left Button: Dragging the bar while holding down the left mouse button adjusts the bar of the parameter setting button.

Right Button: Dragging the bar while holding down the right mouse button adjusts the bar of the parameter setting button.

Notes

When [Left Button] is selected, pressing one of the parameter setting buttons in the menu does not display a numeric keypad window.

Switcher Setup

Chapter 19

Settings for Switcher Configuration

Adjusting the Reference Phase

To adjust the switcher internal reference phase, in the Engineering Setup >Switcher >Config menu (7331), set the following parameter.

No.	Parameter	Adjustment
3	Phase	Switcher internal reference phase

Specifying the Video Switching Timing

1 In the Engineering Setup >Switcher >Config menu (7331), press [Switching Timing].

The Switching Timing menu (7331.8) appears.

2 Select any of the following.

Any: Not specified
Field 1: Field 1
Field 2: Field 2

Notes

When the signal format is set to 720P or 1080PsF, this selection is not possible.

Setting the Operation Mode

In the <M/E Config> group of the Engineering Setup >Switcher >Config menu (7331), select the operation mode for each M/E or PGM/PST bank from the following.

- **Standard mode:** Fixes 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[1)]
- **Multi-program mode:** The M/E or P/P 4-system outputs (Out1 to 4) can be assigned to one of the following outputs (M/E Output Assign).
  - Program outputs 1 to 4
  - Preview output
  - Key preview outputs 1 and 2[1)]
  - Clean output

  Further, you can change the combination of signals from which the program output is configured (PGM Config).

1) For the key preview output, you can select either video mode (background and key) or key mode (key only), and select the background and key (K-PVW Config).

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 [Multi Program] is selected as the operation mode, use the following procedure.

1 In the Engineering Setup >Switcher >Config menu (7331), press [M/E Output Assign].

The M/E Output Assign menu (7331.1) appears.

2 On the list in the status area, select the bank output to be assigned.

3 In the <M/E Output Assign> group, select the output signal to be assigned.

Setting the output configuration for each bank

When [Multi Program] is selected as the operation mode, use the following procedure.

1 In the Engineering Setup >Switcher >Config menu (7331), press [PGM Config].

The PGM Config menu (7331.2) appears.
The status area shows the background and key configuration assigned to the output of each bank.

2 Select the output you want to set.

3 In the <Bkgd> group, select the background.

In Multi Program mode, select [Clean] or [Utility1], then skip to step **4**.

4 In the <Key Enable> group, select [Enable] or [Disable] for each of the keys.

Setting the key preview configuration

You can make this setting at any time, regardless of the operation mode.

1 In the Engineering Setup >Switcher >Config menu (7331), press [K-PVW Config].

The K-PVW Config menu (7331.3) appears.
The status area shows the key preview configuration for each bank.

2 Select the key preview to set.

3 In the <Mode> group, select [Video] mode or [Key] mode.

If you select Key mode, skip to step **5**.

4 In the <Bkgd> group, select the background.

In Standard mode or Multi Program mode, select [Clean] or [Utility1], then skip to step **5**.

5 In the <Key1> to <Key4> groups, select the corresponding key status from the following.

Link: Follows the key on/off setting.
On: Key is always on.
Off: Key is always off.

Switching Backgrounds using DME Wipes

On the MVS-3000 or on the MVS-3000A without an MKS-6570 installed, a setting must be enabled in order to use background DME wipes.
This setting can be made for each of the M/E-1 and PGM/PST banks.

Notes

- Only the background DME wipe or key 1 can be enabled at any one time.
- If background DME wipe is enabled, side flags cannot be used in DME wipes.

1 In the Engineering Setup >Switcher >Config menu (7331), select the target (M/E-1 or PGM/PST) bank.

2 In the <BKGD DME Wipe/Key1> group, select [BKGD DME Wipe].

Setting User Regions

This assigns the color backgrounds 1 and 2, AUX1 to 24, and frame memory 1 to 8 for User regions to any of User1 to User8.

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 Engineering Setup >Switcher >Config menu (7331), press [User1-8 Config].

The User1-8 Config menu (7331.4) appears.
The status area shows the region names and assigned user region numbers.

2 Select the region to set.

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 Press [Execute].

6 Check the message, then press [Yes].

Setting the Assignments of DME Channels

On the MVS-6520/6530/3000A, you can select the DME channels to use on the M/E and PGM/PST banks for processed keys or DME wipes.

1 In the Engineering Setup >Switcher >Config menu (7331), press [DME Config].

The DME Config menu (7331.6) appears.

2 Select the M/E or P/P bank to which settings apply.

3 In the <DME Channel> group, press one of the [Ch1] to [Ch2] 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 channels to the M/E and PGM/PST banks.

Setting the Side Flag Video Material and Operation

Makes settings relating to the video material (4:3 aspect ratio) for applying side flags *(☞ "Side Flag Settings" (p. 154))*.

Setting the aspect ratio (4:3/16:9)

1 In the Engineering Setup >Switcher >Config menu (7331), press [Side Flags].

The Side Flags menu (7331.7) appears.
The status area lists the video/key pair numbers, video signal source names, and aspect ratio settings (16:9/4:3).

2 Select the pair number for which you want to set.

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 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. Use the following procedure.
To do so, in the 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

1 In the Engineering Setup >Switcher >Config >Side Flags menu (7331.7), press [Width].

2 Adjust the following parameters.

No.	Parameter	Adjustment
3	Left	Width of left side flag
4	Right	Width of right side flag
5	All	Width of both side flags

Displaying the menu for enabling/disabling the side flags

In the Engineering Setup >Switcher >Config >Side Flags menu (7331.7), press [Misc >Enbl >Side Flags].

Displaying the menu for assigning the side flags on/off function to a cross-point button

In the Engineering Setup >Switcher >Config >Side Flags menu (7331.7), press [Side Flags Button Assign].

Signal Input Settings

Notes

On the MVS-6520, MVS-3000A, and MVS-3000, the numbers that can be configured as input signals are 1 to 32. The settings are disabled if numbers 33 to 48 are selected.

Making Through Mode Settings

This sets the through mode for input. You can set this independently for each primary input.

Notes

Through mode is disabled for the input signals which have been converted in the format converter.

1 In the Engineering Setup >Switcher >Input menu (7332), select the input signal to which the settings apply.

2 To enable through mode, press [Through Mode], turning it on.

Configuring the Color Corrector

You can switch the color corrector on or off for each input signal, and adjust the brightness, hue and other parameters.

1 Open the Engineering Setup >Switcher >Input >CCR menu (7332.1).

2 Select the input signal you want to set.

3 Press [CCR], turning it on.

This enables the color correction function.

4 Press [Video Process], turning it on.

5 Adjust the following parameters.

No.	Parameter	Adjustment
1	Video Gain	Video signal gain
2	Y Gain	Y signal gain
3	C Gain	Chrominance signal gain
4	Hue Delay	Hue delay
5	Black Level	Black level

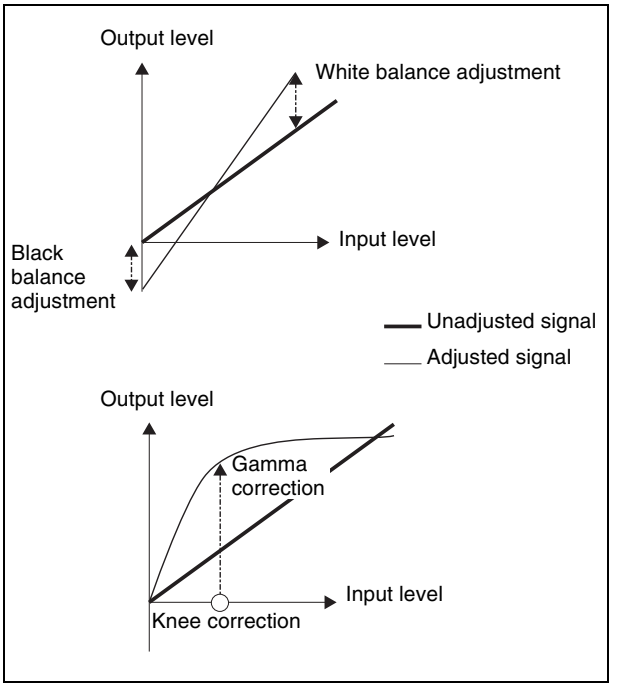
To return adjustment values to their defaults, press [Unity].

Applying primary color correction

1 In the Engineering Setup >Switcher >Input >CCR menu (7332.1), press [Primary CCR], turning it on.

2 In the <Primary CCR Adjust> group, select the setting item.

Black: Black balance adjustment
White: White balance adjustment
Gamma: Gamma correction
Knee: Knee correction



3 Depending on the selection in step **2**, adjust the following parameters.

No.	Parameter	Adjustment
1	Red	Red signal adjustment
2	Green	Green signal adjustment
3	Blue	Blue signal adjustment
4	All	Simultaneous RGB adjustment

To return the parameters to their default settings
In the <Primary CCR> group, press [Unity].

Making RGB clip adjustments

1 In the Engineering Setup >Switcher >Input >CCR menu (7332.1), press [RGB Clip], turning it on.

2 In the <RGB Clip Adjust> group, select the item you want to adjust.

Dark: Dark clip adjustment
White: White clip adjustment

3 Adjust the following parameters.

No.	Parameter	Adjustment
1	Red	Red signal adjustment
2	Green	Green signal adjustment
3	Blue	Blue signal adjustment
4	All	Simultaneous RGB adjustment

To return the parameters to their default settings
In the <RGB Clip> group, 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 Engineering Setup >Switcher >Input menu (7332), turning it on.

Selecting the Primary Input to be Used in the Format Converter

1 Open the Engineering Setup >Switcher >Input >FC Input Select menu (7332.3).

2 Select the number of the FC (format converter) that you want to set from the table on the left.

The format converter range is either FC1 to FC4 or FC1 to FC8, depending on the “FC Config” setting *(☞ p. 322)*.

3 Select the primary number from the table on the right.

4 Press [Set].

5 To input the name of the input signal which has been converted in the format converter, press [FC Name].

6 Enter a name (of up to 16 characters), and press [Enter].

Selecting the Input to which the Frame Delay Function Applies

1 In the Engineering Setup >Switcher >Input menu (7332), select the input signal to which the settings apply.

You can select the input signals for which the frame delay function is enabled in advance.

2 Adjust the following parameter.

No.	Parameter	Adjustment
2	Frame Delay	Delay amount

Selecting the Format Converter Conversion

You can select the conversion (up-conversion or down-conversion) when the format converter is applied to an input.

Notes

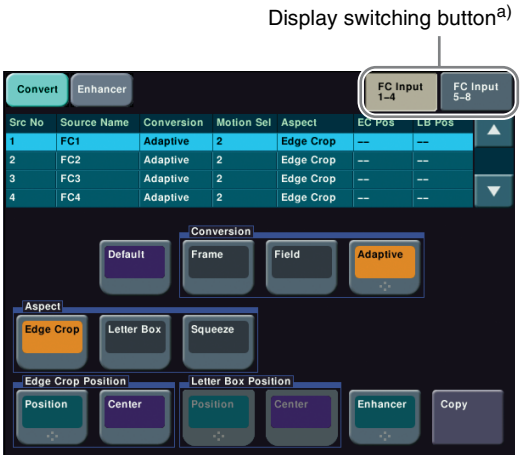
Adjustment is not required for cross conversion.

Selecting the format converter inputs to be set

The same settings are applied to the two groups of FC1 to FC4 and FC5 to FC8.

1 Open the Engineering Setup >Switcher >Input >FC Adjust menu (7332.2).

The following figure illustrates the case when FC1 to FC4 are set to up-conversion.



a) This button does not appear when the frame delay function is enabled.

2 Press [FC Input 1-4] or [FC Input 5-8] as required.

The list corresponding to the pressed button appears.

3 Select the setting to apply.

Making detailed settings for up-conversion

1 In the Engineering Setup >Switcher >Input >FC Adjust menu (7332.2), select the input to which the setting applies.

2 In the <Conversion> group, select one of the following.

Frame: Conversion mode in frame units
Field: Conversion mode in field units
Adaptive: Automatically switches between the above two modes
When [Adaptive] is selected, adjust the following parameter.

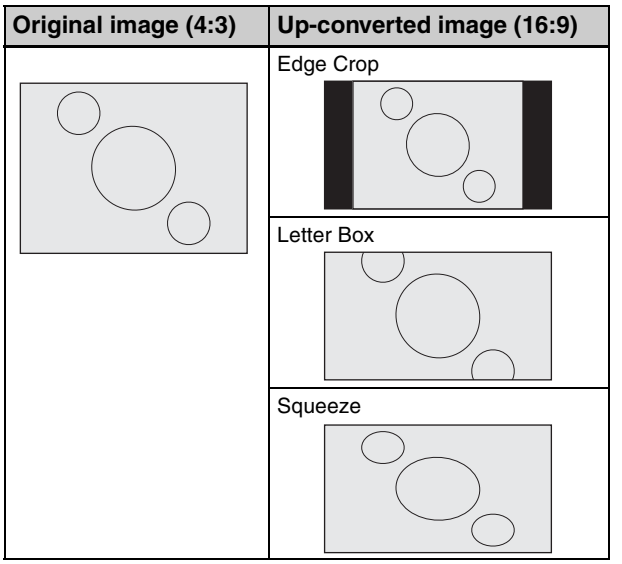
No.	Parameter	Adjustment
2	Motion Select	Motion detection sensitivity a)

a) 1: Still priority mode, 2: Standard mode, 3: Motion priority mode

3 In the <Aspect> group, select one of the following.

Edge Crop: Adds 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: Crops the top and bottom of a 4:3 aspect ratio image to convert it to a 16:9 image.
Squeeze: Stretches a 4:3 image horizontally to covert it to a 16:9 image.

For details about the image transformations, see the following figure.



Setting the image position in edge crop up-conversion mode

1 In the <Edge Crop Position> group of the Engineering Setup >Switcher >Input >FC Adjust menu (7332.2), press [Position], turning it on.

2 Adjust the following parameter.

No.	Parameter	Adjustment
2	EC Position	Image position

To return the edge crop image to the center
Press [Center].

Setting the image position in letter box up-conversion mode

1 In the <Letter Box Position> group of the Engineering Setup >Switcher >Input >FC Adjust menu (7332.2), press [Position], turning it on.

2 Adjust the following parameter.

No.	Parameter	Adjustment
2	LB Position	Image position

To return the letterbox image to the center
Press [Center].

Making enhancer settings

1 In the Engineering Setup >Switcher >Input >FC Adjust menu (7332.2), press [Enhancer], turning it on.

2 Set the following parameters.

Parameter group [1/2]

No.	Parameter	Adjustment
2	Detail Gain	Adjust the edge enhancement sharpness
3	Limiter	Adjust the maximum signal level to be added to the original signal
4	Crisp	Set the amplitude value for which a low-amplitude signal is not emphasized
5	Level Depend	Set the luminance range for edge enhancement

Parameter group [2/2]

No.	Parameter	Adjustment
2	Frequency	Set the center frequency for edge enhancement
3	H/V Ratio	Set the horizontal/vertical ratio for edge enhancement

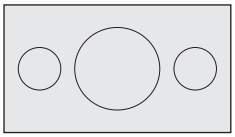
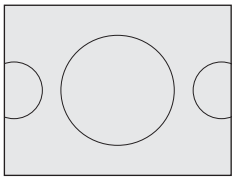
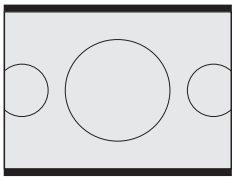
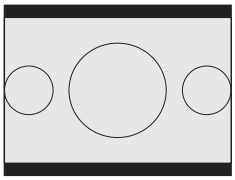
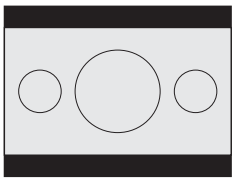
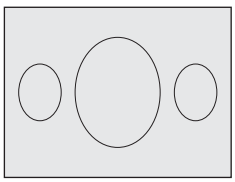
Making detailed settings for down-conversion

1 In the Engineering Setup >Switcher >Input >FC Adjust menu (7332.2), select the input to which the setting applies.

2 In the <Aspect> group, select one of the following.

Edge Crop: Crops the left and right sides of a 16:9 image to convert it to a 4:3 image.
Letter Box 13:9: Crops 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: Crops 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: Adds black bars on the top and bottom of a 16:9 image to convert it to a 4:3 image.
Squeeze: Compresses a 16:9 image horizontally to convert it to a 4:3 image.

For details about the image transformations, see the following figure.

Original image (16:9)	Down-converted image (4:3)
	Edge Crop 
	Letter Box 13:9 
	Letter Box 14:9 
	Letter Box 16:9 
	Squeeze 

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, ☞ "Setting the image position in edge crop up-conversion mode" (p. 350).

For down-conversion, the enhancer settings are the same as for up-conversion.

For details, ☞ "Making enhancer settings" (p. 350).

Copying format converter input data

1 In the Engineering Setup >Switcher >Input >FC Adjust menu (7332.2), press [Copy].

The Copy/Swap >Copy >Format Converter menu (3121) appears.

2 Select [Input] in the <Data Select> group.

3 Select the data and press [Copy].

Signal Output Settings

Notes

- On the MVS-6520, MVS-3000A, and MVS-3000, numbers 1 to 16 can be configured as output signals. If numbers 17 to 32 are selected, the settings are disabled. The configurable numbers vary depending on the signal type, as given below.

Switcher processor	Output signal type		
	Re-Entry Source	Aux Bus	Output/MV/FC/DME
MVS-6520/3000A	1 to 16		1 to 16
MVS-6530	1 to 24		1 to 32
MVS-3000	1 to 12		1 to 16

- The Video Clip, V Blank, Through, Safe Title, and 4:3 Crop cannot be set for the following outputs.
  - Output signals from connectors assigned to Out 1 to xx (where "xx" is 16 (MVS-6520/3000A), 24 (MVS-6530), or 12 (MVS-3000))
  - Multi Viewer 1 and 2
  - FC Output 1 and 2
  - DME Monitor 1 and 2

Assigning Output Signals

1 Open the Engineering Setup >Switcher >Output >Output Assign menu (7333.1).

2 In the <Output Assign> group, select one of the following.

Re-Entry Source: It is possible to make duplicate assignments.
M/E-1 Output 1 to 4[1)]
P/P Output 1 to 4[1)]
DME Monitor Video[2)]
DME Monitor Key[2)]
Undefined
Color Bkgd 2
Frame Memory 1 to 8

Aux Bus: It is not possible to make duplicate assignments.
Preset
Edit Preview
AUX 1 to 24

Output/MV/FC/DME: It is possible to make duplicate assignments.
Out 1 to xx (where "xx" is 16 (MVS-6520/3000A), 24 (MVS-6530), or 12 (MVS-3000))[3)]
Multi Viewer 1 and 2

FC Output 1 and 2[4)]
DME Monitor 1 and 2[2) 5)]

1) M/E output signals selected in the M/E Output Assign menu.
2) MVS-6520/6530/3000A only
3) Makes duplicate assignments if the signal that is assigned is the same signal as one already assigned to one of Output 1 to xx. However, the following signals are unavailable if already assigned to Output 1 to xx.
Out 1 to xx
Multi Viewer 1 and 2
FC Output 1 and 2
DME Monitor 1 and 2
4) FC Output 1 and 2 can be assigned as a pair combination to Outputs 15 and 16 or Outputs 31 and 32.
5) MKS-6570 output signal. The output signal is selected in the Engineering Setup >DME >Output >Monitor Output menu (7343.1) *(☞ p. 364)*. In addition, the output signal can be displayed graphically using [Monitor Out] in the DME >Input/Output >Graphic menu (4164) *(☞ p. 172)*.

3 Select the output connector number and signal to be assigned.

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

4 Press [Set] to confirm the assignment.

Adjusting the Video Clip

1 Open the Engineering Setup >Switcher >Output >Video Clip menu (7333.2).

2 Select the output you want to set.

3 Adjust the following parameters.

No.	Parameter	Adjustment
2	White Clip	Luminance signal white clip value
3	Dark Clip	Luminance signal dark clip value
4	Chroma Clip	Chrominance signal clip value

To set the values to the default values, press [Default].

Making Vertical Blanking Interval Adjustment and Through Mode Settings

This sets the number of scan lines from the reference blanking position of field 1 for each format that should be masked.

1 Open the Engineering Setup >Switcher >Output >V Blank/Through menu (7333.3).

2 Select the output you want to set.

3 Press [V Blank Mask].

4 Adjust the following parameter.

No.	Parameter	Adjustment
2	Mask End	Final value for vertical blanking interval[a)]

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

5 To enable through mode, press [Through Mode], setting it to Enable. The following outputs can be enabled.

- Aux 1 to 24 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 Open the Engineering Setup >Switcher >Output >Safe Title menu (7333.4).

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

2 Select the output you want to set.

3 To enable the safe title on/off setting made in the Misc menu, press [Safe Title], turning it on.

4 Carry out one of the following operations.

To display a box: Press [Box1] or [Box2], turning it on.
In this case, carry out the following steps **5** and **6**.
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 **5** and **6**.

5 If you selected [Box1] or [Box2] in step **4**, adjust the following parameters.

No.	Parameter	Adjustment
2	Box Size	Box size
3	Luminance	Display brightness[a)]

a) Adjustable for Box2

If [Grid] is selected in step **4**, in the <Grid Size> group, select one of the following.
80.00%: Sets the grid size to 80% of the screen frame.
85.00%: Sets the grid size to 85% of the screen frame.

90.00%: Sets the grid size to 90% of the screen frame.
100.00%: Sets the grid size to the full-screen size (100% of the screen frame).

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

Cropping the Image to a 4:3 Aspect Ratio in an HD System

In an HD system, to crop an image having a screen aspect ratio of 16:9 to an aspect ratio of 4:3, use the following procedure.

1 Open the Engineering Setup >Switcher >Output >4:3 Crop menu (7333.5).

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

2 Select the output you want to set.

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

Notes

When the screen aspect ratio of 16:9 is selected for all M/E banks in the Engineering Setup >System >Format >Aspect menu (7313.1), the setting of 4:3 Crop is disabled (off).

Selecting the Output to be Used as the Format Converter

1 In the Engineering Setup >Switcher >Output menu (7333), press [FC Output Select].

The FC Output Select menu (7333.11) appears.
The status area shows the format converter list (left) and the output signal list (right).

Notes

The following signals cannot be used in the format converter.
- Signals output from connectors assigned to Out 1 to xx (where "xx" is 16 (MVS-6520/3000A), 24 (MVS-6530), or 12 (MVS-3000))
- Multi Viewer 1 and 2
- FC Output 1 and 2
- DME Monitor 1 and 2

2 Select the number of the FC (format converter) that you want to set from the table on the left.

However, the setting cannot be set when "FC Config" *(☞ p. 322)* is set to [8 In].

3 Select the output in the list on the right.

4 Press [Set].

Setting the Format Converter Outputs

Setting the format converter

Display the Engineering Setup >Switcher >Output >FC Adjust menu (7333.6).
The subsequent operations are the same as for the format converter input settings.

For details about operations, ☞ "Selecting the Format Converter Conversion" (p. 349).

Copying format converter output data

1 In the Engineering Setup >Switcher >Output >FC Adjust menu (7333.6), press [Copy].

The Copy/Swap >Copy >Format Converter menu (3121) appears.

2 Select the output you want to set.

3 Select [Output] in the <Data Select> group.

4 Select the data and press [Copy].

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, 10, or 16 windows, which can be individually set for each of 2-channel multi viewers.

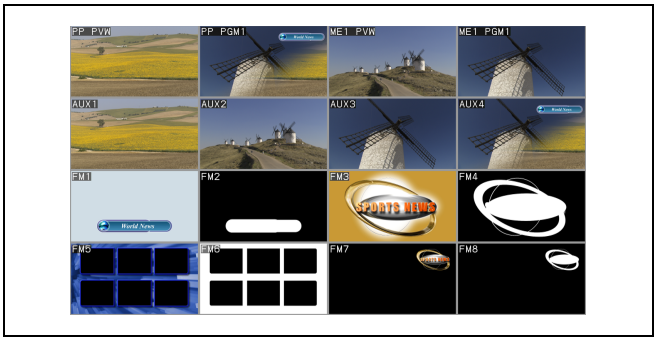
Notes

To output the multi viewer signals, it is necessary to assign the multi viewer outputs to the output connectors in advance *(☞ "Assigning Output Signals" (p. 351))*.

Example of 4-split screen:

Example of 10-split screen:

Example of 16-split screen:



In the following description, a split window is referred to as a “subscreen.”

1 In the Engineering Setup >Switcher >Output menu (7333), press [Multi Viewer].

The Multi Viewer menu (7333.9) 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 subscreens.

3 In the <Split Mode> group, select the number of split windows.

Split 4: Splits the screen into 4 windows.
Split 10: Splits the screen into 10 windows.
Split 16: Splits the screen into 16 windows.

Notes

The following limitations apply when [Split 16] is selected.

- The subscreens are arranged in pairs (1 and 9, 2 and 10, up to 8 and 16). If one subscreen in a pair has no input signal, then the video on the other subscreen may not be displayed normally. For example, if subscreen 1 has no input signal, then the image on subscreen 9 may not be displayed normally.
- The video on subscreens has a reduced refresh rate. Consequently, rapidly-changing images may not be displayed smoothly.

4 To add borders to the subscreens, press [Border Enable] to turn it on.

Tally colors

Tallies are shown on the multi viewer screen. In this way, you can see, for example, which input signals are used in the on-air video.
Borders appear in the following two colors.

Red border: Video with a red tally
Green border: Video with a green tally

For details about tally settings, ☞ “Setting the On-Air Tally” (p. 340) and ☞ “Making New Tally Generation Settings” (p. 375).

Notes

If [Independ] is set in the Engineering Setup >Panel >Operation >Button Tally menu (7326.9), then tallies are not shown on the multi viewer.

Specifying whether to show or hide the subscreen names

1 In the Engineering Setup >Switcher >Output >Multi Viewer menu (7333.9), select the target subscreens.

2 Press [Name Enable] to select either of the following.

Enable: Shows the subscreen name.
Disable: Hides the subscreen name.
To make the setting for all subscreens 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 subscreens. You cannot adjust the name display position for each subscreen.

No.	Parameter	Adjustment
2	Name Position H	Horizontal position
3	Name Position V	Vertical position

Assigning signals to the subscreens

1 Open the Engineering Setup >Switcher >Output >Multi Viewer >Source/Output Assign menu (7333.10).

2 Select the target subscreens in the list on the left.

3 If assigning an input signal to a subscreen, press [Source] in the <Source/Output Select> group.
If assigning an output signal, press [Output].

4 Select the signal you want to assign from the list on the right.

Notes

If [Output] is selected in step **3**, the following signals cannot be used.

