

Operating Guide

Live Production Suite Series

Gateway Unit

Model No. **AV-LSG10**

XPT Unit

Model No. **AV-LSX10**

ME Unit

Model No. **AV-LSM10**

System Manager Unit

Model No. **AV-LSS10**

Menu Panel (optional)

Model No. **AV-HS60C3G**

Control Panel (optional)

Model No. **AV-HS60C2**

Control Panel (optional)

Model No. **AV-HS60C4**



- This document describes a case where Menu Panel AV-HS60C3G (optional) and Control Panel AV-HS60C2/AV-HS60C4 (optional) are connected to the Live Production Suite series.
- For details about Menu Panel AV-HS60C3G (optional) and Control Panel AV-HS60C2/AV-HS60C4 (optional), refer to their respective operating instructions and the operating guide (PDF) for the AV-HS6000 series.

Panasonic

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How to read this document

■ Abbreviations

The following abbreviations are used in this document.

- Microsoft® Windows® 10 Professional 32/64-bit is abbreviated to Windows 10.
- Windows® Internet Explorer® 11.0 are abbreviated as Internet Explorer.
- Both SD memory cards and SDHC memory cards are described as “memory cards”.
When individual descriptions are provided, they are featured individually.
- Personal computers are described as “computers”.

Furthermore, the product numbers of equipment are referred to as follows.

Model number of unit	Model number given in manual
AV-LSG10P, AV-LSG10E	AV-LSG10
AV-LSX10P, AV-LSX10E	AV-LSX10
AV-LSM10P, AV-LSM10E	AV-LSM10
AV-LSS10P, AV-LSS10E	AV-LSS10
AV-HS60C2P, AV-HS60C2E	AV-HS60C2
AV-HS60C4P, AV-HS60C4E	AV-HS60C4
AV-HS60C3G	AV-HS60C3

■ Illustrations and screen displays featured in this document

- What is shown in this document's illustrations and screen displays may differ from how it is actually appears.

■ Conventions used in this document

- Words and phrases in [] brackets indicate descriptions displayed in the Menu Panel or the multi-selection menu panel, source name display panel, status display area of the Control Panel.
- Words and phrases in < > brackets indicate design text used on this unit, such as button names.

■ Reference pages

- In this document, reference pages are described as (page 00).

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Chapter 1 **Overview**

Please read this chapter, and check the accessories before use.

Before use

■ Overview

The Live Production Suite series has abundant inputs and outputs, image functions, and system extensibility so that it can be used across a wide range of program production applications.

The live switcher for production supports 4K and inherits its excellent operability and reliability from the previous models.

This switcher system consists of the following four types of units connected via LPS-Link (with SFP28-SFP28 direct attach cables) and GbE networks.

- Gateway Unit
- XPT Unit
- ME Unit
- System Manager Unit

■ Precautions

- Be sure to perform validation of the unit before use.
- Should displaying or recording of the video fail due to a malfunction of the unit or memory cards used, we will not assume liability for such failure.

■ Network security

The unit also has functions which are used when it is connected to a network. Using the unit when it has been connected to a network may possibly give rise to the following issues.

- Leakage or theft of information through this unit
- Use of this unit for illegal operations by persons with malicious intent
- Interference with or stoppage of this unit by persons with malicious intent

It is your responsibility to take precautions such as those described below to protect yourself against the above network security risks.

- Use this unit in a network secured by a firewall, etc.
- If this unit is connected to a network that includes computers, make sure that the system is not infected by computer viruses or other malicious entities (using a regularly updated antivirus program, anti-spyware program, etc.).

The following points should be borne in mind as well.

- Use with the same segment is recommended for the devices which are connected to the unit. If the unit is connected to the devices whose segments are different, events dependent upon the settings inherent to the network equipment, for instance, may occur. Thoroughly check the connections with the devices to which the unit will be connected prior to the start of operation.
- Do not choose an installation location where the unit, cables and other parts will be easily damaged.

■ The ratings plates

The names, model numbers, and power ratings for these units are displayed on either the rear panel or the side.

■ This document

The descriptions in this document are of a 4K 2ME configuration. Unless particularly mentioned, the parts function the same in other configurations.

The indications on the control panel buttons and the menus use standard values.

Some may not be displayed or the indications may be different, depending on the system delivered.