- Signals output from connectors assigned to Out 1 to xx (where "xx" is 16 (MVS-6520/3000A), 24 (MVS-6530), or 12 (MVS-3000))
- Multi Viewer 1 and 2
- FC Output 1 and 2
- DME Monitor 1 and 2

5 Press [Set].

Enabling AUX Mix Transitions

An AUX mix transition *(☞ p. 78)* is enabled when AUX buses are grouped and assigned to consecutive odd-numbered and even-numbered output connectors.

Notes

When AUX mix transitions are enabled, color correction (Bus CCR) for AUX bus pairs is controlled using the odd-numbered bus settings.

1 Open the Engineering Setup >Switcher >Output >Aux Mix menu (7333.12).

2 In the list on the left, select a pair of odd-numbered and even-numbered output connectors (for example, 11 and 12).

3 In the list on the right, select the AUX bus combination to use.

To disable the AUX mix transition, select [Disable].

4 Press [Set].

5 Repeat steps **2** to **4**, as required.

6 Press [Execute].

Settings Relating to Video Switching

Selecting the Bank to Make the Settings

In the Engineering Setup >Switcher >Transition menu (7334), select the bank to which the settings apply, then make the settings.

Setting the transition preview mode

In the <Transition Preview> group of the Engineering Setup >Switcher >Transition menu (7334), 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 independent key transition mode of the transition control block

In the <Key Transition> group of the Engineering Setup >Switcher >Transition menu (7334), select either of the following.

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 Engineering Setup >Switcher >Transition menu (7334), press [Bus Toggle] to switch between on and off.

On: Flip-flop mode

Off: Bus fixed mode

For details, ☞ "Fader Lever Operation in Bus Fixed Mode" (p. 73).

Enabling or disabling the fade-to-black function

In the <FTB> group of the Engineering Setup >Switcher >Transition menu (7334), press the program output name to toggle between On and Off.
On: Enables fade-to-black.
Off: Disables fade-to-black.

Notes

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

Setting a preset color mix

1 Open the Engineering Setup >Switcher >Transition >Preset Color Mix menu (7334.1).

2 In the <Stroke Mode> group, select whether to carry out a transition in one stroke or two strokes.

Normal: Carries out a preset color mix with two transition operations.
Single: Carries out a preset color mix with a single transition operation.

Notes

In bus fixed mode *(☞ p. 355)*, 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 [Key4], 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 Open the Engineering Setup >Switcher >Transition >Transition Curve menu (7334.2).

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

Settings for the Show Key Function

1 Open the Engineering Setup >Switcher >Key/Wipe/FM/CCR >Show Key menu (7335.1).

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.

No.	Parameter	Adjustment
1	Hold Time	Show key hold time

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).
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 *(☞ "Fader Lever Operation in Bus Fixed Mode" (p. 73))*.

1 In the Engineering Setup >Switcher >Key/Wipe/FM/CCR menu (7335), press [Key Auto Drop].

The Key Auto Drop menu (7335.2) 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 Engineering Setup >Switcher >Key/Wipe/FM/CCR menu (7335), 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, then make the settings.

Selecting the key memory mode

In the <Key Memory> group of the Engineering Setup >Switcher >Key/Wipe/FM/CCR menu (7335), select one from Full (full mode)/Simple (simple mode)/Off *(☞ "Key Memory" (p. 81))*.

Selecting the processing order of masks and borders

In the <Mask/Border Process> group of the Engineering Setup >Switcher >Key/Wipe/FM/CCR menu (7335), select one of the following.

Mask >Border: Applies the Mask effect, then applies the Border effect.

Border >Mask: Applies the Border effect, then applies the Mask effect.

Selecting the key priority operation mode

In the <Key Priority> group of the Engineering Setup >Switcher >Key/Wipe/FM/CCR menu (7335), 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 Engineering Setup >Switcher >Key/Wipe/FM/CCR menu (7335), select any of the following. This setting is applied for the attributes of snapshots as well as the operation mode of the [XPT HOLD] button.

Key Disable: The [XPT HOLD] button of the key bus functions not only as a cross-point hold button but also as a key disable button. When the [XPT HOLD] button is on, recalling a snapshot or keyframe effect does not reflect the key settings, including the cross-point selection information.

Key Dsbl with Status: Same as [Key Disable], and further disables the reflection of the key on/off status.

Xpt Hold: The [XPT HOLD] button of the key bus functions as a cross-point hold button. When the [XPT HOLD] is on, recalling a snapshot or keyframe effect does not reflect the cross-point selection information.

To change the cross-point hold attribute of a snapshot

If you select [Key Disable] above, this also applies key disable to the cross-point hold attribute.

If you select [Key Dsbl with Status], the key disable function is applied, including the key on/off status.

Notes

This setting is only reflected in the operation of the [XPT HOLD] button when the [XPT HOLD] button operating mode is set to [All Bus]. Note that the snapshot cross-point hold attribute is also valid for settings other than [All Bus].

Setting the operation mode when the pattern limit is released

In the <Pattern Limit Transition> group of the Engineering Setup >Switcher >Key/Wipe/FM/CCR menu (7335), 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.

Applying color correction to AUX bus signal

Notes

When color correction is applied in the AUX bus, the color correction that was applied to the input signal is disabled.

1 Open the Engineering Setup >Switcher >Key/Wipe/FM/CCR >CCR menu (7335.3).

2 Select the AUX bus to set.

3 Press [Bus CCR] to switch between Enable and Disable.

Settings Relating to Function Links

Setting a Cross-Point Button Link

To link together two buses internal to the switcher, use the following procedure.

1 Open the Engineering Setup >Switcher >Link >Internal Bus Link menu (7336.1).

2 Select the setting to apply.

3 Press [Link Bus Select].

The Link Bus Select menu (7336.2) appears.

4 In the <Bus Select> group, select [Master Bus] (link source bus).

5 Select the bus to be the link source, and press [Bus Set].

Only when [Master Bus] is selected, M/E-1 Trans PGM and P/P Trans PGM are available.

Notes

With M/E-1 Trans PGM or P/P Trans PGM is 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 Select the bus to be the link destination, and press [Bus Set].

Only when [Linked Bus] is selected, AUX 1 to AUX 24 as Key are available.

8 Select the link table, and press [Link Table Set].

No.	Parameter	Adjustment
3	Link Table No	Link table selection

For more information about link tables, ☞ "Making Link Table Settings" (p. 358).

To release a link

With the link selected, press [Clear].

Making Link Table Settings

1 Open the Engineering Setup >Switcher >Link >Internal Bus Link >Link Table Select menu (7336.3).

2 Select the link source and link destination files.

No.	Parameter	Adjustment
1	Link No	Link to which setting applies
3	Link Table No	Link table selection

3 To confirm the selection, press [Link Src Set].

This links the link destination signal to the signal selected as Main No.

To initialize the set source address

Press [Init Link Table].
Check the message, then press [Yes].

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 Open the Engineering Setup >Switcher >Link >GPI Link menu (7336.4).

2 Select the GPI output port.

3 Press [GPI Link Adjust].

The GPI Link Adjust menu (7336.5) appears.

4 Select the setting to apply. For each GPI port there can be up to eight links.

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 press [Clear] in the <Video/Button> group.

6 To select for each bus whether the GPI link setting is enabled or disabled, select the bus to which the setting applies.

7 In the <Bus> group, select any of the following.

Enable: Enables the GPI link setting for the selected bus.
Disable: Disables the GPI link setting for the selected bus.
All Enable: Enables the GPI link setting for all buses.

Setting the delay value

1 In the Engineering Setup >Switcher >Link >GPI Link >GPI Link Adjust menu (7336.5), select the output port for which you want to set the delay value, and the corresponding delay value.

No.	Parameter	Adjustment
1	GPI Port	GPI output port to be configured
5	Delay	Delay value for the output port

2 Press [Delay Set].

Setting the operation mode when selecting M/E reentry inputs

When you select a reentry signal in the cross-point control block of an M/E block (upstream M/E block), the output of the upstream M/E block is read in. You can set the system so that when a GPI link is set for the cross-point selected on the A bus[1)] of the upstream M/E block this triggers the GPI output.
In the Engineering Setup >Switcher >Link >GPI Link menu (7336.4), set [Re-Entry Enable] to On or Off. When set to On, the GPI is executed upstream.

1) When the bus toggle is set to Off, the applicable bus depends on the position of the fader lever.

Notes

- For reentry, “upstream” applies to a single stage only.
- This setting is common to all GPI output ports.
- GPI output execution on the upstream M/E block is only possible on buses for which the GPI link is set to [Enable] in the GPI Link Adjust menu.
- GPI outputs are executed when reentry signals are selected under the following conditions.
  - When selected using buttons in cross-point control block
  - When selected by macro execution
  - When selected on the AUX bus remote panel

Setting Links between M/E Banks

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 Engineering Setup >Switcher >Link >M/E Link menu (7336.6), specify the link number to set.

2 In the <M/E Select> group, select [Master M/E] (link source).

3 Select the M/E or PGM/PST link source, then press [M/E Set].

4 In the <M/E Select> group, select [Linked M/E] (link destination).

5 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], turning it off.

To release a link

Use the same operation as in step **1** to select the link number for which you want to release the link setting, then press [Clear].

Making a Link Setting for Key Transition

The operations for which you can link two banks are the following independent key transition operations.
- Auto transition
- Turning the key on or off

1 In the Engineering Setup >Switcher >Link >Key Transition Link menu (7336.7), specify the link number to set.

2 In the <Key Select> group, select [Master Key] (link source).

3 Select the key you want to be the link source, then press [Key Set].

4 In the <Key Select> group, select [Linked Key] (link destination).

5 Select the key you want to be the link destination, then press [Key Set].

To release a link

Use the same operation as in step **1** to select the link number for which you want to release the link setting, then press [Clear].

Interfacing with External Devices

Making 9-Pin Port Device Interface Settings

The description in this section takes the Remote S1 port as an example. For the Remote S2 port, carry out the same process as required.

1 Open the Engineering Setup >Switcher >Device Interface >Remote Assign menu (7337.1).

2 Select the device interface you want to set for the Remote S1 port from the <Remote S1> group.

Editor A: Assigns Editor A to the Remote S1 port.
Editor B: Assigns Editor B to the Remote S1 port.
AUX: Assigns AUX to the Remote S1 port.

The device interfaces which can be selected for Remote S2 are the same as for Remote S1.

Making Switcher Processor GPI Input Settings

1 Open the Engineering Setup >Switcher >Device Interface >GPI Input menu (7337.2).

2 Select the setting to apply.

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

(Rising Edge): Applies the trigger on the rising edge of an input pulse.
(Falling Edge): Applies the trigger on the falling edge of an input pulse.
(Any Edge): Applies the trigger on a change in the polarity of the input signal.
(Level): Carries out the specified operation when the input is low or high.
No Operation: Applies no trigger on an input pulse.

4 In the <Target> group, select the action block.

M/E-1 and P/P: Sets an action for the M/E or PGM/PST bank.
Common/Setup: Sets an action for something other than the above, or a setup action.

5 Select the action.

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

Selectable actions for various trigger types

- **When the trigger type is other than "Level"**
  (The x in M/E-x is the M/E bank number, the x in DSKx is the DSK number, and the x in Keyx is the key number.)
  When Target is M/E-x: Cut, Auto Trans, Keyx Cut, Keyx Auto Trans, SS ? Recall, Keyx SS ? Recall, Effect ? Recall, Effect ? Recall & Run, KF Run, KF Stop, KF Rewind, KF Rev Run, No Action
  When Target is P/P: Cut, Auto Trans, DSKx Cut, DSKx Auto Trans, FTB Cut, FTB Auto Trans, SS ? Recall, DSKx SS ? Recall, Effect ? Recall, Effect ? Recall & Run, KF Run, KF Stop, KF Rewind, KF Rev Run, No Action
  When Target is Common/Setup: FM Src1 Field Freeze, FM Src1 Frame Freeze, FM Src2 Field Freeze, FM Src2 Frame Freeze, FM Src1 Freeze Off, FM Src2 Freeze Off, FM Src1 Clip Record, FM Src1 Clip Stop, FM Src2 Clip Record, FM Src2 Clip Stop, FM1 to FM8 Clip Cueup, FM1 to FM8 Clip Play, FM1 to FM8 Clip Stop, User1 to 8 SS ? Recall, User1 to 8 EFF ? Recall, User1 to 8 EFF ? Recall & Run, User1 to 8 KF Run, User1 to 8 KF Stop, User1 to 8 KF Rewind, User1 to 8 KF Reverse Run, No Action
- **When the trigger type is "Level"**
  (The x in M/E-x is the M/E number.)
  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
  For details about "Level Enable," see "Notes" in *"Making Control Panel GPI Input Settings" (☞ p. 337)*.

Notes

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" and "FC Output 1-2."

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 Engineering Setup >Switcher >Device Interface >GPI Input menu (7337.2), select the action to be set, and press [H/L Set].

The H/L Set menu (7337.3) appears.

2 Select the setting to apply.

3 To apply the selection made in step **2** when the input is the GPI high level, press [H Set]. To apply the selection the input is low, press [L Set].

Notes

- When "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 "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" (☞ p. 360)*.

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

The switcher port must be assigned before using the following procedure *(☞ "Assigning a Parallel Output Port" (p. 339))*.

1 In the Engineering Setup >Switcher >Device Interface menu (7337), press [GPI Output].

The GPI Output menu (7337.4) appears.

2 Select the setting to apply.

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

(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 Select the pulse width and timing to be set.

No.	Parameter	Adjustment
3	Pulse Width	Pulse width
4	Timing	Output timing[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 and P/P: Sets an action for the M/E or PGM/PST bank.

Common: Sets an action for error status.

6 Select the action to be set.

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

Selectable actions for various trigger types

- **When the trigger type is other than "Status"**
  (The x in M/E-x is the M/E bank number, the x in DSKx is the DSK number, and the x in Keyx is the key number.)
  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
- **When the trigger type is "Status"**
  (The x in M/E-x is the M/E bank number, the x in DSKx is the DSK number, and the x in Keyx is the key number.)
  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

Test firing the trigger

Press [Test Fire].
This outputs a trigger from the selected output port. This is no output when the trigger type is “Status.”

Enabling or Disabling AUX Bus Control

1 In the Engineering Setup >Switcher >Device Interface menu (7337), press [AUX Control].

The AUX Control menu (7337.5) appears.

2 Select the 9-pin port for the setting from the <Control> group.

Remote S1: Makes the settings for the Remote S1 port.
Remote S2: Makes the settings for the Remote S2 port.

3 Select the AUX bus.

4 Select whether to enable or disable AUX bus control from the <Control Mode> group.

Enable: Enables control of the port selected in step **2**.
Disable: Disables control of the port selected in step **2**.
Manual: Sets 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 AUX Bus Output and Reentry Input

You can select the signal input to the DME (AUX bus output) and the signal returned as the switcher primary input (reentry input).

1 Open the Engineering Setup >Switcher >Device Interface >DME SDI I/F menu (7337.7).

2 Select the DME channel to set.

Notes

When using the MVE-8000A, it is not possible to select any of DME1 Ext In to DME8 Ext In.

3 In the <Select> group, select the AUX bus or reentry to be assigned to the DME channel.

Aux Bus: Sets the AUX bus.
Re-Entry: Sets reentry.

4 Depending on the selection in step **3**, set the Aux bus output or reentry output.

5 Press [Set].

Repeat steps **2** to **5** 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 Engineering Setup >Switcher >Device Interface menu (7337), press [Editor I/F].

The Editor I/F menu (7337.8) 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

Chapter 20

Signal Input Settings

Setting the Initial Crop

1 In the DME1 <Aspect> group of the Engineering Setup >DME >Input menu (7341), select the screen aspect ratio (16:9 or 4:3).

2 In the DME1 <Crop> group, press [Initial Crop] and adjust the following parameters.

No.	Parameter	Adjustment
1	Top	Position of top side
2	Left	Position of the left side
3	Right	Position of the right side
4	Bottom	Position of the bottom side

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 Engineering Setup >DME >Input menu (7341), turning it on.

Making DME System Phase Adjustment

To adjust the DME reference phase, use the following procedure.

1 In the Engineering Setup >DME >Input menu (7341), press [System Phase].

2 Set the following parameters.

No.	Parameter	Adjustment
1	DME1 Phase	DME1 system phase adjustment
2	DME2 Phase	DME2 system phase adjustment

Setting the TBC Window Center Position

1 In the Engineering Setup >DME >Input menu (7341), press [TBC Center].

The TBC Center menu (7341.1) appears.
The status area shows the TBC center position values for DME2 and external input signals.

Notes

The TBC center position values for external input signals are shown only when an MVE-9000 is used.

2 Specify the input number to set.

3 In the <Video/Key> group (when MVE-8000A/9000 is used) or in the <External Video> group (when MVE-9000 only is used), press the desired button and set the TBC center position to 0H, 0.5H, or 1H.

Signal Output Settings

Adjusting the DME2 Output Video Clip Level

When the MVE-8000A or MVE-9000 is used, you can adjust the DME2 output video clip level.

1 In the <DME2 (Ch5-Ch8)> group of the Engineering Setup >DME >Output (7343) menu, press [Clip Adjust], turning it on.

2 Set the following parameters.

No.	Parameter	Adjustment
1	White Clip	White clip adjustment
2	Dark Clip	Dark clip adjustment
3	Chroma Clip	Chroma Clip

To return the setting to the default value
Press [Default].

Setting the Monitor Output

To set the signals output from the MVE-8000A/MVE-9000 four monitor output connectors (two connectors for the MKS-6570), use the following procedure.

Notes

To use the monitor outputs of the MKS-6570, it is necessary to assign them to switcher output connectors in advance *(☞ "Assigning Output Signals" (p. 351))*.

1 Open the Engineering Setup >DME >Output >Monitor Output menu (7343.1).

2 In the <Select> group, select the DME to which the setting applies.

3 In the list on the left of the status area, press directly on the monitor output for which you want to make setting.

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

Setting the Editor Protocol

This sets the protocol to be used on the editor port of the MVE-8000A and MVE-9000.
In the <DME2 Editor Protocol> group of the Engineering Setup >DME >Device Interface menu (7344), press the following buttons.
DME: Control by DME protocol through the editor port.
VTR: Control by VTR protocol through the editor port.

Making Editor Port Settings

This makes settings relating to the control of the editor ports in the MVE-8000A and MVE-9000.
In the <DME2 Editor Port Setting> group of the Engineering Setup >DME >Device Interface menu (7344), 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.

Making DME GPI Input Settings

This sets the GPI input ports and trigger type, and makes the action settings.
The following description assumes DME1. For DME2, set Ch5 to Ch8 in the same way.

Notes

The GPI input of the MKS-6570 is common with the GPI input that controls the switcher processor.

1 Open the Engineering Setup >DME >Device Interface >DME1 GPI Input menu (7344.1).

2 Select the setting.

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

(Rising Edge): Applies the trigger on the rising edge of an input pulse.
(Falling Edge): Applies the trigger on the falling edge of an input pulse.
(Any Edge): Applies the trigger on a change in the polarity of the input signal.
(Level): Carries out the specified operation when the input is low or high.
No Operation: Applies no trigger on an input pulse.

4 In the <Target> group, select what this applies to (Ch1, Ch2, or Proc).

5 Select the action to be set.

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

Selectable actions for various trigger types

- **When the trigger type is other than "Level"**
  When Target is Ch1 or Ch2: 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 or Ch2: Aspect, No Action
When Target is Proc: Format[1)], Aspect, Level Enable, No Action
For details about “Level Enable,” see “Notes” in *“Making Control Panel GPI Input Settings” (☞ p. 337)*.

1) Cannot be selected on DME1.

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 Engineering Setup >DME >Device Interface >DME1 GPI Input menu (7344.1), select the action to be set, and press [H/L Set].

The H/L Set menu (7344.2) appears.

2 Select the setting.

3 To apply the selection made in step **2** when the input is the GPI high level, press [H Set]. To apply the selection the input is low, press [L Set].

Making DME GPI Output Settings

This sets the GPI output ports and trigger type, and makes the action settings.

Notes

There is no GPI output in DME1.

1 Open the Engineering Setup >DME >Device Interface >DME2 GPI Output menu (7344.6).

The output port selection is fixed at 1.

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

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 Select the action to be set.

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

DCU Setup

Chapter 21

Notes

For setup relating to DCU, it is necessary to make the same settings on multiple control panels (maximum two 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.

Parallel Input Settings

This assigns GPI inputs to DCU parallel input ports.
The DCU parallel input ports are assigned with the following priority sequence.

1. When external boxes are set in the Engineering Setup >Router/Tally >Router >External Box Assign menu (7361.1), the parallel inputs are assigned to the external box inputs in order.
2. When tally settings are carried out in the Engineering Setup >Router/Tally >Tally Enable menu (7364), tally inputs are assigned automatically.

In this menu, you set only the input ports which are unused after making the above assignments.

Assigning a GPI Input Port

1 In the Engineering Setup >DCU >Input Config menu (7351), 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 Assign the number of the GPI input to the input port.

4 To confirm the assignment in step **3**, press [GPI Input Set].

Releasing the Assignment of a GPI Input Port

1 In the Engineering Setup >DCU >Input Config menu (7351), 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 Adjust the following parameters.

No.	Parameter	Adjustment
1	From No	First port number
2	To No	Last port number

4 In the <Parallel Input Assign> group, press [No Assign].

GPI Input Setting

This sets the trigger type and so on for each GPI input.

Making DCU GPI Input Settings

1 In the Engineering Setup >DCU >GPI Input Assign menu (7352), select what the setting applies to.

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

(Rising Edge): Applies the trigger on the rising edge of an input pulse.
(Falling Edge): Applies the trigger on the falling edge of an input pulse.
(Any Edge): Applies the trigger on a change in the polarity of the input signal.
(Level): Carries out the specified operation when the input is low or high.
No Operation: Applies no trigger on an input pulse.

3 In the <Target Device> group, select the control panel to handle the GPI input.

Notes

The SCU2 setting is disabled.

The action set in the next step **4** is executed for the switcher and DME controlled by the selected control panel.

4 In the list on the right, select the action.

5 Press [Action Set].

Selectable actions for various trigger types

- **When the trigger type is other than "Level"**
  (The x in M/E-x is the M/E bank number, the x in DSKx is the DSK number, and the x in Keyx is the key number.)
  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 "Rising Edge" or "Falling Edge"**
  Aux ? O'ride Src ??
- **When the trigger type is "Level"**
  (The x in M/E-x is the M/E number.)
  System Format, System Aspect, M/E-x Aspect, P/P Aspect, DME Ch1 Aspect, DME Ch2 Aspect, Level Enable, No Action
  For details about "Level Enable," see "Notes" in *"Making Control Panel GPI Input Settings" (☞ p. 337)*.

Notes

- As for "Aux ? O'ride Src ??," when "Rising Edge" is selected, for example, on the rising edge the set AUX bus input is used, and on the 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" and "FC Output 1-2."

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 Engineering Setup >DCU >GPI Input Assign menu (7352), select the action to be set and press [H/L Set].

The H/L Set menu (7352.1) appears.

2 Select the setting.

3 To apply the selection made in step **2** when the input is the GPI high level, press [H Set]. To apply the selection the input is low, press [L Set].

To set the level for the format converter

1 Set "System Format" for "Action" using the same operation in step **4** in *"Making DCU GPI Input Settings" (☞ p. 366)*.

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

For the DCU parallel output ports, after carrying out tally settings in the Engineering Setup >Router/Tally >Tally Enable menu (7364), you can assign GPI outputs to output ports that are still unused.

Assigning a GPI Output Port

1 In the Engineering Setup >DCU >Output Config menu (7353), 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 Select the output port and GPI output number.

Notes

When the MKS-2700 is connected, make the following settings.

- **Parallel Output Slot:** 2

- **Parallel Output Port:** 1 to 36

4 Press [GPI Output Set].

Releasing the Assignment of a GPI Output Port

1 In the Engineering Setup >DCU >Output Config menu (7353), 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 Select the slot and port to which the setting applies.

No.	Parameter	Adjustment
1	From Slot	First port slot
2	From Port	First port number
3	To Slot	Last port slot
4	To Port	Last port number

4 In the <Parallel Output Assign> group, press [No Assign].

GPI Output Settings

This sets the trigger type and so on for each GPI output.

Making DCU GPI Output Settings

1 In the Engineering Setup >DCU >GPI Output Assign menu (7354), select what the setting applies to.

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

(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 Select the pulse width and timing to be set.

No.	Parameter	Adjustment
3	Pulse Width	Pulse width
4	Timing	Output timing[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.

Notes

The SCU2 setting is disabled.

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 In the list on the right, select the action.

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

Selectable actions for various trigger types

- **When the trigger type is other than "Status"**
  (The x in M/E-x is the M/E bank number, the x in DSKx is the DSK number, and the x in Keyx is the key number.)
  When Source Device is SCU: M/E-x Keyx SS ? Recall, P/P DSKx SS ? Recall, No Action
  When Source Device is DCU: No Action
- **When the trigger type is "Status"**
  (The x in M/E-x is the M/E bank number, the x in DSKx is the DSK number, and the x in Keyx is the key number.)
  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

Test firing the trigger

Press [Test Fire].
This outputs a trigger from the selected output port. This is no output when the trigger type is "Status."

Serial Port Settings

This sets the protocol (device type) to match the devices connected to a 9-pin serial port. You can also select the control panel used to control each device.

Making Serial Port Settings

1 In the Engineering Setup >DCU >Serial Port Assign menu (7355), select the target for the setting (DCU1 or DCU2) from the <DCU Select> group.

2 Select the serial port.

Notes

When the MKS-2700 is connected, select 2 for the slot and a value in the range 1 to 6 for the port.

3 Select the device type for the connected device.

Notes

Mixer ESAM-II cannot be operated from this system.

4 Press [Device Type Set].

The selected device type is reflected on the left of the status area.

5 To enter the name of the serial port, press [Set] in the <Name> group.

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 assigned to operations on the external device connected to the serial port.

Notes

The SCU2 setting is disabled.

Deleting the serial port assignment

1 In the Engineering Setup >DCU >Serial Port Assign menu (7355), select the target for the setting (DCU1 or DCU2) from the <DCU Select> group.

2 Select the serial 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 Engineering Setup >DCU >Serial Port Assign menu (7355), select the setting target (DCU1 or DCU2) from the <DCU Select> group.

2 Select the serial port connected to the P-Bus device for which you want to make the settings.

Notes

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 P-Bus Setting menu (7355.1) appears. At the top of the status area, the relevant serial port, slot number, device type, serial port name, and SCU number appear. In the lower part of the status area, the device name and response speed settings appear.

4 Select the ID for which you want to make a device name setting.

5 In the <Name> group, press [Set].

6 Input the desired name, and press [Enter].

To return the device name for the selected ID to the default name
Press [Clear] in the <Name> group.

7 Specify the command to which the response speed setting applies.

8 Set the disk recorder response speed.

No.	Parameter	Adjustment
3	Delay	Response speed setting

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 Engineering Setup >DCU >Serial Port Assign menu (7355), select the setting target (DCU1 or DCU2) from the <DCU Select> group.

2 Select the serial port connected to the VTR for which you want to make the settings.

Notes

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 VTR Setting menu (7355.2) appears.
At the top of the status area, the relevant serial port, slot number, device type, 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): Uses LTC. When interpolation data is returned from a VTR, use that interpolation data.
LTC:VITC (Vertical Interval Time Code): Normally uses 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: Uses VITC.
CTL (Control): Uses CTL pulses or timer counter pulses. 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 Specify the VTR constants to set.

6 Press [Set].

A numeric keypad window for hexadecimal input appears.

7 Set the VTR constants using values in the range 00 to FF.

Block	Byte	Setting item
BLOCK 1	1	HI-BYTE (DEVICE TYPE)
	2	LO-BYTE (DEVICE TYPE)
	3	HI-BYTE (FRAME) (PREROLL TIME)
	4	LO-BYTE (FRAME) (PREROLL TIME)
	5	EDIT DELAY (FRAME)
	6	EE DELAY (FRAME)
	7	OVER RUN (FRAME)
	8	TRAJECTORY
BLOCK 2	1	TC READ DELAY (FRAME)
	2	START DELAY (FRAME)
	3	AFTER SYNC DELAY–
	4	AFTER SYNC DELAY+
	5	MODE1
	6	MODE2
	7	MAX PRRL SPEED
	8	QUICK PVW PRRL TIME (FRAME)

8 Press [Enter].

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 Engineering Setup >DCU >Serial Port Assign menu (7355), select the setting target (DCU1 or DCU2) from the <DCU Select> group.

2 Select the serial port connected to the disk recorder for which you want to make the settings.

Notes

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 DDR SD9P Setting menu (7355.3) appears.
At the top of the status area, the relevant serial port, slot number, device type, serial port name, SCU number, and disk recorder type appear. In the lower part of the status area, the response speed settings appear.

4 Specify the item to which the response speed setting applies.

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 Set the disk recorder response speed.

No.	Parameter	Adjustment
2	Setting	Response speed setting

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 Engineering Setup >DCU >Serial Port Assign menu (7355), select the setting target (DCU1 or DCU2) from the <DCU Select> group.

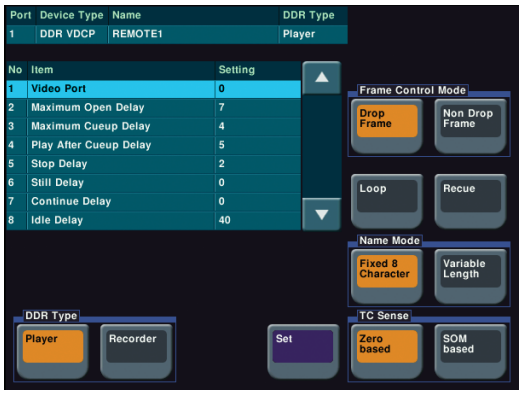
2 Select the serial port connected to the disk recorder for which you want to make the settings.

Notes

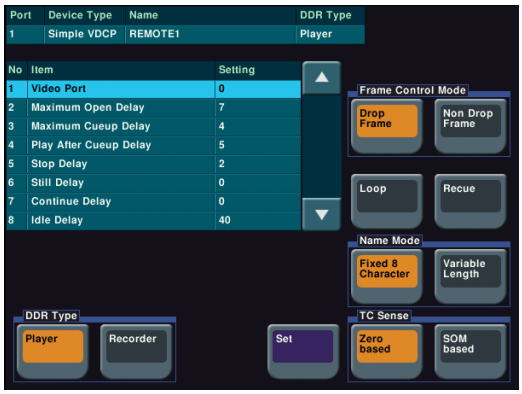
When the MKS-2700 is connected, select 2 for the slot and a value in the range 1 to 6 for the port.

3 Press [Port Setting].

When "DDR VDCP" is selected as the device type, the DDR VDCP Setting menu (7355.4) appears.



When "Simple VDCP" is selected as the device type, the Simple VDCP Setting menu (7355.6) appears.



4 In the <DDR Type> group, select the type of disk recorder.

Player: Functions as a player.
Recorder: Functions as a recorder.

5 In the <Name Mode> group, select the file name character count mode.

Fixed 8 Character: Uses 8-character file names.
Variable Length: Uses variable-length file names (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 59.94.

8 Specify the item to which the video port number or response speed setting applies.

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 Set the disk recorder video port number or response speed.

When setting the video port number

No.	Parameter	Adjustment
2	Setting	Video port number

When setting the response speed

No.	Parameter	Adjustment
2	Setting	Response speed setting

10 Press [Set].

11 Repeat steps **8** to **10** as required to make the settings for other items.

To enable or disable the loop and recue functions

Press [Loop] or [Recue] to enable/disable the loop and recue functions, respectively.

Loop: Replays the recalled file in a continuous loop.

Recue: After playing the recalled file, recues to the beginning and then stop.

Making detailed settings for an Extended VTR

1 In the Engineering Setup >DCU >Serial Port Assign menu (7355), select the setting target (DCU1 or DCU2) from the <DCU Select> group.

2 Select the serial port connected to the extended VTR for which you want to make the settings.

Notes

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 Extended VTR Setting menu (7355.5) appears. At the top of the status area, the relevant serial port, slot number, device type, serial port name, and SCU number appear. In the lower part of the status area, the response speed settings appear.

4 Specify the item to which the response speed setting applies.

1. Maximum Open Delay: Maximum time required to open a file
2. Maximum Cueup Delay: Maximum time required to cue up a file
3. Play After Cueup Delay: Delay time from the cued-up state to begin playback
4. Stop Delay: Delay time from issuing the Stop command until actually stopping

5 Set the response speed of the Extended VTR.

No.	Parameter	Adjustment
2	Setting	Response speed setting

6 Press [Set].

7 Repeat steps **4** to **6** as required to make the settings for other items.

Router Interface and Tally Setup

Chapter 22

Router Interface Settings

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.
The settings are common to the parallel and serial tallies.

Assigning Switcher Inputs and Outputs to S-Bus Space

1 In the <Device> group of the Engineering Setup >Router/Tally >Router menu (7361), select the device to which the settings apply.

SWR1: Settings apply to switcher 1.
[SWR2] setting is disabled.

2 In the <Matrix Size> group, select the matrix size.

136 × 138 (Standard): Assigns to S-Bus space with the switcher input/output at 136 × 138 size.
128 × 128: Assigns to S-Bus space with the switcher input/output at 128 × 128 size.

3 Set the following parameters.

No.	Parameter	Adjustment
1	Source	Source start address
2	Destination	Destination start address
3	Level	S-Bus space level

Setting External Boxes 1 to 12

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. You set the matrix size, assignment level, source address, and other settings.

1 Open the Engineering Setup >Router/Tally >Router >External Box Assign menu (7361.1).

2 In the <Device> group, select what the setting applies to (one of External Box 1 to 12).

3 In the <Matrix Size> group, select the number of external box inputs.

No Assign: Do not use.
4 × 1: 4 inputs and 1 output.
8 × 1: 8 inputs and 1 output.
16 × 1: 16 inputs and 1 output.
32 × 1: 32 inputs and 1 output.

Notes

The maximum total number of inputs for all 12 external boxes is 102.

4 Set the following parameters.

No.	Parameter	Adjustment
1	Source	Source start address
2	Destination	Destination start address
3	Level	Level

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 Engineering Setup >Router/Tally >Router >External Box Assign menu (7361.1), select [External Box1] from the <Device> group.

2 In the <Matrix Size> group, select [8 × 1].

3 Set the following parameters.

No.	Parameter	Adjustment
1	Source	Source start address

No.	Parameter	Adjustment
2	Destination	Destination start address
3	Level	Level

4 In the <Device> group, select [External Box2].

5 In the <Matrix Size> group, select [32 × 1].

6 Set the parameters.
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

Sets the group number for an S-Bus description name to be displayed in the source name displays for a cross-point operation.

1 In the <Alias Name Gp> group of the Engineering Setup >Router/Tally >Router menu (7361), press [Gp No].

2 Set the following parameter.

No.	Parameter	Adjustment
1	Gp No	Group number of S-Bus description name[a)]

a) When setting values 1 to 7 are selected and 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].

Notes

Transmit the description name selected here from the router.

Tally Group Settings

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.

Setting the tally groups

1 Open the Engineering Setup >Router/Tally >Group Tally menu (7362).

2 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.

3 In the <Tally Group> group, select the desired groups.

4 Set [SBus Tally Enable] to On to enable the tally information on the S-Bus.

Wiring Settings

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.
The settings are common to the parallel and serial tallies.

Making New Wiring Settings

1 Open the Engineering Setup >Router/Tally >Wiring >New menu (7363.1).

2 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: Specifies the start destination address for the wiring configuration.

Destination To: When the wiring configuration is multiple, specifies the end destination address. For a single wiring connection, this setting is not required.

Destination Level: Specifies the destination level of the wiring configuration.

No.	Parameter	Adjustment
1	Destination (From)	Destination start address
2	Destination (To)	Destination end address
3	Destination (Level)	Destination level

3 Set the source.

Source From: Specifies the source start address for the wiring configuration.
Source Level: Specifies the source level for the wiring configuration.

No.	Parameter	Adjustment
4	Source (From)	Source start address
5	Source (Level)	Source level

4 Press [Execute].

Changing Wiring Settings

1 Open the Engineering Setup >Router/Tally >Wiring >Modify menu (7363.2).

2 Referring to steps **2** and **3** in *"Making New Wiring Settings" (☞ p. 374)*, change the parameters as required. In this case, however, it is not possible to specify multiple destinations in a single operation, and a single address in "Destination Address" must be specified.

3 Press [Execute].

Deleting Wiring Settings

1 In the Engineering Setup >Router/Tally >Wiring menu (7363), select the wiring.

2 Press [Delete].

Sorting Wiring Settings

In the Engineering Setup >Router/Tally >Wiring menu (7363), 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

You specify the destination to be the reference for tally generation, and make various settings.

The settings are common to the parallel and serial tallies.

Making New Tally Generation Settings

1 Open the Engineering Setup >Router/Tally >Tally Enable >New menu (7364.1).

2 Set the following parameters.

No.	Parameter	Adjustment
1	Destination Address	Destination address
2	Destination Level	Destination level
3	Tally Type	Tally type[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 generates a tally.
Tally Input: Generates a tally from the tally input state.

4 If you selected [Tally Input] as the tally generation mode in step **3**, select either of the following in the <Tally Input> group.

DCU1: Generates tally with reference to signal input to DCU1 port.
DCU2: Generates tally with reference to signal input to DCU2 port.

5 Select the tally input port number.

No.	Parameter	Adjustment
5	Input No	Tally input port number

6 Press [Execute].

Modifying Tally Generation

1 Open the Engineering Setup >Router/Tally >Tally Enable >Modify menu (7364.2).

2 With reference to steps **2** to **5** in *"Making New Tally Generation Settings" (☞ p. 375)*, change the parameters as required.

3 Press [Execute].

Deleting Tally Generation Settings

1 In the Engineering Setup >Router/Tally >Tally Enable menu (7364), select the tally generation entry.

2 Press [Delete].

Tally Copy Settings

You can copy the tally information pertaining to a particular source to a different source.
The settings are common to the parallel and serial tallies.

Making New Tally Copy Settings

1 Open the Engineering Setup >Router/Tally >Tally Copy >New menu (7365.1).

2 Select the copy-from source.

When setting more than one tally copy, you can specify the copy-from source start and end addresses.

No.	Parameter	Adjustment
1	Copy From (From)	Copy-from source start address
2	Copy From (To)	Copy-from source end address

3 Specify the copy-to source address.

No.	Parameter	Adjustment
3	Copy To (From)	Copy-to source (start) address
4	Copy To (To)	Copy-to source (end) address

4 Press [Execute].

Modifying Tally Copy Settings

1 Open the Engineering Setup >Router/Tally >Tally Copy >Modify menu (7365.2).

2 Select the copy source and copy destination.

No.	Parameter	Adjustment
1	Copy From	Copy-from source
2	Copy To	Copy-to source

3 Press [Execute].

Deleting Tally Copy Settings

1 In the Engineering Setup >Router/Tally >Tally Copy menu (7365), select the tally copy settings.

2 Press [Delete].

Parallel Tally Settings

This sets 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.

Making or Modifying Parallel Tally Settings

1 In the <Device> group of the Engineering Setup >Router/Tally >Parallel Tally menu (7366), select DCU1 or DCU2.

2 Select the slot number and port number.

Notes

When the MKS-2700 is connected, select 2 for the slot and a value in the range 1 to 36 for the port.

3 Press [Set].

The Set menu (7366.1) appears.

4 In the <Source/Destination> group, select the tally type.

Src: Returns a tally to all sources output to the destination.
Dest: Returns 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 if you selected [Dest] in step **4**.

No.	Parameter	Adjustment
1	Address	Destination address
2	Level	Destination level

6 When setting the tally type, set the following parameter.

No.	Parameter	Adjustment
3	Type	Tally type

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].

Deleting Parallel Tally Settings

1 In the Engineering Setup >Router/Tally >Parallel Tally menu (7366), select the parallel tally.

2 Press [Clear].

Serial Tally Settings

This sets the serial tally settings, including tally type and source address for each serial tally port.

Setting or Changing Serial Tally Settings

1 In the <Serial Tally Port> group of the Engineering Setup >Router/Tally >Serial Tally menu (7367), 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 Serial Tally Source Address Settings

To set the serial tally source address for each port, use the following procedure.

1 Open the Engineering Setup >Router/Tally >Serial Tally >Source Assign menu (7367.1).

2 In the<Serial Tally Port> group, select the port to which the setting applies.

3 Select the bit number of the port.

4 Select the source address.

No.	Parameter	Adjustment
2	Source Addr	Source address selection

5 Press [Source Address Set].

Clearing a source address setting

To clear a source address setting for a particular bit

In the Source Assign menu, select the serial tally port and bit number (see steps **2** and **3** above), then press [Clear].

To clear all source address settings

In the Source Assign menu, select the serial tally port, then press [All Clear].
Check the message, then press [Yes].

To restore all source address settings to default values

In the Source Assign menu, select the serial tally port, and press [Default Recall].
Check the message, then press [Yes].

User Setup

Chapter 23

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 removable disk.

↓

In Switcher B, import the user source names from a removable disk.

↓

Create a signal pairs conversion correspondence table (patch table).

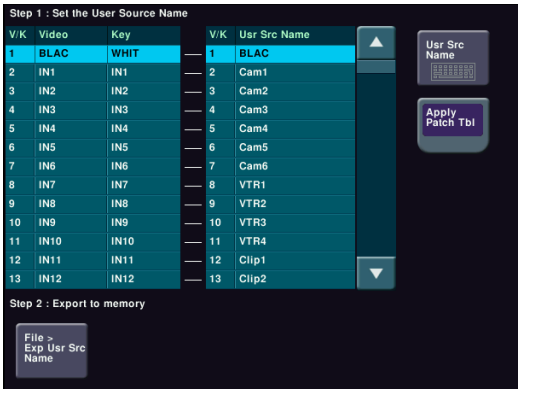
↓

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 a Removable Disk

In Switcher A, use the following procedure.

1 Open the User Setup >Source Patch >User Source Name menu (7211).



2 Select the target pair in the list on the left.

3 Press [Usr Src Name] outside the list.

4 Enter a name of not more than 16 characters, and press [Enter].

5 Repeat steps **2** to **4**, to set all of the necessary names.

6 Press [File >Exp Usr Src Name].

The Exp Usr Src Name menu (7116) appears.

7 Select the removable disk as the destination, and press [⟶Export].

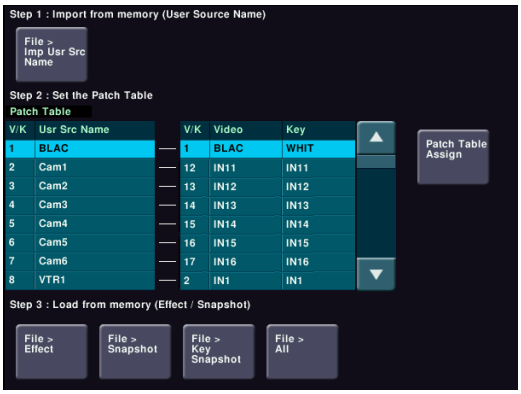
To apply the signal pairs in the patch table to this menu

Press [Apply Patch Tbl].

Creating a Patch Table (Conversion Table)

Load the removable disk prepared in Switcher A to Switcher B, and use the following procedure in Switcher B.

1 Open the User Setup >Source Patch >Patch Table menu (7212).



2 Press [File >Imp Usr Src Name].

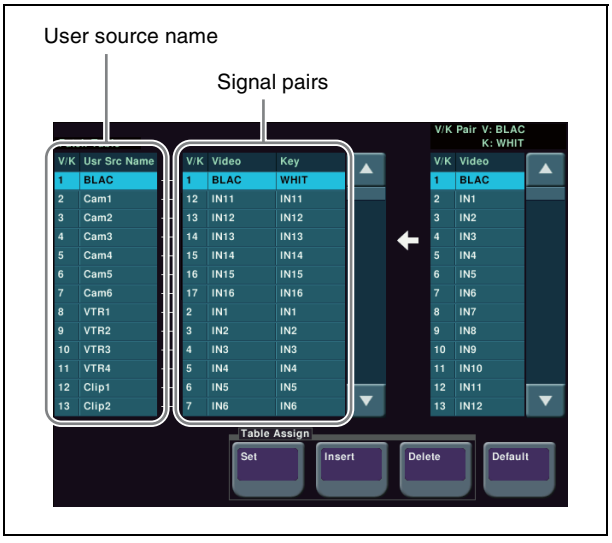
The Imp Usr Src Name menu (7117) appears.

3 Select the removable disk as the import source, and press [←Import].

The user source name file is loaded from the removable disk.

4 Press [Patch Table Assign].

The Patch Table Assign menu (7212.1) 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 Select the target user source name in the list on the left.

6 Select the signal pair you want to assign from the list on the right.

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.

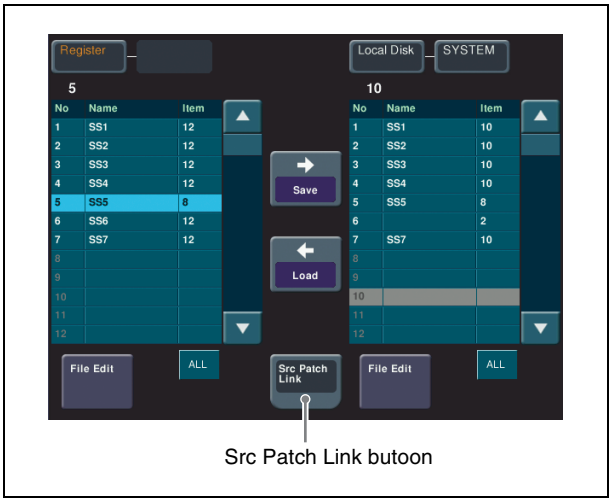
- Press [Insert] to insert a signal name above the signal name selected in the list on the left.
- Press [Delete] to delete the signal name selected in the list on the left.

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 a removable disk in advance.

1 In the User Setup >Source Patch >Patch Table menu (7212), press [File >Snapshot].

The File >Snapshot >Snapshot menu (7131) 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, with signal pairs replaced according to the patch table, is recalled to Switcher B.

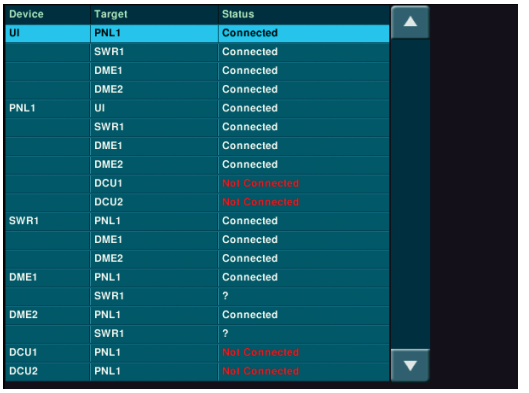
Chapter 24 Diagnosis

Checking the Communications Status

In the Diagnosis menu, you can check the LAN communications status within the system.

Communications Status Display

Open the Diagnosis >System Info >LAN Status menu (7431).
The following communications status screen appears.



Device	Target	Status
UI	PNL1	Connected
	SWR1	Connected
	DME1	Connected
	DME2	Connected
PNL1	UI	Connected
	SWR1	Connected
	DME1	Connected
	DME2	Connected
	DCU1	Not Connected
	DCU2	Not Connected
SWR1	PNL1	Connected
	DME1	Connected
	DME2	Connected
DME1	PNL1	Connected
	SWR1	?
DME2	PNL1	Connected
	SWR1	?
DCU1	PNL1	Not Connected
DCU2	PNL1	Not Connected

Devices constituting the system only appear if they are connected.
On the screen, devices that send information are listed under “Device,” and those that receive information are listed under “Target.”
The following information appears in the “Status” column.

- **Connected:** Ready for communication from Device to Target.
- **Not Connected:** Not Ready for communication from Device to Target.

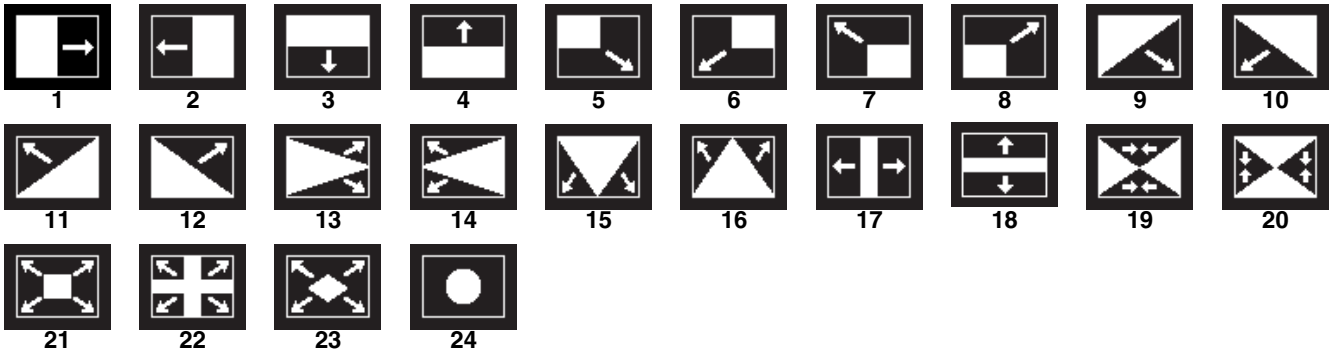
Appendix

Wipe Pattern List

Wipe Pattern List

Interpreting the illustrations for patterns

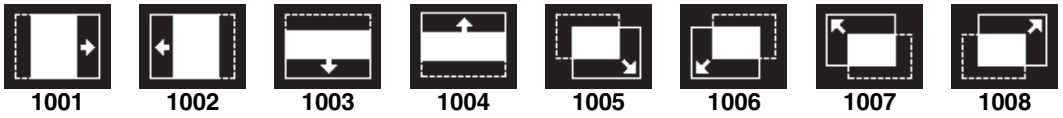
The black part of the pattern represents the old video, and the white part the new video, with the wipe taking place in the direction of the arrow.



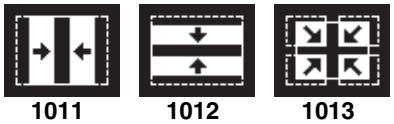
DME Wipe Pattern List

DME wipe patterns available in one-channel mode

Slide



Split



Squeeze


1021


1022


1023


1024


1025


1026


1027


1028


1029


1030


1031

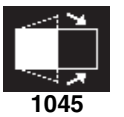
Door

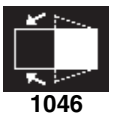

1041

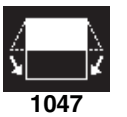

1042


1043


1044


1045


1046


1047


1048

2D trans


1051


1052


1053


1054


1055


1056


1057


1058


1061


1062


1063


1064


1068

3D trans


1071

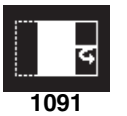

1072

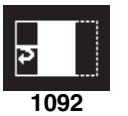

1074


1076


1077


1088

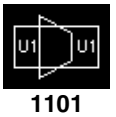

1091

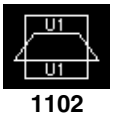

1092


1093


1094

Flip tumble


1101


1102


1103


1104


1109

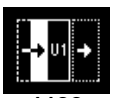

1110


1121


1122


1124


1131


1132


1133


1135

Frame in-out


1201


1202


1203


1204


1205


1206


1207


1208

1221

1222

1223

1224

Picture-in-picture


1251

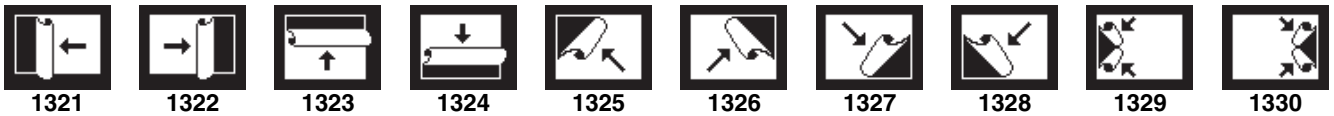
Page turn


1301 1302 1303 1304 1305 1306 1307 1308 1309 1310


1311 1312 1313 1315 1316 1317 1318 1341 1342 1343


1344 1345

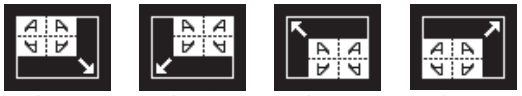
Roll


1321 1322 1323 1324 1325 1326 1327 1328 1329 1330


1331 1332 1333 1335 1336 1337 1338 1346 1347 1348


1349 1350

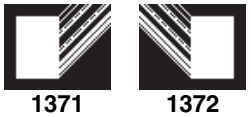
Mirror


1355 1356 1357 1358

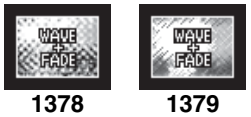
Sphere


1365

Character trail


1371 1372

Wave



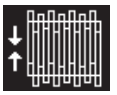
1378 1379

Ripple


1381

Split slide


1384


1385


1386


1387


1388


1389

Sparkle

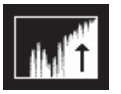

1391


1393


1394


1396


1398


1399

Mosaic

1701

Defocus

1702

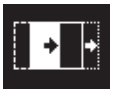
User programmable DME

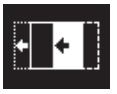
The illustrations for patterns 1901 to 1999 show an effect register number or register name.