Features

■ Abundant functional inputs and outputs

- Input functions:
Equipped with 20 12G-SDI inputs, with every input equipped with frame synchronizers
- Output functions:
Equipped with 12 12G-SDI outputs, with phase adjusters and chroma key sampling markers

■ A variety of image functions

- ME configuration: 2 MEs
- Keyers: Each ME has 2 keyers, and also has 2 PinP and 2 resizers, and in addition 2 DSK are fitted
- Each ME is fitted with 2-channels of real time, high quality chroma keying

■ Support 4K formats

- Supports 4K signal input sources with the 12G-SDI interface

■ Intuitive operations

- Multi-selection panel section on the graphical control panel:
Each ME has its own multi-selection panel to enable quick access to various functions such as wipe patterns, shot memories, and event memories.
- Color LCD switches with a click feel:
The switch style adopted for the multi-selection panel section makes sure you know when they are being pressed, supporting reliable operation.
- Crosspoint buttons: Multi-colored lights that can be grouped are employed for the crosspoint buttons.
- Source name display panel: Each ME has its own black and white source name display panel above the crosspoint buttons, which also enables graphical displays.

■ Network functions

- Web server functions:
Menu operation is possible from a web browser on a computer connected to the same network when each of the units is connected via LAN.

■ A rich range of functions to improve operability

- The menu panel on the 10.1-inch touch panel with excellent visibility enables fast operation of a variety of settings.
- Registering and calling up of routine effects possible using shot memories, event memories, macro memories, etc.
- With plug-in software, external device control capability can be added in accordance with the operation work flow.

■ Reliability and stability ensured

- Each unit and the control panel are fitted with duplicated power sources
- 2 control panels can be connected via IP for operation.

Configuration of the Live Production Suite series

Gateway Unit

- Model No.: AV-LSG10
- 12G-SDI input: 10 lines
- 12G-SDI output: 6 lines
- SFP28 terminal: For LPS-Link connections, 4 lines

XPT Unit

- Model No.: AV-LSX10
- SFP28 terminal: For LPS-Link connections, 12 lines

ME Unit

- Model No.: AV-LSM10
- Number of MEs: 2ME
- SFP28 terminal: For LPS-Link connections, 4 lines

System Manager Unit

- Model No.: AV-LSS10

Control Panel

- Model No.: AV-HS60Cxxx
(xxx represents an alphanumeric string. The model number depends on the configuration.)
- Number of MEs: 2 MEs
- Number of XPT buttons: 16 or 24

Refer to the operating instructions for the control panel and the operating guide (PDF) for the AV-HS6000 series for details.

Menu Panel

- Model No.: AV-HS60C3

Refer to the operating instructions for the menu panel and the operating guide (PDF) for the AV-HS6000 series for details.

Accessories

■ Parts common to each unit

- AC cable: 2 cables
- Rack mount fittings: 2 pieces
- Mount fitting screws: 6 pieces
- Rear panel support fittings: 2 sets
- Rear panel support screws: 8 pieces

■ Control Panel

- AC cable: 2 cables
- LAN cable: 1 cable
- Caps for switch blanks: 16 large pieces, 8 small pieces

■ Menu Panel

- DVI cable: 1 cable
- Mount fittings: 1 piece
- Mount fitting screws: 8 pieces



NOTE

- After removing the product from its container, dispose of the power cable cap (if supplied) and packing materials in an appropriate manner.

Peripheral equipment requirements

NOTE

- For the host computer to be connected to the <LAN> terminal of the Live Production Suite system, use a computer which meets the following conditions:

CPU	Intel® Core™ 2 DUO 2.4 GHz or more recommended
Memory	2 GB or more recommended
Network function	100Base-TX
Image display function	Resolution: 1024×768 pixels or more Color generation: True Color (24 bits or more)
Compatible OS, browser	Microsoft Windows 10 Internet Explorer 11.0
Hard disk drive	50 MB or more free memory

Network hub

Use a network hub that supports 1000Base-T.

Select one that has enough ports to accommodate the network cables for each unit, the control panel, and the computer.

Contact the place of purchase for details.

LAN cables

Use a LAN cable (CAT5E or better), straight cable or cross cable, STP (Shielded Twisted Pair), maximum 100 m.

Cables for inter-unit connections

Use either an SFP28 direct attach cable suited to 25 Gbps transfers or an optical module and optical fiber cable.

Contact the place of purchase for details.

Precautions for use

■ Handle carefully.