1901 1999

DME wipe patterns available in two-channel mode

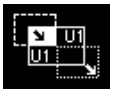
Slide


2601

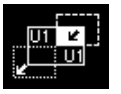

2602


2603

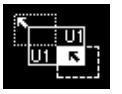

2604



2605



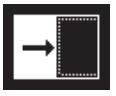
2606

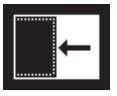


2607

2608

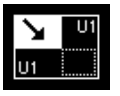
Squeeze


2621

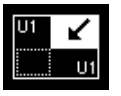

2622


2623

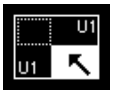

2624



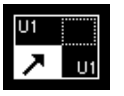
2625



2626

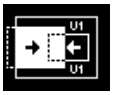


2627



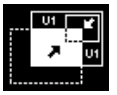
2628

3D trans

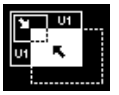


2631

2632



2633

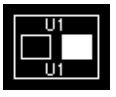


2634

2642

2644

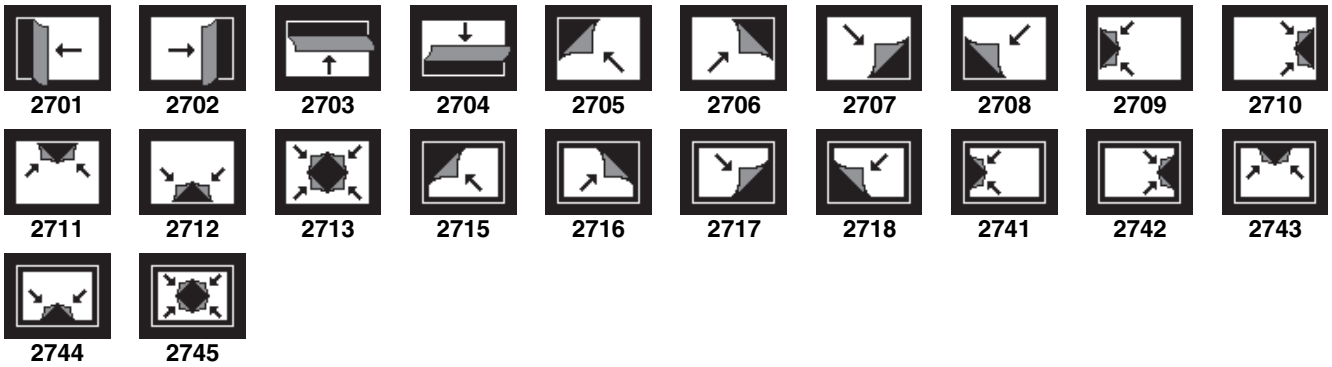
Picture-in-picture



2651

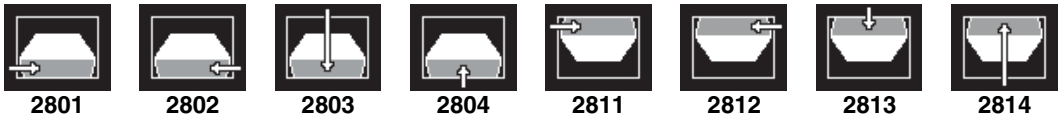
2652

Page turn

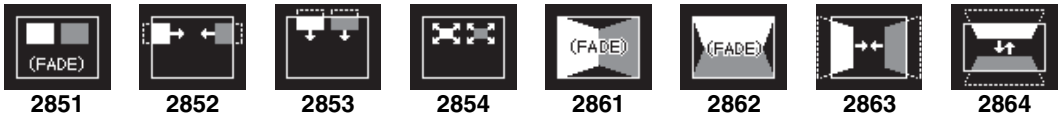


Roll

Brick



Frame in-out

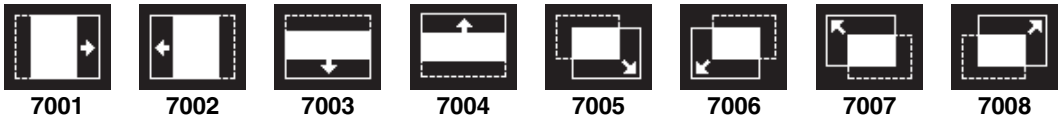


User programmable DME

The illustrations for patterns 2901 to 2999 show an effect register number or register name.

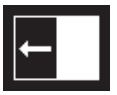
Resizer DME Wipe Pattern List

Slide



Squeeze


7021


7022


7023

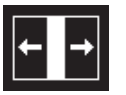

7024


7025


7026


7027


7028


7029


7030


7031

Frame in-out


7201

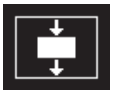

7202


7203


7204


7205


7206


7207


7208

7221

7222

7223

7224

Menu Tree

This section shows the structure of each menu.
Menus with “Yes” in the Default Recall column can be reset to their initial values by pressing the [Default Recall] button.

Notes

Some menus may not appear, depending on the system configuration.

Also, some menus display items and functions not supported by the MVS-6520, MVS-3000A, or MVS-3000.

For details, ☞ “Menus of Disabled Operations and Settings” (p. 405).

M/E-1 Menu

On the MVS-6530, the M/E-2 menu can be called by pressing the [M/E2] button in the menu panel.

The menu functions and configuration are the same as the M/E-1 menu. However, the menu page number becomes “12XX.”

Menu (Page No.)				Default Recall
VF1: Key1 VF2: Key2[a)] VF3: Key3[a)] VF4: Key4[a)]	HF1: Type (1111)			Yes[f)]
		Chroma Adjust (1111.1)		Yes[f)]
		Matte Adjust (1111.2)[b)]		Yes
			Pattern Select (1116.2)	Yes
			Wipe Adjust (1116.1)	Yes[f)]
		Pattern Select (1116.2)[c)]		Yes
		Signal Select (1111.3)[b) c)]		Yes
		Key Priority (1173)		No
	HF2: Edge (1112)[d)]			Yes
		Matte Adjust (1112.1)		Yes[f)]
			Mix Ptn Select (1112.2)	Yes
		Zabton Adjust (1112.3)		Yes
			Pattern Select (1116.2)	Yes
			Mix Ptn Select (1112.2)	Yes
			Main Mask (1113)	Yes[f)]
			Matte Adjust (1112.1)	Yes
			Wipe Adjust (1116.1)	Yes[f)]
		Key Delay Mode (1112.4)		Yes
	HF3: Main Mask (1113)			Yes[f)]
		Mask Ptn Select (1113.1)		Yes
	HF5: Processed Key/Resizer (1115)[e)]			Yes
		Monitor (1115.1)		Yes
		Border/Crop (1115.2)[d)]		Yes
		Resizer Process (1115.3)[d)]		Yes
		Enhanced Effect (1115.4)[d)]		Yes
	HF6: Transition (1116)			Yes[f)]
		Wipe Adjust (1116.1)		Yes[f)]
			Pattern Select (1116.2)	Yes
		DME Wipe Adjust (1116.3)		Yes
			1ch Pattern Select (1116.4)	Yes
			2ch Pattern Select (1116.5)	Yes
			Remove From Begin (1116.7)	Yes
VF5: Wipe	HF1: Main Pattern (1151)			Yes
	HF4: Edge/Direction (1154)			Yes[f)]
		Matte Adjust (1154.1)		Yes[f)]
			Mix Ptn Select (1154.2)	Yes
	HF5: Main Modify (1155)			Yes[f)]
	HF7: Wipe Snapshot (1157)			No
		DME Wipe Snapshot (1167)		No

Menu (Page No.)				Default Recall
VF6: DME Wipe	HF1: 1ch (1161)			Yes
	HF2: 2ch (1162)			Yes
	HF4: Edge/Direction (1164)			Yes[f]
	HF5: Modify (1165)			Yes
		Remove From Begin (1165.1)		Yes
	HF7: DME Wipe Snapshot (1167)			No
		Wipe Snapshot (1157)		No
VF7: Misc	HF1: Transition (1171)			Yes[f]
		Clip Transition (1176)		Yes
			Clip (1176.1)	Yes
			Transition (1171)	Yes
			Snapshot (1177)	No
	HF3: Key Priority (1173)			No
	HF4: Next Key Priority (1174)			No
	HF6: Clip Transition (1176)			Yes
		Clip (1176.1)		Yes
		Transition (1171)		Yes
		Snapshot (1177)		No
	HF7: Snapshot (1177)			No

a) For Key2, Key3, and Key4, the menu page number changes as follows.
Key2: 112X, Key3: 113X, Key4: 114X

b) The Matte Adjust menu (1111.2) is displayed if [Matte] is selected in the <Key Fill> group, and the Signal Select menu (1111.3) is displayed if [Key Bus] is selected.

c) The Pattern Select menu (1116.2) is displayed if [Key Wipe Pattern] is selected in the <Key Type> group, and the Signal Select menu (1111.3) is displayed if a setting other than [Key Wipe Pattern] is selected.

d) Not displayed for Key3 and Key4.

e) For Key3 and Key4, the HF button indication changes to [Processed Key].

f) Some parameters are not reset to default values.

PGM/PST Menu

Menu (Page No.)				Default Recall
VF1: DSK1[a] VF2: DSK2[a] VF3: DSK3[a] VF4: DSK4[a]	HF1: Type (1411)			Yes[f]
		Chroma Adjust (1411.1)		Yes[f]
		Matte Adjust (1411.2)[b]		Yes
			Pattern Select (1416.2)	Yes
			Wipe Adjust (1416.1)	Yes[f]
		Pattern Select (1416.2)[c]		Yes
		Signal Select (1411.3)[b] [c]		Yes
		Key Priority (1473)		No
	HF2: Edge (1412)[d]			Yes
		Matte Adjust (1412.1)		Yes[f]
			Mix Ptn Select (1412.2)	Yes
		Zabton Adjust (1412.3)		Yes
			Pattern Select (1416.2)	Yes
			Mix Ptn Select (1412.2)	Yes
			Main Mask (1413)	Yes[f]
			Matte Adjust (1412.1)	Yes
			Wipe Adjust (1416.1)	Yes[f]
		Key Delay Mode (1412.4)		Yes
	HF3: Main Mask (1413)			Yes[f]
		Mask Ptn Select (1413.1)		Yes
	HF5: Processed Key/Resizer (1415)[e]			Yes
		Monitor (1415.1)		Yes
		Border/Crop (1415.2)[d]		Yes
		Resizer Process (1415.3)[d]		Yes
		Enhanced Effect (1415.4)[d]		Yes
	HF6: Transition (1416)			Yes[f]
		Wipe Adjust (1416.1)		Yes[f]
			Pattern Select (1416.2)	Yes
		DME Wipe Adjust (1416.3)		Yes
			1ch Pattern Select (1416.4)	Yes
			2ch Pattern Select (1416.5)	Yes
			Remove From Begin (1416.7)	Yes
VF5: Wipe	HF1: Main Pattern (1451)			Yes
	HF4: Edge/Direction (1454)			Yes[f]
		Matte Adjust (1454.1)		Yes[f]
			Mix Ptn Select (1454.2)	Yes
	HF5: Main Modify (1455)			Yes[f]
	HF7: Wipe Snapshot (1457)			No
		DME Wipe Snapshot (1467)		No

Menu (Page No.)					Default Recall
VF6: DME Wipe	HF1: 1ch (1461)				Yes
	HF2: 2ch (1462)				Yes
	HF4: Edge/Direction (1464)				Yes[f]
	HF5: Modify (1465)				Yes
		Remove From Begin (1465.1)			Yes
	HF7: DME Wipe Snapshot (1467)				No
		Wipe Snapshot (1457)			No
VF7: Misc	HF1: Transition (1471)				Yes[f]
		Clip Transition (1476)			Yes
			Clip (1476.1)		Yes
			Transition (1471)		Yes
			Snapshot (1477)		No
	HF3: Key Priority (1473)				No
	HF4: Next Key Priority (1474)				No
	HF6: Clip Transition (1476)				Yes
		Clip (1476.1)			Yes
		Transition (1471)			Yes
		Snapshot (1477)			No
	HF7: Snapshot (1477)				No

a) For DSK2, DSK3, and DSK4, the menu page number changes as follows.
DSK2: 142X, DSK3: 143X, DSK4: 144X
When the VF1 to VF4 button display changes to [DSK5] to [DSK8] (MVS-6530 only), the menu page number changes as follows.
DSK5: 181X, DSK6: 182X, DSK7: 183X, DSK8: 184X

b) The Matte Adjust menu (1411.2) is displayed if [Matte] is selected in the <Key Fill> group, and the Signal Select menu (1411.3) is displayed if [Key Bus] is selected.

c) The Pattern Select menu (1416.2) is displayed if [Key Wipe Pattern] is selected in the <Key Type> group, and the Signal Select menu (1411.3) is displayed if a setting other than [Key Wipe Pattern] is selected.

d) Not displayed for DSK3, DSK4, DSK7, and DSK8.

e) For DSK3, DSK4, DSK7, and DSK8, the HF button indication changes to [Processed Key].

f) Some parameters are not reset to default values.

Color Bkgd Menu

Menu (Page No.)			Default Recall
VF1: Color Bkgd1 (2210)			Yes[a]
		Mix Ptn Select (2210.1)	Yes
VF2: Color Bkgd2 (2220)			Yes[a]
		Mix Ptn Select (2220.1)	Yes

a) Some parameters are not reset to default values.

AUX Menu

Menu (Page No.)		Default Recall
VF1: Aux Bus (2311)		Yes

Frame Memory Menu

Menu (Page No.)			Default Recall
VF1: Still	HF1: Recall (2511)		No
	HF2: Freeze/Store (2512)		Yes
	HF4: Animation Record (2514)		No
	HF5: Create Key Frame (2515)		No
VF2: Clip	HF1: Recall (2521)		No
	HF2: Play (2522)		No
	HF3: Record (2523)		No
	HF5: Ancillary Enable (2525)		No
VF3: Reposition/Lock	HF1: Reposition (2531)		Yes
	HF2: Lock (2532)		No
VF4: File	HF1: Pair Recombination (2541)		No
		Recall (2511)	No
		Recall (2521)	No
	HF2: Auto Extraction (2542)		No
	HF4: Move (2544)		No
	HF5: Delete (2545)		No
	HF6: Rename (2546)		No
VF5: Folder (2551)			No
VF6: External Device	HF1: Ext HDD Format (2561)		No
	HF2: Ext HDD Backup/Restore (2562)		No
	HF4: Backup to DDR/VTR (2564)		No
		File Name Data (7153)	No
	HF5: Restore from DDR/VTR (2565)		No
		File Name Data (7153)	No

Copy/Swap Menu

Menu (Page No.)		Default Recall
VF1: Copy/Swap	HF1: M/E (3111)	No
	HF2: Key (3112)	No
	HF3: Wipe (3113)	No
	HF4: DME Wipe (3114)	No
	HF5: Matte (3115)	No
	HF6: Color (3116)	No
	HF7: DME (3117)	No
VF2: Copy	HF1: Format Converter (3121)	No

Misc Menu

Menu (Page No.)			Default Recall
VF1: Enable	HF1: Port Enable (3211)		No
	HF3: Side Flags (3213)		No
		Side Flags (7331.7)	No
		Side Flags Button Assign (7322.10)	No
VF2: Safe Title (3221)			No
VF3: Transition	HF1: Key/ME/FTB (3231)		No
	HF2: Aux Mix (3232)		No

Status Menu

Menu (Page No.)		Default Recall
VF1: DME Status (3311)		No

DME Menu

Menu (Page No.)			Default Recall
Status (4100)			No
VF1: Edge	HF1: Border/Crop (4111)		Yes
	HF2: Beveled Edge (4112)		Yes
	HF3: Key Border (4113)		Yes
	HF4: Art Edge (4114)		Yes
	HF5: Flex/Drop Shadow (4115)		Yes
	HF6: Wipe Crop (4116)		Yes[b)]
		Pattern Select (4116.1)	Yes
	HF7: Color Mix (4117)		Yes[b)]
		Mix Pattern Select (4117.1)	Yes
VF2: Video Modify	HF1: Defocus/Blur (4121)		Yes
		Mask (4127)	Yes[b)]
	HF2: Multi Move (4122)		Yes
	HF3: Color Modify (4123)		Yes
		Mask (4127)	Yes[b)]
	HF4: Mosaic (4124)		Yes
		Mask (4127)	Yes[b)]
	HF7: Mask (4127)		Yes[b)]
VF3: Freeze	HF1: Freeze (4131)		Yes

Menu (Page No.)			Default Recall
VF4: Non Linear/Corner Pin	HF1: Non Linear (4141)		Yes
		Wave (4141.1)	Yes
		Mosaic Glass (4141.2)	Yes
		Flag (4141.3)	Yes
		Twist (4141.4)	Yes
		Ripple (4141.5)	Yes
		Rings (4141.7)	Yes
		Broken Glass (4141.8)	Yes
		Flying Bars (4141.9)	Yes
		Blind (4141.10)	Yes
		Split (4141.11)	Yes
		Split Slide (4141.12)	Yes
		Mirror (4141.13)	Yes
		Multi Mirror (4141.14)	Yes
		Kaleidoscope (4141.15)	Yes
		Lens (4141.16)	Yes
		Circle (4141.17)	Yes
		Panorama (4141.18)	Yes
		Page Turn (4141.19)	Yes
		Roll (4141.20)	Yes
		Cylinder (4141.21)	Yes
		Sphere (4141.22)	Yes
		Explosion (4141.25)	Yes
		Swirl (4141.26)	Yes
		Melt (4141.27)	Yes
		Character Trail (4141.28)	Yes
	HF2: Corner Pinning (4142)		Yes
		Border/Crop (4111)	Yes
		Combiner Priority (4211)[a)] Combiner Priority (4221)[a)]	Yes

Menu (Page No.)				Default Recall
VF5: Light/Trail	HF1: Lighting (4151)			Yes
	HF2: Trail (4152)			Yes
		Color Mix (4117)		Yes
			Mix Pattern Select (4117.1)	Yes
	HF3: Motion Decay (4153)			Yes
	HF4: KF Strobe (4154)			Yes
	HF5: Wind (4155)			Yes
		Color Mix (4117)		Yes
			Mix Pattern Select (4117.1)	Yes
	HF6: Spot Lighting (4156)			Yes
		Texture Ptn Select (4156.1)		Yes
		Copy/Swap (4156.2)		Yes
		Light 1 (4156.3)		Yes
			Light Color Adjust (4156.4)	Yes
		Light 2 (4156.5)		Yes
			Light Color Adjust (4156.6)	Yes
		Light 3 (4156.7)		Yes
			Light Color Adjust (4156.8)	Yes
VF6: Input/Output	HF1: Bkgd (4161)			Yes
		Color Mix (4117)		Yes[b]
			Mix Pattern Select (4117.1)	Yes
	HF2: Video/Key (4162)			Yes
	HF3: Process (4163)			Yes
	HF4: Graphic (4164)			Yes
VF7: Enhanced Video Modify	HF1: Sketch (4171)			Yes
		Mask (4127)		Yes[b]
	HF2: Metal (4172)			Yes
		Mask (4127)		Yes[b]
	HF3: Dim & Fade (4173)			Yes
	HF4: Glow (4174)			Yes
		Mask (4127)		Yes[b]

a) Menus corresponding to the selected DME channel are displayed.
b) Some parameters are not reset to default values.

Global Effect Menu

Menu (Page No.)		Default Recall
Status (4200)		No
VF1: Ch1-Ch2	HF1: Combiner Priority (4211)	Yes
	HF3: Shadow (4213)	Yes
VF2: Ch5-Ch8	HF1: Combiner Priority (4221)	Yes
	HF2: Brick (4222)	Yes
	HF3: Shadow (4223)	Yes
	HF7: Combine Gp Select (4227)	No

Router Menu

Menu (Page No.)			Default Recall
VF1: Router Control	HF1: Router Control (5111)		No
		Change Xpt (5111.1)	No

Device Menu

Menu (Page No.)			Default Recall
VF1: GPI Timeline	HF1: GPI Timeline (5311)		No
		Rewind Action (5311.1)	No
VF2: P-Bus Timeline	HF1: P-Bus Timeline (5321)		No
		Rewind Action (5321.1)	No
VF3: DDR/VTR	HF1: Cueup & Play (5331)		No
	HF2: Timeline (5332)		No
		Rewind Action (5332.1)	No
	HF3: File List (5333)		No

Macro Menu

Menu (Page No.)			Default Recall
VF1: Register	HF2: Lock (5412)		No
		On Line Edit (7142.2)	No
		Off Line Edit (7142.3)	No
	HF3: Copy (5413)		No
	HF6: Delete (5416)		No
		On Line Edit (7142.2)	No
		Off Line Edit (7142.3)	No
	HF7: Rename (5417)		No
		On Line Edit (7142.2)	No
		Off Line Edit (7142.3)	No
VF2: Attachment (5421)			No
VF3: Menu Macro Register	HF1: Recall & Run (5431)		No
		Menu Macro Edit (7144.2)	No
	HF2: Lock (5432)		No
		Menu Macro Edit (7144.2)	No
	HF3: Copy (5433)		No
	HF6: Delete (5436)		No
		Menu Macro Edit (7144.2)	No
	HF7: Rename (5437)		No
		Menu Macro Edit (7144.2)	No
VF4: Timeline	HF1: Timeline (5441)		No
		Rewind Action (5441.1)	No

Key Frame Menu

Menu (Page No.)			Default Recall
	HF1: Time Line (6111)		No
	HF3: Path (6113)		Yes
		M/E-1 (6113.1)	Yes
		P/P (6113.4)	Yes
		User1 (6113.5)	Yes
		User2 (6113.6)	Yes
		User3 (6113.7)	Yes
		User4 (6113.8)	Yes
		User5 (6113.9)	Yes
		User6 (6113.10)	Yes
		User7 (6113.11)	Yes
		User8 (6113.12)	Yes
		DME 3D Trans Local (6113.13)	Yes
		DME 3D Trans Global (6113.14)	Yes
		DME Effect (6113.15)	Yes
		DME Global Effect (6113.16)	Yes
	HF4: DME User PGM (6114)		No
	HF5: Timeline Assign (6115)		No
	HF7: Region Select (6117)		No
		Region Button Assign (7321.7)	No

Effect Menu

Menu (Page No.)			Default Recall
Status (6200)			No
VF1: Master Timeline	HF1: Store (6211)		No
		Edit (6211.1)	No
	HF2: Lock (6212)		No
	HF3: Copy (6213)		No
	HF4: Move (6214)		No
	HF5: Swap (6215)		No
	HF6: Delete (6216)		No
	HF7: Rename (6217)		No
VF2: Effect 1-99	HF1: Attribute (6221)		No
	HF2: Lock (6222)		No
	HF3: Copy/Merge (6223)		No
	HF4: Move (6224)		No
	HF5: Swap (6225)		No
	HF6: Delete (6226)		No
	HF7: Rename (6227)		No

Menu (Page No.)		Default Recall
VF3: User DME Wipe Effect 101-199	HF1: Attribute (6231)	No
	HF2: Lock (6232)	No
	HF3: Copy/Merge (6233)	No
	HF4: Move (6234)	No
	HF5: Swap (6235)	No
	HF6: Delete (6236)	No
	HF7: Rename (6237)	No
VF4: User DME Wipe Effect 201-299	HF1: Attribute (6241)	No
	HF2: Lock (6242)	No
	HF3: Copy/Merge (6243)	No
	HF4: Move (6244)	No
	HF5: Swap (6245)	No
	HF6: Delete (6246)	No
	HF7: Rename (6247)	No
VF6: DEV/PBUS Effect 1-250	HF2: Lock (6262)	No
	HF3: Copy/Merge (6263)	No
	HF4: Move (6264)	No
	HF5: Swap (6265)	No
	HF6: Delete (6266)	No
	HF7: Rename (6267)	No

Snapshot Menu

Menu (Page No.)				Default Recall
Status (6300)				No
VF1: Master Snapshot	HF1: Store (6311)			No
		Edit (6311.1)		No
	HF2: Lock (6312)			No
	HF3: Copy (6313)			No
	HF4: Move (6314)			No
	HF5: Swap (6315)			No
	HF6: Delete (6316)			No
	HF7: Rename (6317)			No
VF2: Snapshot	HF1: Attribute (6321)			No
		Xpt Hold (6321.1)		No
		Clip Event (6321.2)		No
			Play (2522)	No
	HF2: Lock (6322)			No
	HF3: Copy (6323)			No
	HF4: Move (6324)			No
	HF5: Swap (6325)			No
	HF6: Delete (6326)			No
	HF7: Rename (6327)			No

Menu (Page No.)		Default Recall
VF3: Wipe Snapshot	HF2: Lock (6332)	No
	HF3: Copy (6333)	No
	HF4: Move (6334)	No
	HF5: Swap (6335)	No
	HF6: Delete (6336)	No
	HF7: Rename (6337)	No
VF4: DME Snapshot	HF2: Lock (6342)	No
	HF3: Copy (6343)	No
	HF4: Move (6344)	No
	HF5: Swap (6345)	No
	HF6: Delete (6346)	No
	HF7: Rename (6347)	No
VF5: Key Snapshot	HF1: Attribute (6351)	No
	HF2: Lock (6352)	No
	HF3: Copy (6353)	No
	HF4: Move (6354)	No
	HF5: Swap (6355)	No
	HF6: Delete (6356)	No
	HF7: Rename (6357)	No

Shotbox Menu

Menu (Page No.)		Default Recall
VF1: Register	HF1: Store/Recall (6411)	No
	Edit (6411.1)	No
	HF2: Lock (6412)	No
	HF3: Copy (6413)	No
	HF4: Move (6414)	No
	HF5: Swap (6415)	No
	HF6: Delete (6416)	No
	HF7: Rename (6417)	No

File Menu

Menu (Page No.)				Default Recall
VF1: Setup, Init, KMem	HF1: Setup (7111)			No
		File Edit (7111.1)		No
	HF2: Initial Status (7112)			No
		File Edit (7112.1)		No
	HF3: Key Memory (7113)			No
		File Edit (7113.1)		No
	HF5: User Setup (7115)			No
		File Edit (7115.1)		No
	HF6: Export User Source Name (7116)			No
		File Edit (7116.1)		No
	HF7: Import User Source Name (7117)			No
		File Edit (7117.1)		No
VF2: Effect	HF1: Effect 1-99 (7121)			No
		File Edit (7121.1)		No
	HF2: User DME Wipe Effect 101-199 (7122)			No
		File Edit (7122.1)		No
	HF3: User DME Wipe Effect 201-299 (7123)			No
		File Edit (7123.1)		No
	HF5: DEV/PBUS Effect 1-250 (7125)			No
		File Edit (7125.1)		No
VF3: Snapshot	HF1: Snapshot (7131)			No
		File Edit (7131.1)		No
	HF2: Wipe Snapshot (7132)			No
		File Edit (7132.1)		No
	HF3: DME Snapshot (7133)			No
		File Edit (7133.1)		No
	HF4: Key Snapshot (7134)			No
		File Edit (7134.1)		No
VF4: Shotbox, Macro	HF1: Shotbox (7141)			No
		File Edit (7141.1)		No
	HF2: Macro (7142)			No
		File Edit (7142.1)		No
			On Line Edit (7142.2)	No
			Off Line Edit (7142.3)	No
	HF3: Macro Attachment (7143)			No
		File Edit (7143.1)		No
	HF4: Menu Macro (7144)			No
		File Edit (7144.1)		No
			Menu Macro Edit (7144.2)	No

Menu (Page No.)			Default Recall
VF5: Frame Mem	HF1: Frame Memory (7151)		No
		File Edit (7151.1)	No
	HF2: Frame Memory Folder (7152)		No
	HF3: File Name Data (7153)		No
		File Edit (7153.1)	No
VF6: All, External File	HF1: All (7161)		No
	HF2: Import/Export (7162)		No
VF7: Configure	HF1: Directory (7171)		No
	HF2: Unit ID Copy (7172)		No
	HF3: Group ID Copy (7173)		No

User Setup Menu

Menu (Page No.)				Default Recall
VF1: Source Patch	HF1: User Source Name (7211)			No
		Exp Usr Src Name (7116)		No
			File Edit (7116.1)	No
	HF2: Patch Table (7212)			No
		Patch Table Assign (7212.1)		No
		Imp Usr Src Name (7117)		No
			File Edit (7117.1)	No
		Effect 1-99 (7121)		No
			File Edit (7121.1)	No
		Snapshot (7131)		No
			File Edit (7131.1)	No
		Key Snapshot (7134)		No
			File Edit (7134.1)	No
		All (7161)		No

Engineering Setup Menu

Menu (Page No.)				Default Recall
VF1: System	HF1: Network Config (7311)			No
	HF3: Format (7313)			No
		Aspect (7313.1)		No
			Switcher Aspect (7313.2)	No
			DME Aspect (7313.3)	No
		Format Converter (7313.4)		No
	HF4: Start Up (7314)			No
	HF5: Initialize (7315)			No
	HF6: Install/Unit Config (7316)			No
		Detail Information (7316.1)		No
		License (7316.6)		No
			License Management (7316.7)	No
		Unit Config (7316.8)		No
		Texture Package (7316.9)		No
		Install (7316.10)		No
	HF7: Maintenance (7317)			No
		Setup Operation Lock (7317.1)		No
		File Load Lock (7317.2)		No
VF2: Panel	HF1: Config (7321)			No
		Key Trans Link (7321.2)		No
		External Bus Link (7321.3)		No
			Link Matrix Adjust (7321.4)	No
				Link Table Adjust (7321.5)	No
			Link Bus Adjust (7321.6)	No
		Region Button Assign (7321.7)		No
		Transition Module (7321.9)		No
		Trackball Module (7321.17)		No
		Util Bus/Key Inhibit (7321.18)		No
		Menu Panel (7321.19)		No
		Multi Function Module (7321.20)		No
			Mode Sel Assign (7321.21)	No
			Eff Edit Assign (7321.22)	No
			Macro Edit Assign (7321.23)	No
		TB Module DME Ch Inhibit (7321.27)		No
		Trackball User Setting (7321.31)		No

Menu (Page No.)				Default Recall
VF2: Panel	HF2: Xpt Assign (7322)			No
		Table Button Assign (7322.1)		No
			Main, V/K Pair Assign (7322.5)	No
			Src Name/Src Color (7322.6)	No
		Main, V/K Pair Assign (7322.5)		No
		Src Name/Src Color (7322.6)		No
			User Color Select (7322.12)	No
		Table Copy (7322.8)		No
		Name Export (7322.9)		No
		Side Flags Button Assign (7322.10)		No
		Mixer Xpt Assign (7322.11)		No
			Main, V/K Pair Assign (7322.5)	No
	HF3: Router Remote (7323)			No
		RTR Mode Setting (7323.1)		No
			Table Assign (7323.3)	No
			Level Button Assign (7323.4)	No
	HF4: Prefs/Utility (7324)			No
		Xpt Module Src/Reg Btn Assign (7324.2)		No
	HF5: Device Interface (7325)			No
		GPI Input (7325.1)		No
			H/L Set (7325.2)	No
		GPI Output (7325.3)		No
		Device Assign (7325.4)		No
		Serial Port Assign (7325.5)		No
			P-Bus Setting (7325.6)[a)]	No
			VTR Setting (7325.7)[a)]	No
			DDR VDCP Setting (7325.9)[a)]	No
			Extend VTR Setting (7325.10)[a)]	No
			Simple VDCP Setting (7325.11)[a)]	No
			Device Assign (7325.4)	No
		Tally/GPI Output Config (7325.12)		No
	HF6: Operation (7326)			No
		Effect Mode (7326.2)		No
		Flexi Pad Mode (7326.3)		No
		Custom Button (7326.4)		No
			Next Trans All (7326.11)	No
		Sensitivity (7326.5)		No
		Macro (7326.6)		No
		Button Tally (7326.9)		No
		Key/AUX/Function Assign (7326.13)		No
	HF7: Maintenance (7327)			No

Menu (Page No.)				Default Recall
VF3: Switcher	HF1: Config (7331)			No
		M/E Output Assign (7331.1)		No
		PGM Config (7331.2)		No
		K-PVW Config (7331.3)		No
		User1-8 Config (7331.4)		No
		DME Config (7331.6)		No
		Side Flags (7331.7)		No
			Side Flags (3213)	No
			Side Flags Button Assign (7322.10)	No
		Switching Timing (7331.8)		No
	HF2: Input (7332)			No
		CCR (7332.1)		No
		FC Adjust (7332.2)		No
			Format Converter (3121)	No
		FC Input Select (7332.3)		No
			Xpt Assign (7322)	No
	HF3: Output (7333)			No
		Output Assign (7333.1)		No
		Video Clip (7333.2)		No
		V Blank/Through (7333.3)		No
		Safe Title (7333.4)		No
		4:3 Crop (7333.5)		No
		FC Adjust (7333.6)		No
			Format Converter (3121)	No
		Multi Viewer (7333.9)		No
			Source/Output Assign (7333.10)	No
		FC Output Select (7333.11)		No
		Aux Mix (7333.12)		No
	HF4: Transition (7334)			No
		Preset Color Mix (7334.1)		No
		Transition Curve (7334.2)		No
	HF5: Key/Wipe/FM/CCR (7335)			No
		Show Key (7335.1)		No
		Key Auto Drop (7335.2)		No
		CCR (7335.3)		No
	HF6: Link (7336)			No
		Internal Bus Link (7336.1)		No
			Link Bus Select (7336.2)	No
			Link Table Select (7336.3)	No
		GPI Link (7336.4)		No
			GPI Link Adjust (7336.5)	No
		M/E Link (7336.6)		No
		Key Transition Link (7336.7)		No

Menu (Page No.)				Default Recall
VF3: Switcher	HF7: Device Interface (7337)			No
		Remote Assign (7337.1)		No
		GPI Input (7337.2)		No
			H/L Set (7337.3)	No
		GPI Output (7337.4)		No
		AUX Control (7337.5)		No
		DME SDI I/F (7337.7)		No
		Editor I/F (7337.8)		No
VF4: DME	HF1: Input (7341)			No
		TBC Center (7341.1)		No
	HF3: Output (7343)			No
		Monitor Output (7343.1)		No
	HF4: Device Interface (7344)			No
		DME1 GPI Input (7344.1)		No
			H/L Set (7344.2)	No
		DME2 GPI Input (7344.4)		No
			H/L Set (7344.5)	No
		DME2 GPI Output (7344.6)		No
VF5: DCU	HF1: Input Config (7351)			No
	HF2: GPI Input Assign (7352)			No
		H/L Set (7352.1)		No
		Device Interface (7325)		No
	HF3: Output Config (7353)			No
	HF4: GPI Output Assign (7354)			No
	HF5: Serial Port Assign (7355)			No
		P-Bus Setting (7355.1)[a)] VTR Setting (7355.2)[a)] DDR SD9P Setting (7355.3)[a)] DDR VDCP Setting (7355.4)[a)] Extended VTR Setting (7355.5)[a)] Simple VDCP Setting (7355.6)[a)]		No
		Device Assign (7325.4)		No

Menu (Page No.)			Default Recall
VF6: Router/Tally	HF1: Router (7361)		No
		External Box Assign (7361.1)	No
	HF2: Group Tally (7362)		No
	HF3: Wiring (7363)		No
		New (7363.1)	No
		Modify (7363.2)	No
	HF4: Tally Enable (7364)		No
		New (7364.1)	No
		Modify (7364.2)	No
	HF5: Tally Copy (7365)		No
		New (7365.1)	No
		Modify (7365.2)	No
	HF6: Parallel Tally (7366)		No
		Set (7366.1)	No
	HF7: Serial Tally (7367)		No
		Source Assign (7367.1)	No

a) Selecting [Port Setting] displays menus for the device type configured for the port.

Diagnostic Menu

Menu (Page No.)		Default Recall
VF1: Error Info	HF1: Error Status (7411)	No
	HF2: Error Log (7412)	No
VF3: System Info	HF1: LAN Status (7431)	No

Menus of Disabled Operations and Settings

Disabled Menus (MVS-6520/3000A)

The following menus display functions and items that are not supported by the MVS-6520/3000A. These are disabled, even if the item is selected or a value specified, and do not affect device operation.

Menu		Disabled operation/setting
Number	Path	
3111	Copy/Swap >Copy/Swap >M/E	M/E-2 selection
3112	Copy/Swap >Copy/Swap >Key	• M/E-2 Key1 to 8 selection • P/P DSK5 to 8 selection
3113	Copy/Swap >Copy/Swap >Wipe	• Selection of items related to M/E-2 • P/P DSK5 to 8 selection
3114	Copy/Swap >Copy/Swap >DME Wipe	• Selection of items related to M/E-2 • P/P DSK5 to 8 selection
3115	Copy/Swap >Copy/Swap >Matte	• Selection of items related to M/E-2 • Selection of items related to P/P DSK5 to 8

Menu		Disabled operation/setting
Number	Path	
3116	Copy/Swap >Copy/Swap >Color	• Selection of items related to M/E-2 • Selection of items related to P/P DSK5 to 8
3213	Misc >Enable >Side Flags	M/E-2 settings
3221	Misc >Safe Title	Output 17 to 32 settings
6113.1	Key Frame >Path >M/E-1	Key5 to 8 settings
6113.2	Key Frame >Path >M/E-2	All menu operations
6113.4	Key Frame >Path >P/P	DSK5 to 8 settings
6211.1	Effect >Master Timeline >Store >Edit	M/E-2 region settings
6221 to 6227	Effect >Effect 1-99	M/E-2 region selection and settings
6311.1	Snapshot >Master Snapshot >Store >Edit	M/E-2 region settings
6321 to 6327	Snapshot >Snapshot	M/E-2 region selection and settings
6332 to 6337	Snapshot >Wipe Snapshot	M/E-2 region selection and settings
6342 to 6347	Snapshot >DME Snapshot	M/E-2 region selection and settings
6351 to 6357	Snapshot >Key Snapshot	M/E-1 Key5 to 8, M/E-2 Key1 to 8, P/P Key5 to 8 selection and settings
6411.1	Shotbox >Register >Store/Recall >Edit	M/E-2 region settings
7121	File >Effect >Effect 1-99	M/E-2 region selection
7121.1	File >Effect >Effect 1-99 >File Edit	M/E-2 region selection
7131	File >Snapshot >Snapshot	M/E-2 region selection
7131.1	File >Snapshot >Snapshot >File Edit	M/E-2 region selection
7132	File >Snapshot >Wipe Snapshot	M/E-2 region selection
7132.1	File >Snapshot >Wipe Snapshot >File Edit	M/E-2 region selection
7133	File >Snapshot >DME Snapshot	M/E-2 region selection
7133.1	File >Snapshot >DME Snapshot >File Edit	M/E-2 region selection
7134	File >Snapshot >Key Snapshot	• M/E-2 region selection • P/P Key5 to 8 selection
7134.1	File >Snapshot >Key Snapshot >File Edit	• M/E-2 region selection • P/P Key5 to 8 selection
7313.2	Engineering Setup >System >Format >Aspect >Switcher Aspect	M/E-2 settings
7321	Engineering Setup >Panel >Config	[M/E2] selection
7321.2	Engineering Setup >Panel >Config >Key Trans Link	• M/E-2 settings • P/P DSK5 to 8 settings • [Key5] to [Key8] selection
7321.3	Engineering Setup >Panel >Config >External Bus Link	• Selection of items related to M/E-2 • Selection of items related to Key5 to 8
7321.6	Engineering Setup >Panel >Config >External Bus Link >Link Bus Adjust	• Selection of items related to M/E-2 • Selection of items related to Key5 to 8
7321.7	Engineering Setup >Panel >Config >Region Button Assign	M/E-2 selection
7321.9	Engineering Setup >Panel >Config >Transition Module	• KEY5 to KEY8, KEY1/5 to KEY4/8 selection • ADD, SHIFT selection

Menu		Disabled operation/setting
Number	Path	
7321.18	Engineering Setup >Panel >Config >Util Bus/Key Inhibit	• M/E-2 settings • [Key5] to [Key8] selection
7321.19	Engineering Setup >Panel >Config >Menu Panel	M/E-2 selection
7322	Engineering Setup >Panel >Xpt Assign	Setting of items related to M/E-2
7322.5	Engineering Setup >Panel >Xpt Assign >Main, V/K Pair Assign	Primary 33 to 48, M/E-2 Out1 to M/E-2 Out4 selection
7322.6	Engineering Setup >Panel >Xpt Assign >Src Name/Src Color	Primary 33 to 48, M/E-2 Out1 to M/E-2 Out4 settings
7325.1	Engineering Setup >Panel >Device Interface >GPI Input	• Primary 33 to 48 selection when Action is set to Aux Bus Xpt Override • [M/E-2] selection • Selection of the following items when Trigger Type is not set to Level in [M/E-1] (x=5 to 8): Keyx Cut, Keyx Auto Trans, Keyx SS ? Recall • Selection of the following items when Trigger Type is not set to Level in [P/P] (x=5 to 8): DSKx Cut, DSKx Auto Trans, DSKx SS ? Recall
7325.3	Engineering Setup >Panel >Device Interface >GPI Output	• [M/E-2] selection • Selection of the following items when Trigger Type is not set to Status in [M/E-1] (x=5 to 8): Keyx SS ? Recall • Selection of the following items when Trigger Type is set to Status in [M/E-1] (x=5 to 8): Keyx SS ? Recall, Keyx On • Selection of the following items when Trigger Type is not set to Status in [P/P] (x=5 to 8): DSKx SS ? Recall • Selection of the following items when Trigger Type is set to Status in [P/P] (x=5 to 8): DSKx SS ? Recall, DSKx On
7326.11	Engineering Setup >Panel >Operation >Custom Button >Next Trans All	Key5 to 8 selection
7326.13	Engineering Setup >Panel >Operation >Key/AUX/Function Assign	• M/E-2 settings • Key5 to 8 selection
7331	Engineering Setup >Switcher >Config	M/E-2 settings
7331.1	Engineering Setup >Switcher >Config >M/E Output Assign	M/E-2 settings
7331.2	Engineering Setup >Switcher >Config >PGM Config	• M/E-2 settings • [Key5] to [Key8] selection
7331.3	Engineering Setup >Switcher >Config >K-PVW Config	• M/E-2 settings • [Key5] to [Key8] selection
7331.6	Engineering Setup >Switcher >Config >DME Config	M/E-2 settings
7332	Engineering Setup >Switcher >Input	Primary 33 to 48 settings
7332.1	Engineering Setup >Switcher >Input >CCR	Primary 33 to 48 settings
7332.3	Engineering Setup >Switcher >Input >FC Input Select	Primary 33 to 48 selection
7333.1	Engineering Setup >Switcher >Output >Output Assign	• Output 17 to 32 settings • M/E-2 Out1 to M/E-2 Out4 selection
7333.2	Engineering Setup >Switcher >Output >Video Clip	Output 17 to 32 settings
7333.3	Engineering Setup >Switcher >Output >V Blank/Through	Output 17 to 32 settings
7333.4	Engineering Setup >Switcher >Output >Safe Title	Output 17 to 32 settings

Menu		Disabled operation/setting
Number	Path	
7333.5	Engineering Setup >Switcher >Output >4:3 Crop	Output 17 to 32 settings
7333.10	Engineering Setup >Switcher >Output >Multi Viewer >Source/ Output Assign	• When setting the [Src No] parameter: M/E-2 signal, Primary 33 to 48 signal selection • When setting the [Output No] parameter: Output 17 to 32 selection
7333.11	Engineering Setup >Switcher >Output >FC Output Select	Output 17 to 32 selection
7333.12	Engineering Setup >Switcher >Output >Aux Mix	Output 17 to 24 settings
7334	Engineering Setup >Switcher >Transition	M/E-2 settings
7334.1	Engineering Setup >Switcher >Transition >Preset Color Mix	• M/E-2 settings • [Key5] to [Key8] selection
7334.2	Engineering Setup >Switcher >Transition >Transition Curve	M/E-2 settings
7335	Engineering Setup >Switcher >Key/ Wipe/FM/CCR	M/E-2 settings
7335.1	Engineering Setup >Switcher >Key/ Wipe/FM/CCR >Show Key	[M/E2 PVW] settings
7336.2	Engineering Setup >Switcher >Link >Internal Bus Link >Link Bus Select	• Selection of items related to M/E-2 • Selection of items related to P/P Key5 to 8
7336.5	Engineering Setup >Switcher >Link >GPI Link >GPI Link Adjust	• M/E-2 Auto Trans, M/E-2 Cut selection on video/button display • M/E-2 bus settings on bus display
7336.6	Engineering Setup >Switcher >Link >M/E Link	M/E-2 selection
7336.7	Engineering Setup >Switcher >Link >Key Transition Link	• Selection of items related to M/E-2 • Selection of items related to P/P Key5 to 8
7337.2	Engineering Setup >Switcher >Device Interface >GPI Input	• [M/E-2] selection • Selection of following items on [P/P] (x=5 to 8): DSKx Cut, DSKx Auto Trans, DSKx SS ? Recall
7337.4	Engineering Setup >Switcher >Device Interface >GPI Output	• [M/E-2] selection • Selection of following items when Trigger Type is not set to Status in [P/P] (x=5 to 8): DSKx Cut, DSKx Auto Trans, DSKx SS ? Recall • Selection of following items when Trigger Type is set to Status in [P/P] (x=5 to 8): DSKx On

Disabled Menus (MVS-3000)

The following menus display functions and items that are not supported by the MVS-3000. These are disabled, even if the item is selected or a value specified, and do not affect device operation.

Menu		Disabled operation/setting
Number	Path	
1115	M/E-1 >Key1 >Processed Key/ Resizer[a)b)]	[DME1], [DME2], [Override] settings
1115.1	M/E-1 >Key1 >Processed Key/ Resizer >Monitor[a)b)]	All menu operations
1116.4	M/E-1 >Key1 >Transition >DME Wipe Adjust >1ch Pattern Select[a)]	Selection of unsupported patterns[c)]

Menu		Disabled operation/setting
Number	Path	
1116.5	M/E-1 >Key1 >Transition >DME Wipe Adjust >2ch Pattern Select[a)]	All menu operations
1161	M/E-1 >DME Wipe >1ch	Selection of unsupported patterns[c)]
1162	M/E-1 >DME Wipe >2ch	All menu operations
1177	M/E-1 >Misc >Snapshot	[DME 2nd Video] selection
1415	PGM/PST >DSK1 >Processed Key/ Resizer[a)b)]	[DME1], [DME2], [Override] settings
1415.1	PGM/PST >DSK1 >Processed Key/ Resizer >Monitor[a)b)]	All menu operations
1416.4	PGM/PST >DSK1 >Transition >DME Wipe Adjust >1ch Pattern Select[a)]	Selection of unsupported patterns[c)]
1416.5	PGM/PST >DSK1 >Transition >DME Wipe Adjust >2ch Pattern Select[a)]	All menu operations
1461	PGM/PST >DME Wipe >1ch	Selection of unsupported patterns[c)]
1462	PGM/PST >DME Wipe >2ch	All menu operations
1477	PGM/PST >Misc >Snapshot	[DME 2nd Video] selection
3111	Copy/Swap >Copy/Swap >M/E	M/E-2 selection
3112	Copy/Swap >Copy/Swap >Key	• M/E-2 Key1 to 8 selection • P/P DSK5 to 8 selection
3113	Copy/Swap >Copy/Swap >Wipe	• Selection of items related to M/E-2 • P/P DSK5 to 8 selection
3114	Copy/Swap >Copy/Swap >DME Wipe	• Selection of items related to M/E-2 • P/P DSK5 to 8 selection
3115	Copy/Swap >Copy/Swap >Matte	• Selection of items related to M/E-2 • Selection of items related to P/P DSK5 to 8
3116	Copy/Swap >Copy/Swap >Color	• Selection of items related to M/E-2 • Selection of items related to P/P DSK5 to 8 • Selection of items related to DME Ch1 or DME Ch2
3117	Copy/Swap >Copy/Swap >DME	DME Ch1, DME Ch2 selection
3211	Misc >Enable >Port Enable	[DME Override], [On Air Protect] settings
3213	Misc >Enable >Side Flags	M/E-2 settings
3221	Misc >Safe Title	Output 13 to 32 settings
6113.1	Key Frame >Path >M/E-1	Key5 to 8 settings
6113.2	Key Frame >Path >M/E-2	All menu operations
6113.4	Key Frame >Path >P/P	DSK5 to 8 settings
6114	Key Frame >DME User PGM	All menu operations
6211.1	Effect >Master Timeline >Store >Edit	M/E-2, DME1, DME2 region settings
6221 to 6227	Effect >Effect 1-99	M/E-2, DME1, DME2 region selection and settings
6231 to 6237	Effect >User DME Wipe Effect 101-199	All menu operations
6241 to 6247	Effect >User DME Wipe Effect 201-299	All menu operations
6311.1	Snapshot >Master Snapshot >Store >Edit	M/E-2, DME1, DME2 region settings
6321 to 6327	Snapshot >Snapshot	M/E-2, DME1, DME2 region selection and settings
6332 to 6337	Snapshot >Wipe Snapshot	M/E-2 region selection and settings

Menu		Disabled operation/setting
Number	Path	
6342 to 6347	Snapshot >DME Snapshot	M/E-2 region selection and settings
6351 to 6357	Snapshot >Key Snapshot	M/E-1 Key5 to 8, M/E-2 Key1 to 8, P/P Key5 to 8 selection and settings
6411.1	Shotbox >Register >Store/Recall >Edit	M/E-2, DME1, DME2 region settings
7121	File >Effect >Effect 1-99	M/E-2, DME1, DME2 region selection
7121.1	File >Effect >Effect 1-99 >File Edit	M/E-2, DME1, DME2 region selection
7122	File >Effect >User DME Wipe Effect 101-199	All menu operations
7122.1	File >Effect >User DME Wipe Effect 101-199 >File Edit	All menu operations
7123	File >Effect >User DME Wipe Effect 201-299	All menu operations
7123.1	File >Effect >User DME Wipe Effect 201-299 >File Edit	All menu operations
7131	File >Snapshot >Snapshot	M/E-2, DME1, DME2 region selection
7131.1	File >Snapshot >Snapshot >File Edit	M/E-2, DME1, DME2 region selection
7132	File >Snapshot >Wipe Snapshot	M/E-2 region selection
7132.1	File >Snapshot >Wipe Snapshot >File Edit	M/E-2 region selection
7133	File >Snapshot >DME Snapshot	M/E-2 region selection
7133.1	File >Snapshot >DME Snapshot >File Edit	M/E-2 region selection
7134	File >Snapshot >Key Snapshot	• M/E-2 region selection • P/P Key5 to 8 selection
7134.1	File >Snapshot >Key Snapshot >File Edit	• M/E-2 region selection • P/P Key5 to 8 selection
7313.2	Engineering Setup >System >Format >Aspect >Switcher Aspect	M/E-2 settings
7321	Engineering Setup >Panel >Config	[M/E2] selection
7321.2	Engineering Setup >Panel >Config >Key Trans Link	• M/E-2 settings • P/P DSK5 to 8 settings • [Key5] to [Key8] selection
7321.3	Engineering Setup >Panel >Config >External Bus Link	• Selection of items related to M/E-2 • Selection of items related to Key5 to 8
7321.6	Engineering Setup >Panel >Config >External Bus Link >Link Bus Adjust	• Selection of items related to M/E-2 • Selection of items related to Key5 to 8
7321.7	Engineering Setup >Panel >Config >Region Button Assign	M/E-2, DME1, DME2 selection
7321.9	Engineering Setup >Panel >Config >Transition Module	• KEY5 to KEY8, KEY1/5 to KEY4/8 selection • ADD, SHIFT selection
7321.18	Engineering Setup >Panel >Config >Util Bus/Key Inhibit	• M/E-2 settings • [Key5] to [Key8] selection
7321.19	Engineering Setup >Panel >Config >Menu Panel	M/E-2 selection
7321.27	Engineering Setup >Panel >Config >TB Module DME Ch Inhibit	DME1 or DME2 settings
7322	Engineering Setup >Panel >Xpt Assign	Setting of items related to M/E-2, DME1, DME2

Menu		Disabled operation/setting
Number	Path	
7322.5	Engineering Setup >Panel >Xpt Assign >Main, V/K Pair Assign	Primary 33 to 48, DME Monitor Video, DME Monitor Key, M/E-2 Out1 to M/E-2 Out4 selection
7322.6	Engineering Setup >Panel >Xpt Assign >Src Name/Src Color	Primary 33 to 48, DME Monitor Video, DME Monitor Key, M/E-2 Out1 to M/E-2 Out4 settings
7324	Engineering Setup >Panel >Prefs/ Utility	Selection of following utility commands: DME Monitor Video ST, DME Monitor Key ST, DME Override
7324.2	Engineering Setup >Panel >Prefs/ Utility >Xpt Module Src/Reg Btn Assign	Selection of following utility commands: DME Monitor Video ST, DME Monitor Key ST, DME Override
7325.1	Engineering Setup >Panel >Device Interface >GPI Input	• Primary 33 to 48 selection when Action is set to Aux Bus Xpt Override • [M/E-2] selection • Selection of the following items when Trigger Type is not set to Level in [M/E-1] (x=5 to 8): Keyx Cut, Keyx Auto Trans, Keyx SS ? Recall • Selection of the following items when Trigger Type is not set to Level in [P/P] (x=5 to 8): DSKx Cut, DSKx Auto Trans, DSKx SS ? Recall
7325.3	Engineering Setup >Panel >Device Interface >GPI Output	• [M/E-2] selection • Selection of the following items when Trigger Type is not set to Status in [M/E-1] (x=5 to 8): Keyx SS ? Recall • Selection of the following items when Trigger Type is set to Status in [M/E-1] (x=5 to 8): Keyx SS ? Recall, Keyx On • Selection of the following items when Trigger Type is not set to Status in [P/P] (x=5 to 8): DSKx SS ? Recall • Selection of the following items when Trigger Type is set to Status in [P/P] (x=5 to 8): DSKx SS ? Recall, DSKx On
7326.11	Engineering Setup >Panel >Operation >Custom Button >Next Trans All	Key5 to 8 selection
7326.13	Engineering Setup >Panel >Operation >Key/AUX/Function Assign	• M/E-2 settings • Key5 to 8, EXT DME, DME1 V/K, DME2 V/K selection
7331	Engineering Setup >Switcher >Config	M/E-2 settings
7331.1	Engineering Setup >Switcher >Config >M/E Output Assign	M/E-2 settings
7331.2	Engineering Setup >Switcher >Config >PGM Config	• M/E-2 settings • [Key5] to [Key8] selection
7331.3	Engineering Setup >Switcher >Config >K-PVW Config	• M/E-2 settings • [Key5] to [Key8] selection
7331.6	Engineering Setup >Switcher >Config >DME Config	All menu operations
7332	Engineering Setup >Switcher >Input	Primary 33 to 48 settings
7332.1	Engineering Setup >Switcher >Input >CCR	Primary 33 to 48 settings
7332.3	Engineering Setup >Switcher >Input >FC Input Select	Primary 33 to 48 selection
7333.1	Engineering Setup >Switcher >Output >Output Assign	• Output 17 to 32 settings • M/E-2 Out1 to M/E-2 Out4 selection • DME Monitor 1, DME Monitor 2 selection
7333.2	Engineering Setup >Switcher >Output >Video Clip	Output 13 to 32 settings
7333.3	Engineering Setup >Switcher >Output >V Blank/Through	Output 13 to 32 settings
7333.4	Engineering Setup >Switcher >Output >Safe Title	Output 13 to 32 settings

Menu		Disabled operation/setting
Number	Path	
7333.5	Engineering Setup >Switcher >Output >4:3 Crop	Output 13 to 32 settings
7333.10	Engineering Setup >Switcher >Output >Multi Viewer >Source/ Output Assign	• When setting the [Src No] parameter: DME Monitor Video, DME Monitor Key, M/E-2, Primary 33 to 48 signal selection • When setting the [Output No] parameter: Output 13 to 32 selection
7333.11	Engineering Setup >Switcher >Output >FC Output Select	Output 13 to 32 selection
7333.12	Engineering Setup >Switcher >Output >Aux Mix	Output 13 to 24 settings
7334	Engineering Setup >Switcher >Transition	M/E-2 settings
7334.1	Engineering Setup >Switcher >Transition >Preset Color Mix	• M/E-2 settings • [Key5] to [Key8] selection
7334.2	Engineering Setup >Switcher >Transition >Transition Curve	M/E-2 settings
7335	Engineering Setup >Switcher >Key/ Wipe/FM/CCR	M/E-2 settings
7335.1	Engineering Setup >Switcher >Key/ Wipe/FM/CCR >Show Key	[M/E2 PVW] settings
7336.2	Engineering Setup >Switcher >Link >Internal Bus Link >Link Bus Select	• Selection of items related to M/E-2 • Selection of items related to P/P Key5 to 8
7336.5	Engineering Setup >Switcher >Link >GPI Link >GPI Link Adjust	• M/E-2 Auto Trans, M/E-2 Cut selection on video/button display • M/E-2 bus settings on bus display
7336.6	Engineering Setup >Switcher >Link >M/E Link	M/E-2 selection
7336.7	Engineering Setup >Switcher >Link >Key Transition Link	• Selection of items related to M/E-2 • Selection of items related to P/P Key5 to 8
7337.2	Engineering Setup >Switcher >Device Interface >GPI Input	• [M/E-2] selection • Selection of following items on [P/P] (x=5 to 8): DSKx Cut, DSKx Auto Trans, DSKx SS ? Recall
7337.4	Engineering Setup >Switcher >Device Interface >GPI Output	• [M/E-2] selection • Selection of following items when Trigger Type is not set to Status in [P/P] (x=5 to 8): DSKx Cut, DSKx Auto Trans, DSKx SS ? Recall • Selection of following items when Trigger Type is set to Status in [P/P] (x=5 to 8): DSKx On
7344.1	Engineering Setup >DME >Device Interface >DME1 GPI Input	All menu operations

a) The same conditions apply to the Key2 to Key4 and DSK2 to DSK4 menus.
b) For Key3, Key4, DSK3 and DSK4, “Processed Key” is displayed instead of “Processed Key/Resizer.”
c) For details about patterns that can be selected, ☞ *“Types of DME Wipe Pattern” (p. 111).*

8-Keyer Operation

The key operation description in this User’s Guide is mainly geared to 4-keyer operation.
Using the MVS-6530 (3M/E processor), the PGM/PST bank can be operated using eight keyers (DSK1 to DSK8). The operations required for eight keyers are described below.

8-keyer operation list

Type	Sections used	Operation	Refer to
Key signal selection	Cross-point control block	Select DSK5 to DSK8 signals in the 2nd row.	*p. 413*
Transitions	Transition control block	Select DSK1 to DSK8 using the next transition selection buttons.	*p. 413*
	Menu	Set the DSK1 to DSK8 key priority.	*p. 414*

Type	Sections used	Operation	Refer to
Independent key transition	Transition control block	Insert/delete DSK1 to DSK8 using independent key transitions.	*p. 414*
	Flexi Pad	Set DSK1 to DSK8 independent key transitions.	*p. 415*
Key snapshots	Flexi Pad	Save/recall DSK1 to DSK8 key snapshots.	*p. 415*
Key adjustments	Flexi Pad	Select DSK5 to DSK8 in the Flexi Pad.	*p. 416*
	Menu	Select DSK5 to DSK8 using the menu VF buttons.	*p. 416*
Key wipes	Device control block	Select DSK5 to DSK8 in the device control block.	*p. 416*
	Menu	Select to set key 1 to 4 or key 1 to 8 as the key wipe position adjustment keys.	*p. 416*
Resizer	Device control block	Select key 5 or key 6 resizer on the device control block.	*p. 417*

Notes

The transition control block on the ICP-3000/3016 does not have buttons for inserting and deleting DSK5 to DSK8 independent key transitions. You can insert and delete DSK5 to DSK8 using the [KEY ON] and [AUTO TRNS] buttons on the Flexi Pad when in key snapshot mode.

Selecting DSK5 to DSK8 Signals in the 2nd Row of the Cross-Point Control Block

To select the DSK5 to DSK8 signals using 2nd row cross-point buttons, it is necessary to assign the keyer delegation buttons to the 1st row beforehand.
You assign them in the same way as key 1 to key 4 in the Engineering Setup >Panel >Operation >Key/AUX/ Function Assign menu (7326.13).

For details, ☞ "Assigning a Bus or Function to 1st Row Buttons" (p. 340).

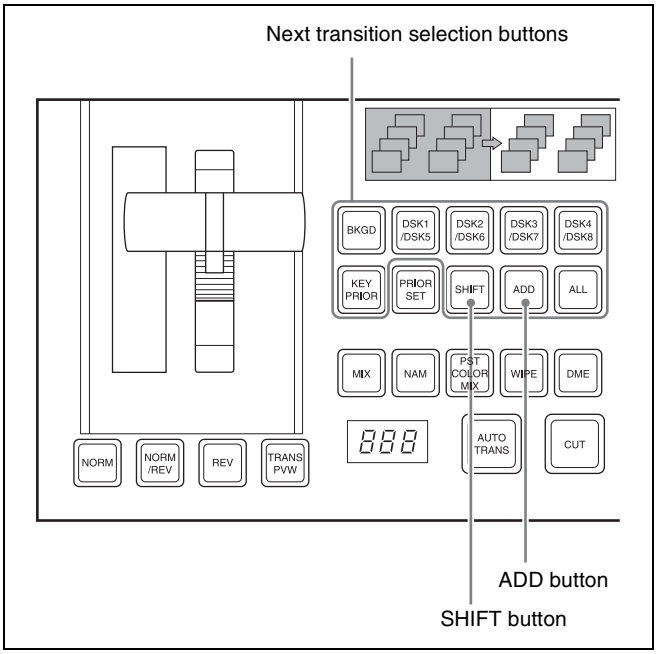
1 In the 1st row, press the button assigned to one of DSK5 to DSK8.

2 In the 2nd row, select the desired signal.

Selecting DSK1 to DSK8 using the Next Transition Selection Buttons

In order to select DSK5 to DSK8 using the next transition buttons, it is first necessary to assign the buttons required for operation in the Engineering Setup >Panel >Transition Module menu (7321.9).

For details, ☞ "Setting Transition Control Block Button Assignments" (p. 327).



8-keyer transition control block (PGM/PST bank)

The following describes how to select DSK1 and DSK5 as an example.

To select DSK1

With the [SHIFT] button off, press the [DSK1/DSK5] button.

To select DSK5

Press [SHIFT], turning it on, then press the [DSK1/DSK5] button.

To select DSK1 and DSK5 simultaneously

1 With the [SHIFT] button off, press the [DSK1/DSK5] button.

DSK1 is selected.

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

3 Press and hold the [ADD] button, then press the [DSK1/DSK5] button.

DSK1 and DSK5 are both selected.

Number of DME wipes that can be used simultaneously

For the PGM/PST bank on the MVS-6530 (3M/E processor), you can use DME wipes in nine locations, including eight independent key transitions, but the conditions under which you can use DME wipes simultaneously are the same as for the MVS-6520/3000A (2M/E processor).

Setting the DSK1 to DSK8 Key Priority

In an 8-keyer PGM/PST bank, you can set the priority independently for two groups (DSK1 to DSK4, and DSK5 to DSK8).

Notes

You cannot set priority for a combination of various keys. For example, it is not possible to set a priority sequence of DSK1, DSK5, and DSK2.

1 Open the PGM/PST >Misc >Key Priority menu (1473).

2 In <Higher Group>, press the button for the group you want to be higher.

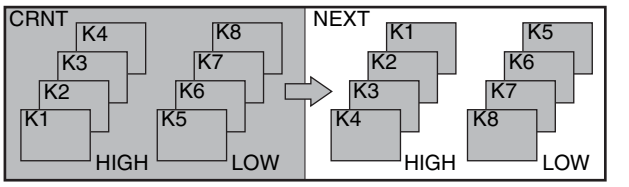
The button you pressed lights green, and this becomes the reference group.

3 Set the reference group priority.

4 In <Lower Group>, select the other group.

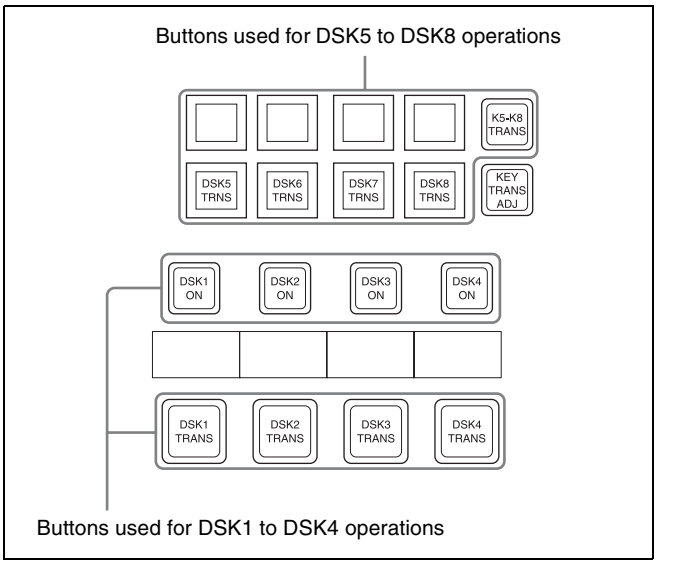
5 Set the priority for the other group.

The key priority appears in the transition control block as shown below.



8-keyer key priority display

Inserting/Deleting DSK1 to DSK8 Using Independent Key Transitions



8-keyer transition control block
(ICP-6520/6530 PGM/PST bank)

Inserting/deleting DSK1 to DSK4

Operate in the same way as for an M/E bank.

To insert/delete DSK1 to DSK4 using cuts

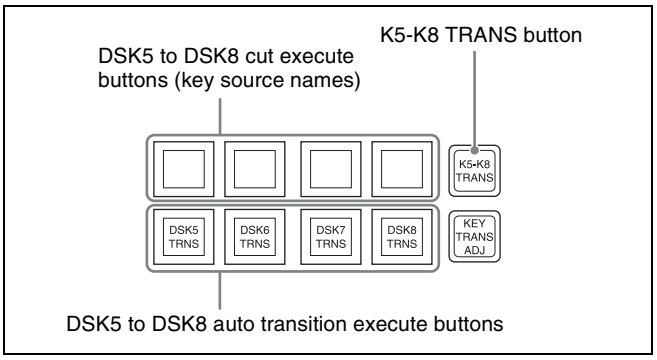
Press one of the [DSK1 ON] to [DSK4 ON] buttons.

To insert/delete DSK1 to DSK4 using auto transitions

Press one of the [DSK1 TRANS] to [DSK4 TRANS] buttons.

Inserting/deleting DSK5 to DSK8

Press the [K5-K8 TRANS] button, turning it on. The display changes as shown below.



To insert/delete DSK5 to DSK8 using cuts

Press one of the source name buttons in the top row.

To insert/delete DSK5 to DSK8 using auto transitions

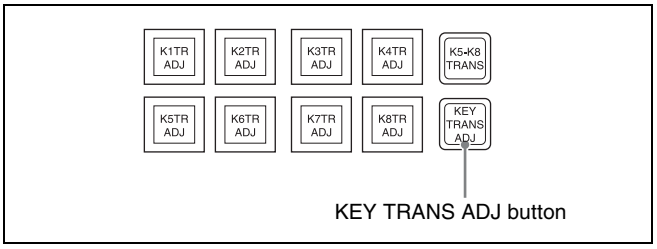
Press one of the [DSK5 TRNS] to [DSK8 TRNS] buttons in the bottom row.

Independent Key Transition Settings and Key Snapshot Operations in the Flexi Pad

Switching the Flexi Pad operating mode

1 On the transition control block, press the [KEY TRANS ADJ] button, turning it on.

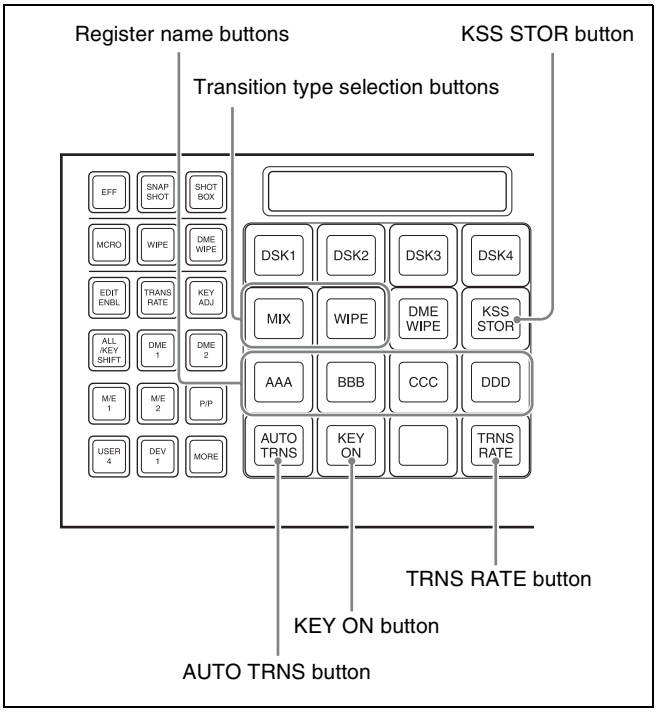
The button display changes as shown below.



8-keyer transition control block
(ICP-6520/6530 PGM/PST bank)

2 Press one of the [K1TR ADJ] to [K8TR ADJ] buttons.

The memory recall section on the Flexi Pad switches to independent key transition operation mode for the selected key.
You can control independent key transitions and key snapshots using the buttons in the memory recall section.



Flexi Pad

Selecting a key

For details, ☞ *"Selecting DSK5 to DSK8 in the Flexi Pad" (p. 416)*.

Setting the transition type

Press the transition type selection button corresponding to the desired type.

Setting the transition rate

Press the [TRNS RATE] button and enter the transition rate in the same way as for keys 1 to 4 *(☞ p. 77)*.

Inserting and deleting keys

Press the [KEY ON] button.
To insert/delete using an auto transition, press the [AUTO TRNS] button.

Saving/recalling key snapshots

To save a key snapshot, press and hold down the [KSS STOR] button, and press a register name button.
To recall a key snapshot, press the register name button for the register you want to recall.

Buttons for accessing menus using double-press

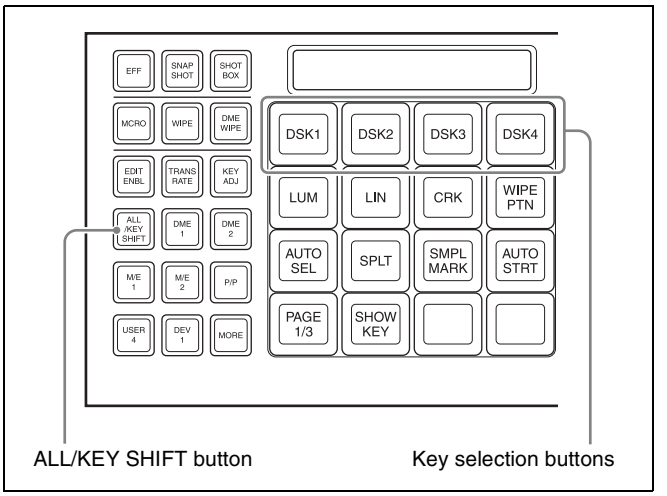
You can recall the related menu pages by double-pressing the following buttons in the Flexi Pad.

DSK1 to DSK8: Corresponding key menu >XX (where "XX" is the last recalled page)
WIPE: Corresponding key menu >Transition >Wipe Adjust >Pattern Select
DME WIPE: Corresponding key menu >Transition >DME Wipe Adjust >1ch Pattern Select
KSS STOR: Snapshot >Key Snapshot >XX (where "XX" is the last recalled page)

Selecting DSK5 to DSK8 in the Flexi Pad

When the Flexi Pad is assigned to key operations, the button display changes as shown in the following figure.

Example: Key adjust mode button display



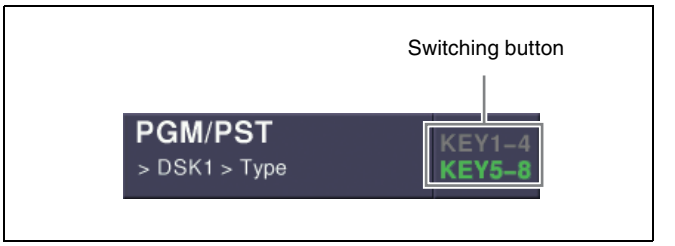
Press the [ALL/KEY SHIFT] region selection button. When the button is pressed, the indicator on the key selection buttons switches between [DSK1] to [DSK4] and [DSK5] to [DSK8].

To insert/delete DSK5 to DSK8

Select the target key in key snapshot mode and press the [KEY ON] button in the memory recall section.
To insert or delete using auto transitions, press the [AUTO TRNS] button.

Selecting DSK5 to DSK8 using Menu VF Buttons

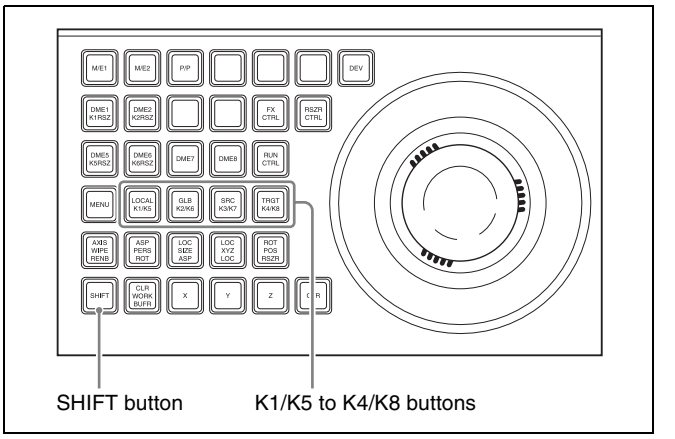
In an 8-keyer PGM/PST bank, you change the indicator in the menu VF buttons to select DSK1 to DSK8.
Press the [KEY5-8] menu title button, turning it on.



[DSK5] to [DSK8] is displayed in the VF buttons, allowing you to select a key.

Selecting DSK5 to DSK8 in the Device Control Block

In an 8-keyer PGM/PST bank, you can select the corresponding key (DSK1 to DSK8) when set to key wipe positioner selection mode.



The operation buttons ([K1/K5] to [K4/K8]) in the device control block can be used to select DSK5 to DSK8 by holding down the [SHIFT] button.
For example, to select DSK5, press and hold the [SHIFT] button and press the [K1/K5] button.

Selecting the Range of the Key Wipe Position Adjustment

1 Open the Engineering Setup >Panel >Config >Trackball User Setting menu (7321.31).

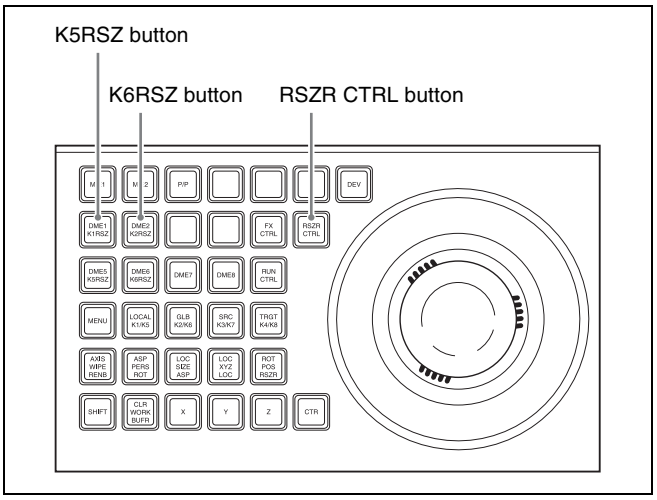
2 In the <Wipe Pos Key Select Module> group, select one of the following.

KEY1-4: Sets key 1 to key 4.
KEY1-8: Sets key 1 to key 8.

Notes

If [KEY1-8] is selected, you can select multiple keys and adjust the key wipe position.

Selecting Key 5 or Key 6 Resizer in the Device Control Block



1 Press the [RSZR CTRL], turning it on.

2 Press either the [K5RSZ] or [K6RSZ] button to select the key.

Keyers that support resizer/key edge

In an 8-keyer PGM/PST bank, the following four keyers support the resizer and key edge functions.
DSK1, DSK2, DSK5, and DSK6

Menu Access by Pressing a Button Twice

For relevant buttons other than the top menu selection buttons, pressing twice in rapid succession directly recalls a related menu page. The following table lists these buttons of each control block, together with the menus they recall. XX indicates the last recalled page in each menu.

Notes

Some buttons may be disabled and menus may not appear, depending on the system configuration.

Cross-point control block

Button	Double-press Menu	Refer to
FM1 to 8 signals assigned buttons	Frame Memory >Still >Recall	*p. 131*
Color Bkgd1 signal assigned button	Color Bkgd >Color Bkgd1	*p. 146*
Color Bkgd2 signal assigned button	Color Bkgd >Color Bkgd2	
FMS1	Frame Memory >Still >Recall	*p. 131*
FMS2	Frame Memory >Still >Recall	

Transition control block

Button	Double-press Menu	Refer to
KEY1 (DSK1)	• M/E-1 >Key1 >XX • PGM/PST >DSK1 >XX	*p. 82*
KEY2 (DSK2)	• M/E-1 >Key2 >XX • PGM/PST >DSK2 >XX	
KEY3 (DSK3)	• M/E-1 >Key3 >XX • PGM/PST >DSK3 >XX	
KEY4 (DSK4)	• M/E-1 >Key4 >XX • PGM/PST >DSK4 >XX	
WIPE	M/E-1, PGM/PST >Wipe >Main Pattern	*p. 101*
DME	M/E-1, PGM/PST >DME Wipe >XX	*p. 115*
SUPER MIX	M/E-1, PGM/PST >Misc >Transition	*p. 67*

Transition control block

Button	Double-press Menu	Refer to
PST COLOR MIX	M/E-1, PGM/PST >Misc >Transition	*p. 67*
FM1&2 CLIP, FM3&4 CLIP, FM5&6 CLIP, FM7&8 CLIP	M/E-1, PGM/PST >Misc >Clip Transition	*p. 139*
PRIOR SET	M/E-1, PGM/PST >Misc >Key Priority	*p. 66*
KEY PRIOR	M/E-1, PGM/PST >Misc >Next Key Priority	*p. 66*
WIPE (Independent key transition type selection buttons)	• M/E-1 >Key1, 2, 3, 4 >Transition >Wipe Adjust >Pattern Select • PGM/PST >DSK1, 2, 3, 4 >Transition >Wipe Adjust >Pattern Select	*p. 105*
DME (Independent key transition type selection buttons)	• M/E-1 >Key1, 2, 3, 4 >Transition >DME Wipe Adjust >1ch Pattern Select • PGM/PST >DSK1, 2, 3, 4 >Transition >DME Wipe Adjust >1ch Pattern Select	*p. 119*
K-SS STORE	Snapshot >Key Snapshot >XX	*p. 271*

Device control block

Button	Double-press Menu	Refer to
DME1, DME2, DME5 to DME8[a)]	DME >XX	*p. 173*
DEV1 to DEV12 assigned buttons	• Device >DDR/VTR >Cueup & Play[b)] • Device >DDR/VTR >Timeline[c)]	*p. 232* *p. 236*
FM1CLIP to FM8CLIP assigned buttons	Frame Memory >Clip >Recall	*p. 135*
K1RSZ, K2RSZ[d)]	• M/E-1 >Key1, 2 >Processed Key/Resizer • P/P >DSK1, 2 >Processed Key/Resizer	*p. 95*

a) When the three-dimensional transformation operation mode is enabled.
b) When the [MENU] button is Off.
c) When the [MENU] button is On.
d) When the resizer operation mode is enabled.

Flexi Pad

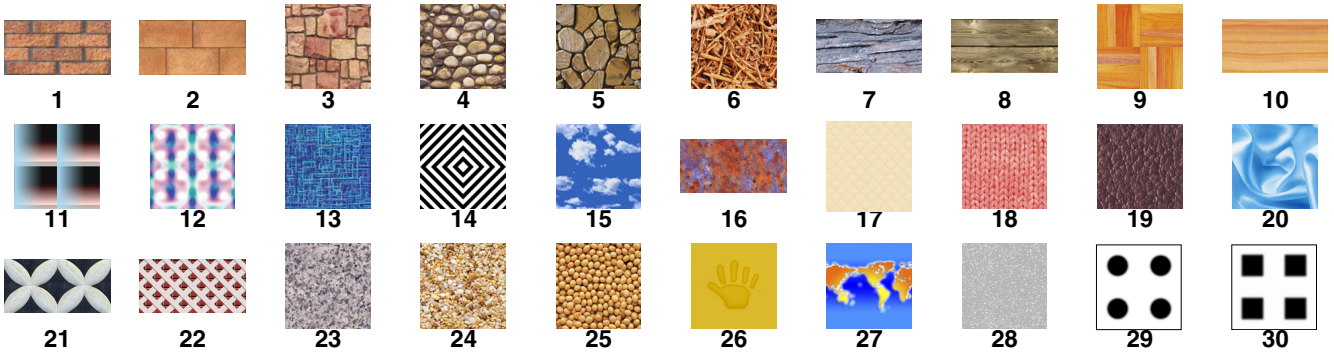
Button	Double-press Menu	Refer to
WIPE	M/E-1, PGM/PST >Wipe >Main Pattern	*p. 101*
DME WIPE	M/E-1, PGM/PST >DME Wipe >XX	*p. 115*
SNAPSHOT	• Snapshot >Master Snapshot >Store[a)] • Snapshot >Snapshot >XX[b)]	*p. 271*
EFF	• Effect >Master Timeline >Store[a)] • Effect >Effect 1-99 >XX[b)]	*p. 262* *p. 263*
SHOTBOX	Shotbox >Register >Store/Recall	*p. 277*
MCRO	Macro >Register >XX	*p. 287*
TRANS RATE	Misc >Transition >Key/ME/FTB	*p. 150*
KEY SS	Snapshot >Key Snapshot >XX	*p. 271*
STOR[c)]	Key Frame >Region Select	*p. 249*
RCLL[c)]	Key Frame >Region Select	*p. 249*

Button		Double-press Menu	Refer to
KEY ADJ	KEY1	• M/E-1 >Key1 >XX • PGM/PST >DSK1 >XX	*p. 82*
	KEY2	• M/E-1 >Key2 >XX • PGM/PST >DSK2 >XX	
	KEY3	• M/E-1 >Key3 >XX • PGM/PST >DSK3 >XX	
	KEY4	• M/E-1 >Key4 >XX • PGM/PST >DSK4 >XX	
	LUM LIN WIPE PTN	• M/E-1 >Key1, 2, 3, 4 >Type • PGM/PST >DSK1, 2, 3, 4 >Type	*p. 82*
	CRK	• M/E-1 >Key1, 2, 3, 4 >Type >Chroma Adjust • PGM/PST >DSK1, 2, 3, 4 >Type >Chroma Adjust	*p. 84*
KEY SS	KEY1	• M/E-1 >Key1 >XX • PGM/PST >DSK1 >XX	*p. 82*
	KEY2	• M/E-1 >Key2 >XX • PGM/PST >DSK2 >XX	
	KEY3	• M/E-1 >Key3 >XX • PGM/PST >DSK3 >XX	
	KEY4	• M/E-1 >Key4 >XX • PGM/PST >DSK4 >XX	

a) When the [MSTR] button is On.
b) When the [MSTR] button is Off
c) When the [SNAPSHOT] button is On.

Spotlighting

Texture Patterns



Material provided by Digital Archive Japan, INC.

Shape Patterns

Functional Differences with DME Models

Yes: Can be used No: Cannot be used

Function	Menu No.	MVE-8000A	MVE-9000	MKS-6570	Refer to
Selection of signal to insert in the border	4111	Single color only	Flat Color Ext Video Mix Color	Single color only	*p. 173*
Key Border	4113	No	Cannot be turned on when Glow is on.	No	*p. 175*
Art Edge	4114	No	Yes	No	*p. 175*
Flex/Drop Shadow	4115	No	Flex Shadow	Drop Shadow Cannot be turned on when Trail, Motion Decay, and Keyframe Strobe are simultaneously on.	*p. 178*, *p. 181*
Wipe Crop	4116	No	Yes	No	*p. 182*
Color Mix	4117	No	Yes	No	*p. 183*
Defocus/Blur	4121	Cannot be turned on when Glow is on.	Yes	Cannot be turned on when Glow is on.	*p. 184*, *p. 185*
Mask	4127	Yes Effect groups 1 and 2 cannot be selected at the same time. Pattern 304 (Round Corner) is not available.	Yes	Yes Effect groups 1 and 2 cannot be selected at the same time. Pattern 304 (Round Corner) is not available.	*p. 189*
Nonlinear effects	4141	Yes	Yes	DME channel 2 not available in HD.	*p. 190*
Adjustment of Lighting [Total Ambient] (overall image brightness)	4151	No	Yes	No	*p. 202*
Setting the bar mode of the highlight area	4151	No	Yes	No	*p. 204*
Adjustment of light area [Bar Diffuse Color] (color of diffuse light area)	4151	No	Yes	No	*p. 204*
Trail	4152	Cannot be turned on when Motion Decay and Keyframe Strobe are simultaneously on.	Cannot be turned on when Motion decay, Keyframe Strobe, and Wind are simultaneously on.	Cannot be turned on when Motion decay, Keyframe Strobe, and Drop Shadow are simultaneously on.	*p. 204*
Selection of signal to insert in the trail afterimage portion	4152	Freeze Video Flat Color Hue Rotate	Without limitation	Freeze Video Flat Color Hue Rotate	*p. 205*
Combine process for Trail	4152	No	Yes	No	*p. 205*
Defocus function for Trail	4152	No	Yes	No	*p. 205*

Function	Menu No.	MVE-8000A	MVE-9000	MKS-6570	Refer to
Motion Decay	4153	Cannot be turned on when Trail and Keyframe Strobe are simultaneously on.	Cannot be turned on when Trail, Keyframe Strobe, and Wind are simultaneously on.	Cannot be turned on when Trail, Keyframe Strobe, and Drop Shadow are simultaneously on.	*p. 206*
Keyframe Strobe	4154	Cannot be turned on when Trail and Motion Decay are simultaneously on.	Cannot be turned on when Trail, Motion Decay, and Wind are simultaneously on.	Cannot be turned on when Trail, Motion Decay, and Drop Shadow are simultaneously on.	*p. 206*
Combine process for Keyframe Strobe	4154	No	Yes	No	*p. 207*
Wind	4155	No	Cannot be turned on when Trail, Motion Decay, and Keyframe Strobe are simultaneously on.	No	*p. 207*
Spotlighting	4156	No	Yes	No	*p. 208*
Selection of signal to insert in the background	4161	Single color only	Flat Color Ext Video Mix Color	Single color only	*p. 215*
Key source selection	4162	Yes	Yes	Ext Key (fixed)	*p. 217*
Shaped video settings for input/output video signals	4162	Yes	Yes	No	*p. 215*
Interpolation settings	4163	Yes (SD only)	Yes (both SD/HD)	Yes (SD only)	*p. 217*
Anti-moiré filter	4163	Yes	No	Yes	*p. 218*
Flex Shadow axis settings	4164	No	Yes	No	*p. 172*
Dim and Fade	4173	No	Yes	No	*p. 188*
Glow	4174	Cannot be turned on when Defocus/Blur is on.	Cannot be turned on when Key Border is on.	Cannot be turned on when Defocus/Blur is on.	*p. 188*
Combiner [Depth] setting (three-dimensional crossing function)	4211	No	Yes	No	*p. 222*
Brick	4222	Yes	Yes	No	*p. 223*
Adding user texture patterns (for Spotlighting)	7316.9	No	Yes	No	*p. 319*
Setting AUX bus output/ reentry input	7337.7	Ext In settings for DME5 to 8 not available.	Ext In settings for DME5 to 8 available.	No	*p. 362*
TBC window center position (Video/Key)	7341.1	Yes	Yes	No	*p. 363*
TBC window center position (External Video)	7341.1	No	Yes	No	*p. 363*
Adjustment of output video clip level	7343	Yes	Yes	No	*p. 363*
Settings relating to usage of editor port	7344	Yes	Yes	No	*p. 364*

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 control panel using an S-Bus data link requires a HKSP-R80 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 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 sections “Making Settings with Buttons (Setup Function)” and “Setting the station number” in “Preparations for the MKS-8080/8082” in the Operation Manual for the MKS-8080/8082.

1 Initialize the MKS-8080/8082 settings.

This can be executed on the MKS-8080/8082 separately.

2 Set the MKS-8080/8082 station number in the range 2 to 17.

This can be set on the MKS-8080/8082 separately.

3 Set the S-Bus data link primary station to the control panel by setting the STATION ID switches on the front of the board in the MVS-6520/6530/3000A/3000 SLOT 8 to 001 (switch 1 only to the OPEN position).

Switcher processor	Board	STATION ID switches
MVS-6520/6530/ 3000A/3000	CA-85	S3801

4 In the Engineering Setup >System >Initialize menu (7315), 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 (7361), set the position of the MVS-6520/6530/ 3000A/3000 system in S-Bus space.

Select the setting of SWR1, 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 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)

Not set, as 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.

O: SET AVAILABLE SOURCE/DESTINATION

Set the source and destination ranges so that the MVS-6520/6530/3000A/3000 system inputs and outputs can be selected.

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.

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 >Group Tally menu (7362).

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 *(☞ p. 424)*.
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 a local disk or removable disk. When you load a macro file into a register, the comments are discarded.

Event statement: Begins with "Event?," and defines the macro event *(☞ "Syntax of Event and Continue Statements" (p. 423))*.

Continue statement: Begins with "Continue?," and defines the macro event *(☞ "Syntax of Event and Continue Statements" (p. 423))*.
Some events cannot be used *(☞ "Correspondence between Events and Symbols" (p. 424))*.

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 *(☞ "Correspondence between Events and Symbols" (p. 424))*.

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 *(☞ "Symbols and Parameters" (p. 425))*.
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 regions M/E-1 and PGM/PST, use a Continue statement, thus:

Event?,Snapshot,Region?,ME1,Register?,1,Attribute?,Off,Time?,Current
Continue?,Snapshot,Region?,PP,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

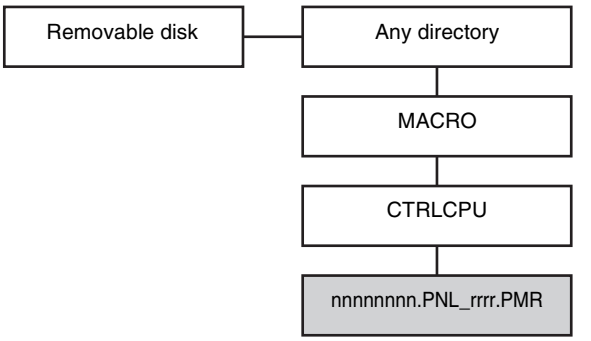
Set the file name as follows.
Example: nnnnnnnn.PNL_rrrr.PMR
nnnnnnnn: In a file created on the switcher, this is a register name automatically set by the switcher. The name is limited to eight characters. The following characters may not be used. space, \, /, :, ;, , (comma), . (dot), <, >, *, ?, ", |
rrrr: Macro register number (0001 to 0099)

Saving and Recalling a File

For a newly created file, if you create a directory on a removable disk (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: Removable Disk\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.

- If there is a syntax error.
- If a required parameter is not present.

For details about error messages, ☞ "Error Messages" (p. 434).

Correspondence between Events and Symbols

For details about events, ☞ "Events" (p. 281).

Event	Symbol	Using Continue
AUX bus cross-point selection in the cross-point control block	AuxXpt	No
Cross-point selection in the router	RouterXpt	Yes
Cross-point selection in the cross-point control block	MEXpt	Yes
Auto transition and take in the transition control block	MEAutoTransition	Yes
Cut in the transition control block	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 independent key transitions	KeyAutoTransition	Yes
Key insertion and deletion in independent key transitions	KeyCut	Yes
Selection of independent key transition type	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

Event	Symbol	Using Continue
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 a user preference button	UtilityButton	No
Recall of function assigned to a 2nd row cross-point button	KeyBusUtilityButton	No
Frame memory clip loop on/off	FMLoop	Yes
Menu macro recall and execution	MenuMacroRun	No
Recall of frame memory clip	ClipRecall	No
Record with device	DeviceRecord	Yes
AUX mix transition On/Off	AuxMix	No

a) For details about pause events, ☞ *"Macro Execution" (p. 283)*.

Symbols and Parameters

Table legend

n: Indicates a numeral 0 to 9.
x: Indicates an alphanumeric character.
DME1 to DME8:
On the MVS-6520/6530/3000A, DME channels indicate DME1, DME2, and DME5 to DME8.
On the MVS-3000, DME channels indicate DME5 to DME8.

When using the MVS-6530:

Target banks correspond to M/E-1, M/E-2, and PGM/PST.
Keys correspond to Key1 to Key8.

Symbol	Parameter name	Arguments	Description
MEXpt	ME?	ME1, PP	Control blocks on the applicable bank
	MEBus?	A, B, Key1 to Key4, Key1Source to Key8Source, Utility1, 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)

Symbol	Parameter name	Arguments	Description
AuxXpt	AuxBus?	EditPreview, AUX1 to AUX24, FrameMemory1, FrameMemory2, DME1Video to DME8Video, DME1Key to DME8Key, DME1Video2nd to DME8Video2nd (a), DME1Key2nd to DME8Key2nd (b)	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	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)
MEAutoTransition	ME?	ME1, 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, PP	Control blocks on the applicable bank
KeyAutoTransition	ME?	ME1, PP	Control blocks on the applicable bank
	Key?	Key1 to Key4	Key of the applicable independent key transition
	Time?	Current (a), 0 to 999	Transition rate (number of frames) (a): Mode in which the current value set on the independent key transition 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
KeyCut	ME?	ME1, PP	Control blocks on the applicable bank
	Key?	Key1 to Key4	Key of the applicable independent key transition
	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

Symbol	Parameter name	Arguments	Description
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, 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, PP	Control blocks on the applicable bank
	Key?	Key1 to Key4	Applicable key
	Register?	1 to 4	Applicable register number
WipeSnapshot	ME?	ME1, PP	Control blocks on the applicable bank
	Register?	1 to 10	Applicable register number
DMEWipeSnapshot	ME?	ME1, PP	Control blocks on the applicable bank
	Register?	1 to 10	Applicable register number
TimelineRecall	Region?	ME1, PP, User1 to User8, DME1 to DME8, PBus, Device1 to Device12, GPI	Applicable region
	Register?	1 to 399	Applicable register number
TimelineRun	Region?	ME1, 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 Flexi Pad
TimelineRewind	Region?	ME1, 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 Flexi Pad
TimelineFF	Region?	ME1, 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 Flexi Pad
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

Symbol	Parameter name	Arguments	Description
PatternLimit	ME?	ME1, 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, 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, PP	Control blocks on the applicable bank
	Key?	Key1 to Key4	Key of the applicable independent key transition
	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
NextTransition	ME?	ME1, 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), 0 to 999	Transition rate (number of frames) (a): Mode in which the current value set in fade to black is used
TimelineDirectionNormal	Region?	ME1, 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 Flexi Pad
TimelineDirectionReverse	Region?	ME1, 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 Flexi Pad
TimelineNormalReverseOn	Region?	ME1, 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 Flexi Pad
TimelineNormalReverseOff	Region?	ME1, 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 Flexi Pad
UtilityButton	UtilityModule?	UserPrefs	User preference buttons
	Button?	1 to 16	Applicable button
	UtilityStatus?	On, Off, Current (a)	Status of function assigned to button (a): Operates according to currently assigned function

Symbol	Parameter name	Arguments	Description
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, 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)
DeviceRecord	Device?	1 to 12	Applicable device
AuxMix	AuxMixBus	Aux1, Aux3, Aux5, … Aux23	Target AUX bus (odd-numbered bus)
	AuxMixStatus	On, Off	AUX mix transition On/Off

Example of File Contents

Line	Content	Description
1	PNL 0001PNL_0000.PMRMACROREG	File header
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 PGM/PST regions.
4	Continue?,Snapshot,Region?,PP,Register?,1,Attribute?,Off,Time?,Current	
5	Event?,MEXpt,ME?,ME1,MEBus?,A,Xpt?,1,VideoKey?,Video	Select button number 1 on the M/E-1 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 (5421) 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:
Block: P/P XPT
Button(1): UTIL1 Bus
Button(2): V
Button(3): XPT2

Then, the display in the Button column is:
UTIL1 Bus V XPT2
which indicates “P/P row utility1 bus video signal, cross-point button 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/E1 bank, “P/P” changes to “M/E1” in the Block Select and Block columns. In addition, “DSK” changes to “KEY” in the Button(1) and Button(2) columns. 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 : DSK4 Bus	(nothing) Shift	XPT 1 : XPT 128 M/E 1 P/P
DSK1 Src Bus : DSK4 Src Bus	V K V Shift K Shift	
UTIL1 Bus EXT DME Bus	V K V Shift K Shift	XPT 1 : XPT 128 M/E 1 P/P
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 : DSK4	MIX[a)] NAM[a)] SUPER MIX[a)] PST COLOR MIX[a)] WIPE[a)] DME[a)] DSK_ON AUTO TRANS CUT ALL[a)] KEY PRIOR[a)] BKGD[a)] DSK1[a)] : DSK4[a)] NORM[a)] NORM/REV[a)] REV[a)] Fader PRIOR SET[a)] TRANS PVW[a)]	(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&2CLIP, FM3&4CLIP, FM5&6CLIP, FM7&8CLIP), next transition selection (BKGD, DSK1 to DSK8, PRIOR, ALL), wipe direction selection (NORM, NORM/REV, REV), PLAY, CUE, STOP, and PTN LIMIT.

Other Blocks

Block Select: Others, Block: Multi Function Flexi Pad[a)]

Button (1)	Button (2)	Button (3)
DSK1 : DSK4 M/E-1 KEY1 : M/E-1 KEY4	AUTO TRANS KEY_ON	(nothing)
EFF	RUN REWIND NORM REV NORM/REV	(nothing)

a) The Flexi Pad control block appears as “10KeyPad.”

Block Select: Others, Block: Trackball

Button (1)	Button (2)	Button (3)
DEV	CLR WORK BUFR (CUE) Y (PLAY) TRGT (STOP) AXIS LOC (START TC)	(nothing)

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 enabling parameter setting buttons, and so forth
- Parameter setting operations using the parameter setting buttons or trackball (value input operations from the numeric keypad are recorded)

Operations not recorded in menu macros, in individual menus

Menu No.	Menu path
0011 to 0023	All menus under Home
2541	Frame Memory >File >Pair Recombination
2542	Frame Memory >File >Auto Extraction

Menu No.	Menu path
2544	Frame Memory >File >Move
2545	Frame Memory >File >Delete
2546	Frame Memory >File >Rename
2551	Frame Memory >Folder
2561	Frame Memory >External Device >Ext HDD >Format
2562	Frame Memory >External Device >Ext HDD >Backup/Restore
5333	Device >DDR/VTR >File List
5412 to 5441	All menus under Macro
7111 to 7173	All menus under File
7311 to 7317	All menus under Engineering Setup >System
7327	Engineering Setup >Panel >Maintenance

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

This section lists the data saved in the Engineering Setup >System >Start Up menu (7314), by each of [Setup Define] and [Initial Status Define].

Data Saved by [Setup Define]

Included in Panel Setup

Menu No.	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
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 >Xpt Assign >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
7324	Engineering Setup >Panel >Prefs/Utility	All data relating to function assignment to user preference buttons and cross-point control block 2nd row buttons
7325	Engineering Setup >Panel >Device Interface	All data relating to Device Interface menu
7326	Engineering Setup >Panel >Operation	All data relating to Operation menu

Menu No.	Menu path	Saved data
7327	Engineering Setup >Panel >Maintenance	• Setting data for the following buttons: - [Screen Saver] - [Panel Sleep Mode] - [LCD Btn Brightness] - [Display 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 No.	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/ Src Color	Names of source signals
7326.2	Engineering Setup >Panel >Operation >Effect Mode	Setting of [Default KF Duration] for switcher keyframes
7331	Engineering Setup >Switcher >Config	All data relating to Config menu
7332	Engineering Setup >Switcher >Input	All data relating to Input menu
7333	Engineering Setup >Switcher >Output	All data relating to Output menu
7334	Engineering Setup >Switcher >Transition	All data relating to Transition menu
7335	Engineering Setup >Switcher >Key/Wipe/FM/CCR	All data relating to Key/Wipe/FM/CCR menu
7336	Engineering Setup >Switcher >Link	All data relating to Link menu
7337	Engineering Setup >Switcher >Device Interface	All data relating to Device Interface menu

Included in DME Setup

Menu No.	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]
7341	Engineering Setup >DME >Input	All data relating to Input menu
7343	Engineering Setup >DME >Output	All data relating to Output menu
7344	Engineering Setup >DME >Device Interface	All data relating to Device Interface menu

Data Saved by [Initial Status Define]

Included in Panel

Menu No.	Menu path	Saved data
–	–	• Settings for the following cross-point control block buttons - Delegation buttons assigned to the 1st row - [1ST ROW DSPLY], [2ND ROW DSPLY], [SHIFT], [MCRO ATTCH ENBL] • Transition control block: [KF], [SHIFT], and independent key transition [KEY1] to [KEY4] buttons • Flexi Pad: Settings for the [WIPE], [DME WIPE], [SNAPSHOT], [EFF], [SHOTBOX], [MCRO], [TRNS RATE], [KEY ADJ], [KEY SS] buttons • Settings for “System Manager Enbl” assigned to user preference button on the menu panel
3211	Misc >Enable >Port Enable	[System Manager] settings
6351	Snapshot >Key Snapshot >Attribute	Settings of <Recall Mode> group

Included in Switcher (Same as data saved in Snapshots)

Menu No.	Menu path	Saved data
–	–	• For each M/E, setting data relating to the following: cross-points, transitions, Key1 to Key4 (including independent key transition settings), wipes, DME wipes • Color backgrounds 1/2 • Frame memory • AUX bus (including CCR, AUX mix transition 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 No.	Menu path	Saved data
4100	DME >Status	Three-dimensional transformation data
4111	DME >Edge >Border/Crop	All data relating to Border/Crop menu
4112	DME >Edge >Beveled Edge	All data relating to Beveled Edge menu
4121 to 4124	DME >Video Modify	All data relating to Video Modify menu
4131	DME >Freeze >Freeze	All data relating to Freeze menu
4141 (4141.1 to 4141.28)	DME >Non Linear/Corner Pin >Non Linear	All data relating to Non Linear menu
4151	DME >Light/Trail >Lighting	All data relating to Lighting menu
4152	DME >Light/Trail >Trail	All data relating to Trail menu
4153	DME >Light/Trail >Motion Decay	All data relating to Motion Decay menu
4154	DME >Light/Trail >KF Strobe	All data relating to KF Strobe menu
4161	DME >Input/Output >Bkgd	All data relating to Bkgd menu
4162	DME >Input/Output >Video/Key	All data relating to Video/Key menu
4163	DME >Input/Output >Process	All data relating to Process menu
4164	DME >Input/Output >Graphic	All data relating to Graphic menu

Menu No.	Menu path	Saved data
4211, 4221	Global Effect >Ch1-Ch2 >Combine Priority Global Effect >Ch5-Ch8 >Combine Priority	All data relating to Combine Priority menu
4222	Global Effect >Ch5-Ch8 >Brick	All data relating to Brick menu
4213, 4223	Global Effect >Ch1-Ch2 >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/Drop Shadow	All data relating to Flex/Drop 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
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
3211	Misc >Enable >Port Enable	<DME1> and <DME2> group data

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 still in effect: The Error Status menu appears *(☞ p. 434)*.

When an error has already been cleared: The Error Log menu appears *(☞ p. 435)*.

Menu title button

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

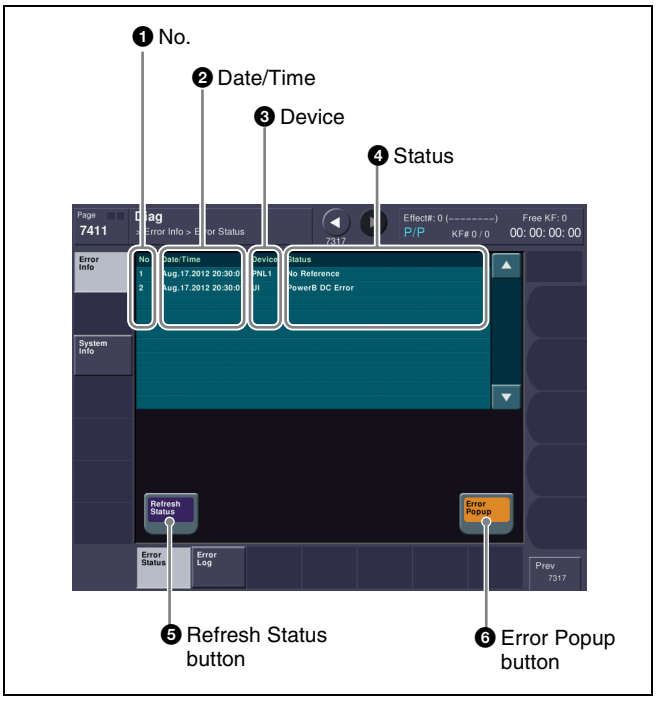
To display the error status, open the Diagnostic >Error Info >Error Status menu (7411).

To display the error log, open the Diagnostic >Error Info >Error Log menu (7412).

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.

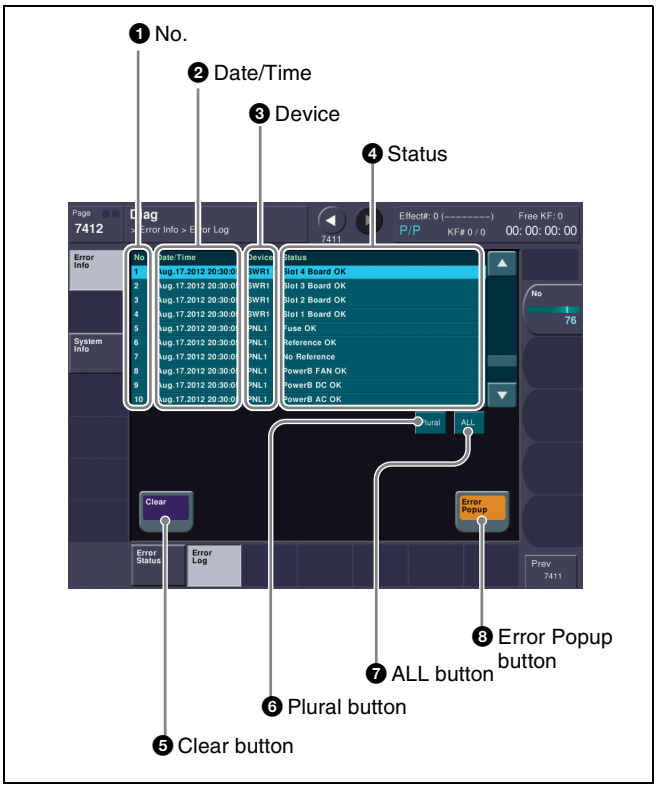
❹ Status
This shows the details of the error.

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, displays “ERROR” on the menu title button.
Off: If a device error occurs, does 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 panel 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 pressing the parameter setting button.

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.

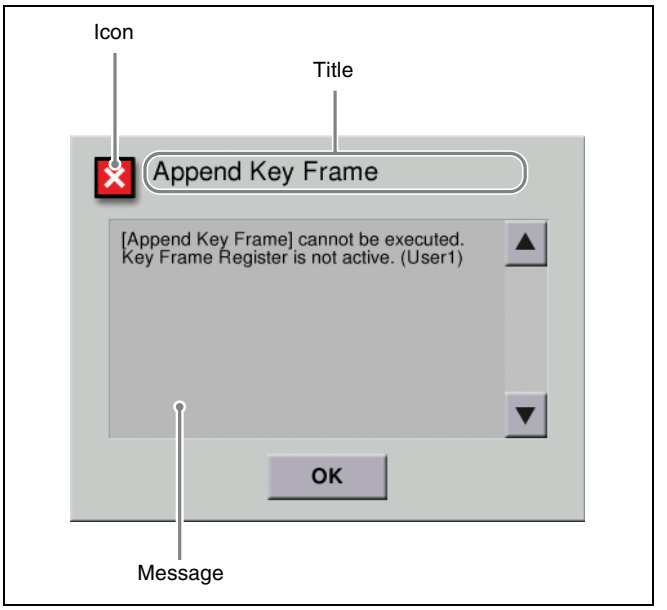
❽ Error Popup button
This selects whether or not to display “ERROR” on the menu title button when an error occurs. This button is linked to the [Error Popup] button in the error status menu.

On: If a device error occurs, displays “ERROR” on the menu title button.

Off: If a device error occurs, does 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 The Activate License procedure failed because the entered information was incorrect. Check the license key, and enter again.
Append Key Frame		
✕	[Append Key Frame] cannot be executed. FMx is not assigned to a user region.	2515: Frame Memory >Still >Create Key Frame When [Append Key Frame] was pressed, the frame memory output (FMx) was not assigned to a User region. Assign the output in menu 7331.4 (Engineering Setup >Switcher >Config >User1–8 Config), and try again.
✕	[Append Key Frame] cannot be executed. Key Frame Register is locked. (UserX)	2515: Frame Memory >Still >Create Key Frame When [Append Key Frame] was pressed, the key frame register (UserX region) was locked. Unlock the register.
✕	[Append Key Frame] cannot be executed. Key Frame Register is busy. (UserX)	2515: Frame Memory >Still >Create Key Frame When [Append Key Frame] was pressed, files were being loaded into register (UserX region). Try again after file loading has finished.
✕	[Append Key Frame] cannot be executed. Key Frame Register is being edited. (UserX)	2515: Frame Memory >Still >Create Key Frame When [Append Key Frame] was pressed, keyframe creation or editing was in progress using the register (UserX region). Try again after the keyframe operation has finished.
✕	[Append Key Frame] cannot be executed. Key Frame Register is full. (UserX)	2515: Frame Memory >Still >Create Key Frame When [Append Key Frame] was pressed, there were no remaining keyframes in the register (UserX region).

Icon	Message	Description
✕	[Append Key Frame] cannot be executed. Key Frame Register is not active. (UserX)	2515: Frame Memory >Still >Create Key Frame When [Append Key Frame] was pressed, the region selection button for a register on the Flexi Pad was not selected. Select the region selection button [UserX] on the Flexi Pad, and try again.

Backup

✕	No external HDD was found (–2).	2562: Frame Memory >External Device >Ext HDD Backup/Restore When [Backup] was pressed, the external HDD could not be found. Check that the external HDD is correctly connected.
✕	Format operation failed (–10). Format operation failed (–11).	2562: Frame Memory >External Device >Ext HDD Backup/Restore When [Backup] was pressed, formatting of the HDD failed.
✕	Cannot access the partition (–12).	2562: Frame Memory >External Device >Ext HDD Backup/Restore When [Backup] was pressed, the logical drives of the external HDD could not be accessed. Check that the external HDD is correctly formatted.
✕	Cannot access the directory (–20). Cannot access the directory (–21).	2562: Frame Memory >External Device >Ext HDD Backup/Restore When [Backup] was pressed, the directory of the external HDD could not be accessed.
✕	The external HDD is busy (–22).	2562: Frame Memory >External Device >Ext HDD Backup/Restore When [Backup] was pressed, the external HDD was busy and could not be accessed. Check that the access lamp of the HDD or the menu indicator is turned off, and try again.
✕	ERROR (–31).	2562: Frame Memory >External Device >Ext HDD Backup/Restore When [Backup] was pressed, the external HDD could not be written to because the clip is currently playing or recording.
✕	Backup operation failed (–34). Backup operation failed (–36).	2562: Frame Memory >External Device >Ext HDD Backup/Restore When [Backup] was pressed, the process to store the file to the external HDD failed.
✕	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, the number of files exceeded the storage limit.
✕	Cannot be executed. The function requires two frames of frame memory.	2562: Frame Memory >External Device >Ext HDD Backup/Restore When [Backup] was pressed, two files were required but there was only one file remaining.
✕	No directory exists (–50).	2562: Frame Memory >External Device >Ext HDD Backup/Restore When [Backup] was pressed, the specified directory did not exist.
✕	Rename operation failed (–52). Rename operation failed (–53).	2562: Frame Memory >External Device >Ext HDD Backup/Restore When [Backup] was pressed, renaming the directory failed.
✕	Invalid FM OutCh (–6).	2564: Frame Memory >External Device >Backup to DDR/VTR When [Backup Start] was pressed, the specified frame memory output channel could not be used.
✕	Specified FM OutCh was locked (–7).	2564: Frame Memory >External Device >Backup to DDR/VTR When [Backup Start] was pressed, the specified frame memory output channel was locked.
✕	Not enough free register area for Backup or Restore process (–10).	2564: Frame Memory >External Device >Backup to DDR/VTR When [Backup Start] was pressed, there was insufficient capacity to carry out the backup.
✕	Prepare failed, not any file was found on this board (–11).	2564: Frame Memory >External Device >Backup to DDR/VTR When [Backup Start] was pressed, no image files were found.
✕	Backup failed, not prepared yet (–12).	2564: Frame Memory >External Device >Backup to DDR/VTR When [Backup Start] was pressed, the device was not yet ready.
✕	Backup failed, Clip recall failed (–13).	2564: Frame Memory >External Device >Backup to DDR/VTR When [Backup Start] was pressed, All One Clip recall failed (internal processing error).
✕	Prepare failed, Clip create failed (–14).	2564: Frame Memory >External Device >Backup to DDR/VTR When [Backup Start] was pressed, All One Clip creation failed (internal processing error).

Icon	Message	Description
	Prepare failed, insufficient Clip id (–15).	2564: Frame Memory >External Device >Backup to DDR/VTR When [Backup Start] was pressed, there were insufficient Clip IDs (internal processing error).
	Prepare failed, symbol files create failed (–16).	2564: Frame Memory >External Device >Backup to DDR/VTR When [Backup Start] was pressed, marker frame file creation failed (internal processing error).
	Prepare failed, all one Clip recall failed (–17).	2564: Frame Memory >External Device >Backup to DDR/VTR When [Backup Start] was pressed, All One Clip recall failed (internal processing error).
	ERROR (–19). Bad register number.	2564: Frame Memory >External Device >Backup to DDR/VTR When [Backup Start] was pressed, the Register Number was an invalid value (internal processing error).
	Prepare failed, because there is clip playing (–22).	2564: Frame Memory >External Device >Backup to DDR/VTR When [Backup Start] was pressed, processing failed because clip playback was in progress.

Change Password

	Failed. The password was not changed.	7317.1: Engineering Setup >System >Maintenance >Setup Operation Lock The password could not be 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 When [Create Key Frame] was pressed, the frame memory output (FMx) was not assigned to a User region. Assign the output in menu 7331.4 (Engineering Setup >Switcher >Config >User1–8 Config), and try again.
	[Create Key Frame] cannot be executed. Key Frame Register is locked. (UserX)	2515: Frame Memory >Still >Create Key Frame When [Create Key Frame] was pressed, the register (UserX region) was locked. Unlock the register.
	[Create Key Frame] cannot be executed. Key Frame Register is busy. (UserX)	2515: Frame Memory >Still >Create Key Frame When [Create Key Frame] was pressed, files were being loaded into the register (UserX region). Try again after file loading has finished.
	[Create Key Frame] cannot be executed. Key Frame Register is being edited. (UserX)	2515: Frame Memory >Still >Create Key Frame When [Create Key Frame] was pressed, keyframe creation or editing was in progress using register (UserX region). Try again after the keyframe operation has finished.
	[Create Key Frame] cannot be executed. There is no free Key Frame. (UserX)	2515: Frame Memory >Still >Create Key Frame When [Create Key Frame] was pressed, an insufficient number of usable keyframes were in UserX region.
	[Create Key Frame] cannot be executed. Key Frame Register is not active. (UserX)	2515: Frame Memory >Still >Create Key Frame When [Create Key Frame] was pressed, the region selection button for the register on the Flexi Pad was not selected. Select the region selection button [UserX] on the Flexi Pad, and try again.

Disk Format

	Failure. Make sure of the removable disk.	7317: Engineering Setup >System >Maintenance Formatting of the removable disk failed. Check that the removable disk 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 An attempt was made to assign a locked register. Unlock the register before carrying out the assignment.
	The file was not able to be read.	7142.1: File >Shotbox, Macro >File Edit When [Off Line Edit] was pressed, 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 The file could not be written when storing. Try to store once more.

Icon	Message	Description
	Failed...	7162: File >All, External File >Import/Export 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 The same directory and ID were selected for source and target. Select different directories and IDs.

Extraction

	ERROR (–1).	2542: Frame Memory >File >Auto Extraction When [Extraction Start] was pressed, an internal processing error occurred.
	Create thumbnail failed (–2).	2542: Frame Memory >File >Auto Extraction When [Extraction Start] was pressed, thumbnail creation failed (internal processing error).
	Red Symbol file not match (–3).	2542: Frame Memory >File >Auto Extraction When [Extraction Start] was pressed, a red marker frame file was invalid.
	Blue Symbol file not match (–4).	2542: Frame Memory >File >Auto Extraction When [Extraction Start] was pressed, a blue marker frame file was invalid.
	No data between two symbol files (–5).	2542: Frame Memory >File >Auto Extraction When [Extraction Start] was pressed, there was no data between two marker frames.
	Cannot find symbol file (–8).	2542: Frame Memory >File >Auto Extraction When [Extraction Start] was pressed, the marker frame file could not be found.
	Clip frame error (–10).	2542: Frame Memory >File >Auto Extraction When [Extraction Start] was pressed, the number of frames in a clip was invalid (internal processing error).
	Clip not found (–12).	2542: Frame Memory >File >Auto Extraction When [Extraction Start] was pressed, the specified clip did not exist.
	Clip is playing or being edited (–13).	2542: Frame Memory >File >Auto Extraction When [Extraction Start] was pressed, the specified clip was being played back or edited.
	Clip register error (–14).	2542: Frame Memory >File >Auto Extraction When [Extraction Start] was pressed, the data in the specified register could not be processed (internal processing error).
	Can't extract pair clip (–15).	2542: Frame Memory >File >Auto Extraction When [Extraction Start] was pressed, an attempt was made to extract a pair clip.
	Clip id not enough (–50).	2542: Frame Memory >File >Auto Extraction When [Extraction Start] was pressed, there were over 100 clips.
	Still frame on FM 2nd board (–51).	2542: Frame Memory >File >Auto Extraction When [Extraction Start] was pressed, 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 When [Extraction Start] was pressed, an odd number of clips were 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 An attempt was made to load a file with the same name as a file already in the register.

Icon	Message	Description
File Open Status		
✕	ERROR (01)	533X: Device >DDR/VTR An error was returned from the DDR/VTR, and one of the messages on the left appears, depending on the error number. Use menu 7355 (Engineering Setup >DCU >Serial Port Assign), menu 7325.4 (Engineering Setup >Panel >Device Interface >Device Assign), or menu 7325.5 (Engineering Setup >Panel >Device Interface >Serial Port Assign) to check the device settings.
	ERROR (02)	
	ERROR (FF): No target device has been assigned	
GPI Input		
!	Please set Target.	7325.1/2: Engineering Setup >Panel >Device Interface >GPI Input 7337.2/3: Engineering Setup >Switcher >Device Interface >GPI Input 7344.1/2: Engineering Setup >DME >Device Interface >DME1 GPI Input 7344.4/5: Engineering Setup >DME >Device Interface >DME2 GPI Input 7352/7352.1: Engineering Setup >DCU >GPI Input Assign An incorrect parameter setting value was specified. Check the settings, and try again.
	Please set Trigger Type.	
	Please set Reg No.	
	Please set Aux Bus No.	
	Please set Src No.	
GPI Output		
!	Please set Target.	7325.3: Engineering Setup >Panel >Device Interface >GPI Output 7337.4: Engineering Setup >Switcher >Device Interface >GPI Output 7344.6: Engineering Setup >DME >Device Interface >DME2 GPI Output 7354: Engineering Setup >DCU >GPI Output Assign An incorrect parameter setting value was specified. Check the settings, and try again.
	Please set Trigger Type.	
	Please set Reg No.	
	Please set Pulse Width.	
	Please set Pulse Timing.	
HDD Format		
✕	No external HDD was found (–2).	2561: Frame Memory >External Device >Ext HDD Format When [5 Partition] or [15 Partition] was pressed, the external HDD could not be found. Check that the external HDD is correctly connected.
✕	Format operation failed (–11).	2561: Frame Memory >External Device >Ext HDD Format When [5 Partition] or [15 Partition] was pressed, formatting of the HDD failed.
✕	Cannot access the partition (–12).	2561: Frame Memory >External Device >Ext HDD Format When [5 Partition] or [15 Partition] was pressed, the external HDD logical drive could not be accessed. Check that the external HDD is correctly formatted.
✕	Cannot access the directory (–20).	2561: Frame Memory >External Device >Ext HDD Format When [5 Partition] or [15 Partition] was pressed, the external HDD directory could not be accessed.
✕	The external HDD is busy (–22).	2561: Frame Memory >External Device >Ext HDD Format When [5 Partition] or [15 Partition] was pressed, the external HDD was in use and could not be accessed. Check that the access lamp of the HDD or the menu indicator is turned off, and try again.
Import		
✕	Cannot create the clip file, because the number of selected files is insufficient.	7162: File >All, External File >Import/Export When importing a clip file, insufficient files were selected to create the clip.
Install		
!	An error occurred during the install process. For more details, see Page 9900.	7316.10: Engineering Setup >System >Install/Unit Config >Install 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 The software package to be installed could not be found. Check that the removable disk is correctly inserted, and try the installation once more.
✕	No Task. Select a package on the list.	7316.10: Engineering Setup >System >Install/Unit Config >Install The package for installation was not selected. Select a package to be installed.

Icon	Message	Description
Internal Error: Local Disk (User Data)		
	The user data partition of local disk is damaged, and all data is lost. The local disk needs to be reformatted. Please execute local disk format on Page 7317.	When starting up the menu system, an error was found on the local disk. Execute [Format] in menu 7317 (Engineering Setup >System >Maintenance).
Internal Error: Local Disk (System Disk)		
	The system data partition of local disk is damaged. The local disk needs to be reformatted. Please execute local disk format on Page 7317. Please make sure to save all data in the user data partition of local disk to any other device or media, before reformatted.	When starting up the menu system, an error was found on the local disk. Execute [Format] in menu 7317 (Engineering Setup >System >Maintenance).
Internal Error: Local Disk is unknown		
	Local disk is incorrect or not formatted. To format the local disk, please execute “Format” on Page 7317.	When starting up the menu system, an error was found on the local disk. Execute [Format] in menu 7317 (Engineering Setup >System >Maintenance).
Invalid Name		
	Empty...	2512: Frame Memory >Still >Freeze/Store A Store operation was carried out without specifying a name. 71XX: File Menu 7171: File >Configure >Directory When renaming a file or creating a directory, a name was not entered. Specify the correct name.
	The file exists already...	2512: Frame Memory >Still >Freeze/Store The file name specified when [Store] was executed 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 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.	
Local Disk Format		
	Success!! But some partitions cannot be created because the capacity of the local disk is not enough.	7317: Engineering Setup >System >Maintenance Formatting of the local disk was completed successfully. However, because of insufficient local disk capacity, only the possible number of partitions were created.
	Failure. Local Disk device is busy. In order to complete local disk format, System needs to be restarted and formatted again. System will be restarted, then please execute local disk format again.	7317: Engineering Setup >System >Maintenance Formatting of the local disk failed. If the local 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.
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 When loading an existing texture package, a texture file within the texture package could not be found.

Icon	Message	Description
	This operation is cancelled, because capacity is full. Please clear texture pattern.	7316.9: Engineering Setup >System >Install/Unit Config >Texture Package When making a texture package using Make Package, there was insufficient space on a removable disk.

Password

	Password Incorrect	7317.1: Engineering Setup >System >Maintenance >Setup Operation Lock The wrong password was entered. Enter the correct password.

Record

	Cannot be executed. Maximum number of clips are created.	2523: Frame Memory >Clip >Record When [Rec Start] was executed, the number of recorded clips reached the upper limit.

Refresh Status

	No external HDD was found (–2).	2561: Frame Memory >External Device >Ext HDD Format 2562: Frame Memory >External Device >Ext HDD Backup/Restore When [Refresh Status] was pressed, the external HDD could not be found. Check that the external HDD 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 When [Refresh Status] was pressed, the logical drives of the external HDD could not be accessed. Check that the external HDD is correctly formatted.
	Cannot access the directory (–20). Cannot access the directory (–21).	2561: Frame Memory >External Device >Ext HDD Format 2562: Frame Memory >External Device >Ext HDD Backup/Restore When [Refresh Status] was pressed, the directory of the external HDD could not be accessed.
	The external HDD is busy (–22).	2561: Frame Memory >External Device >Ext HDD Format 2562: Frame Memory >External Device >Ext HDD Backup/Restore When [Refresh Status] was pressed, the external HDD was busy and could not be accessed. Check that the access lamp of the HDD or the menu indicator is turned off, and try again.

Rename

	This operation is inhibited because of the illegal combination in the selected files.	7151.1: File >Frame Memory >Frame Memory >File Edit When [Rename] was pressed, multiple files of different types were selected. Check that the selected files are all of the same type.
	Files currently used for playback cannot be renamed.	2546: Frame Memory >File >Rename When [Rename] was pressed, the selected files included a movie (clip) currently being played back.
	No external HDD was found (–2).	2562: Frame Memory >External Device >Ext HDD Backup/Restore When [Rename] was pressed, the external HDD could not be found. Check that the external HDD is correctly connected.
	Cannot access the directory (–20).	2562: Frame Memory >External Device >Ext HDD Backup/Restore When [Rename] was pressed, the external HDD directory could not be accessed.
	The external HDD is busy (–22).	2562: Frame Memory >External Device >Ext HDD Backup/Restore When [Rename] was pressed, the external HDD was in use and could not be accessed. Check that the access lamp of the HDD or the menu indicator is turned off, and try again.

Restore

	Success!! But some files were not restored.	2562: Frame Memory >External Device >Ext HDD Backup/Restore Recalling a file from the external HDD was completed successfully. However, some files were not restored because of a different video format or file corruption.

Icon	Message	Description
!	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 Recalling a file from the external HDD was completed successfully. However, the limit on the number of folders was reached, and therefore files were restored to the default folder. Alternatively, the file name was changed because a file of the same name already exists.
!	Success!! 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 Recalling a file from the external device was completed successfully. However, the limit on the number of folders was reached, and therefore files were restored to the default folder.
!	Success!! But some still files had been renamed because the same file name already existed (–51)!	2565: Frame Memory >External Device >Restore from DDR/VTR Recalling a file from the external device was completed successfully. However, 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 Recalling a file from the external device was completed successfully. However, some clips were renamed because of clip name conflicts.
✕	No external HDD was found (–2).	2562: Frame Memory >External Device >Ext HDD Backup/Restore When [Restore] was pressed, the external HDD could not be found. Check that the external HDD is correctly connected.
✕	Format operation failed (–10).	2562: Frame Memory >External Device >Ext HDD Backup/Restore When [Restore] was pressed, formatting of the HDD failed.
	Format operation failed (–11).	
✕	Cannot access the partition (–12).	2562: Frame Memory >External Device >Ext HDD Backup/Restore When [Restore] was pressed, the logical drives of the external HDD could not be accessed. Check that the external HDD is correctly formatted.
✕	Cannot access the directory (–20).	2562: Frame Memory >External Device >Ext HDD Backup/Restore When [Restore] was pressed, the directory of the external HDD could not be accessed.
	Cannot access the directory (–21).	
✕	The external HDD is busy (–22).	2562: Frame Memory >External Device >Ext HDD Backup/Restore When [Restore] was pressed, the external HDD was busy and could not be accessed. Check that the access lamp of the HDD or the menu indicator is turned off, and try again.
✕	ERROR (–41).	2562: Frame Memory >External Device >Ext HDD Backup/Restore When [Restore] was pressed, the file could not be recalled from the external HDD because the clip is currently playing or recording.
✕	Restore operation failed (–43).	2562: Frame Memory >External Device >Ext HDD Backup/Restore When [Restore] was pressed, recalling a file from the external HDD failed.
	Restore operation failed (–46).	
✕	No directory exists (–50).	2562: Frame Memory >External Device >Ext HDD Backup/Restore When [Restore] was pressed, the specified directory did not exist.
✕	Rename operation failed (–52).	2562: Frame Memory >External Device >Ext HDD Backup/Restore When [Restore] was pressed, renaming the directory failed.
	Rename operation failed (–53).	
✕	Invalid FM OutCh (–6).	2565: Frame Memory >External Device >Restore from DDR/VTR When [Restore Start] was pressed, the specified frame memory output channel could not be used.
✕	Specified FM OutCh was locked (–7).	2565: Frame Memory >External Device >Restore from DDR/VTR When [Restore Start] was pressed, the specified frame memory output channel was locked.
✕	Restore failed, some Clip files cannot be deleted on this board (–8).	2565: Frame Memory >External Device >Restore from DDR/VTR When [Restore Start] was pressed, restoring failed because a clip file could not be deleted.
✕	Not enough free register area for Backup or Restore process (–10).	2565: Frame Memory >External Device >Restore from DDR/VTR When [Restore Start] was pressed, there was insufficient capacity to carry out the restore operation.

Icon	Message	Description
	Prepare failed, insufficient Clip id (–15).	2565: Frame Memory >External Device >Restore from DDR/VTR When [Restore Start] was pressed, there were insufficient Clip IDs (internal processing error).
	Restore failed, Cannot find symbol files on this tape (–18).	2565: Frame Memory >External Device >Restore from DDR/VTR When [Restore Start] was pressed, a marker frame file could not be found.
	ERROR (–19). Bad register number.	2565: Frame Memory >External Device >Restore from DDR/VTR When [Restore Start] was pressed, the Register Number was an invalid value (internal processing error).
	Restore failed, file name already exist, try to rename but unsuccessful (–20).	2565: Frame Memory >External Device >Restore from DDR/VTR When [Restore Start] was pressed, renaming failed.
	Cannot find the File Name Data, please load the File Name Data first (–21).	2565: Frame Memory >External Device >Restore from DDR/VTR When [Restore Start] was pressed, the file list was not loaded.
Set Time/Date		
	Error: Wrong Format.	7317: Engineering Setup >System >Maintenance A correct date and time was not specified. Specify the correct date and time.
Trim		
	The Start TC or Stop TC is not properly set.	2522: Frame Memory >Clip >Play When [Trim] was pressed, neither the Start TC nor the Stop TC was set.
		2522: Frame Memory >Clip >Play When [Trim] was pressed, the interval between Start TC (or Clip Begin) and Stop TC (or Clip End) was the entire clip.
		2522: Frame Memory >Clip >Play When [Trim] was pressed, the Start TC (or Clip Begin) value was greater than the Stop TC (or Clip End) value.
	This file is locked.	2522: Frame Memory >Clip >Play When [Trim] was pressed, the file was locked.
	This file is using for playback.	2522: Frame Memory >Clip >Play When [Trim] was pressed, the target file was being played back.
Warning		
	This operation will be cancelled, because the register is locked. Please change the register status to be unlocked first.	6211.1: Effect >Master Timeline >Store >Edit 6311.1: Snapshot >Master Snapshot >Store >Edit 6411.1: Shotbox >Register >Store >Edit When [Store] was pressed, the target register was locked. Unlock the register before executing [Store].

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] Server Not Respond	There is absolutely no response on the LAN from the processor. Check your LAN connections and the power source of the processor.
[Error] No Space	There is insufficient space in the local disk or removable disk.

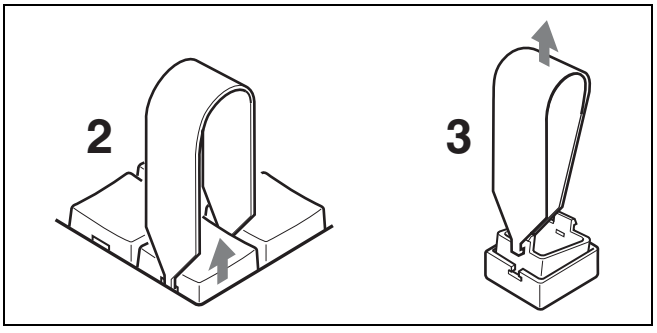
If a message other than those above appears, store the data or recall the data again. If the error message persists, contact your Sony service representative.

Maintenance

Exchanging Button Labels

A button top puller is supplied with the control panel. After changing a pattern assigned to a numeric button, you can use the following procedure to exchange the button label.

1. Write the new pattern on one of the supplied exchange labels.
2. Grip the holes on the button sides with the supplied button top puller and remove the button.
3. Grip the slots on the sides of the white button cap with the button top puller, so that the cap flexes slightly, and remove the cap.
4. Remove the old label and insert the new label.
5. Replace the button cap.
6. Replace the button in its original location.



Care of the Control Panel

Clean the control panel unit, switches, and fader lever, by gently wiping with a soft dry cloth.
In the event of excessive grime, moisten the cloth with a little cold or lukewarm water, and wipe gently.

Notes

Wring out all surplus water from the cloth before use, to prevent any surplus water from penetrating the panel. Moisture inside the panel can cause it to fail.
Never use organic solvents, cleaners, or other chemicals.
Do not wipe with excessive force, as this may scratch the panel.

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MVS-6530 System
MVS-3000A System
MVS-3000 System
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Sony Corporation

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