Do not drop the product, or subject it to strong impact or vibration. Do not carry or move the product by the fader lever. This is important to prevent malfunction or accidents.

■ Use the product at a temperature of 0 °C to 40 °C (32 °F to 104 °F).

Avoid using the product at a cold place below 0 °C (32 °F) or at a hot place above 40 °C (104 °F), because extremely low or high temperature may adversely affect the parts inside.

■ Turn off the power before connecting or disconnecting cables.

Before connecting or disconnecting the cables, be sure to turn off the power.

■ Avoid humidity and dust.

Avoid using the product at a humid, dusty place because much humidity and dust will cause damage to the parts inside.

■ Maintenance

Turn off the power and wipe the product using a dry cloth. To remove stubborn dirt, dip a cloth into a diluted solution of kitchen detergent (neutral), wring it out well, and wipe the product gently. Then, after wiping the product with a moist cloth, wipe it again with a dry cloth.



NOTE

- Avoid using benzene, paint thinners and other volatile fluids.
- If a chemical cleaning cloth is to be used, carefully read through the precautions for its use.

■ Precaution to be observed during production

Video switching and video effect functions of this unit can be used to produce videos which flicker rapidly or videos which change rapidly.

However, bear in mind when using these functions in production that the kinds of videos produced may have an adverse effect on the viewer's physical well-being.

■ Built-in display

Leaving the multi-selection menu panel, and LCD panel of the Menu Panel on with the same image over a long period of time may result in afterimage (burn-in). Use after configuring the screensaver settings.

The liquid crystal parts are highly precise with more than 99.99% of the pixels effective. This leaves less than 0.01% of pixels that may not light or may remain on all the time.

These phenomena are normal and will have no effect on the images you shoot.

Condensation may form on the LCD panel if you use the unit where temperatures fluctuate. Wipe it with a soft, dry cloth.

When the unit has completely cooled down, the display on the LCD monitor appears slightly darker than usual immediately after the power has been turned on. Once the internal temperature of the unit rises, the display returns to the normal brightness.

■ Touch screen

Operate with your fingers on the touch screen of the Menu Panel. Do not touch the panel with sharp-pointed, hard object such as a ballpoint pen.

■ When the product is to be discarded

When the product is to be discarded at the end of its service life, ask a specialized contractor to dispose of it properly in order to protect the environment.

■ Consumable parts

• Cooling fan:

This is a consumable part.

As a general rule, replace it every 5 years or so (when the unit has been operated for 15 hours a day).

• Power supply unit:

This is a consumable part.

As a general rule, replace it every 5 years or so (when the unit has been operated for 15 hours a day).

The period when the consumable parts need to be replaced will differ depending on the operating conditions.

When the time comes to replace one of these parts, be sure to ask your dealer to do the job.

Chapter 2 **Installation and Connection**

This chapter describes installation and connection.

Installation

CAUTION:

These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

 indicates safety information.

Installation of the different units

When installing or connecting the unit, be sure to ask your dealer.

■ Connecting the power supply

- Use the units in the Live Production Suite series with both of the power supply 1 and power supply 2 operating on each of them. An alarm is displayed when there is no AC power input to the power supply 1 and the power supply 2.

■ Handle carefully.

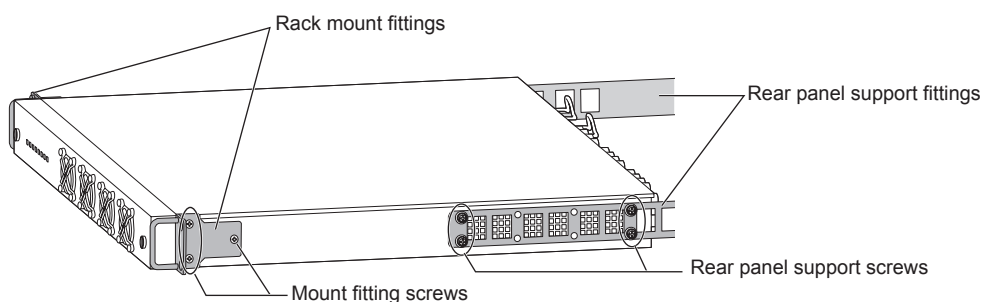
- Dropping the unit or subjecting it to strong impact or vibration may cause trouble and/or malfunctioning.

■ Do not allow any foreign objects to enter inside the unit.

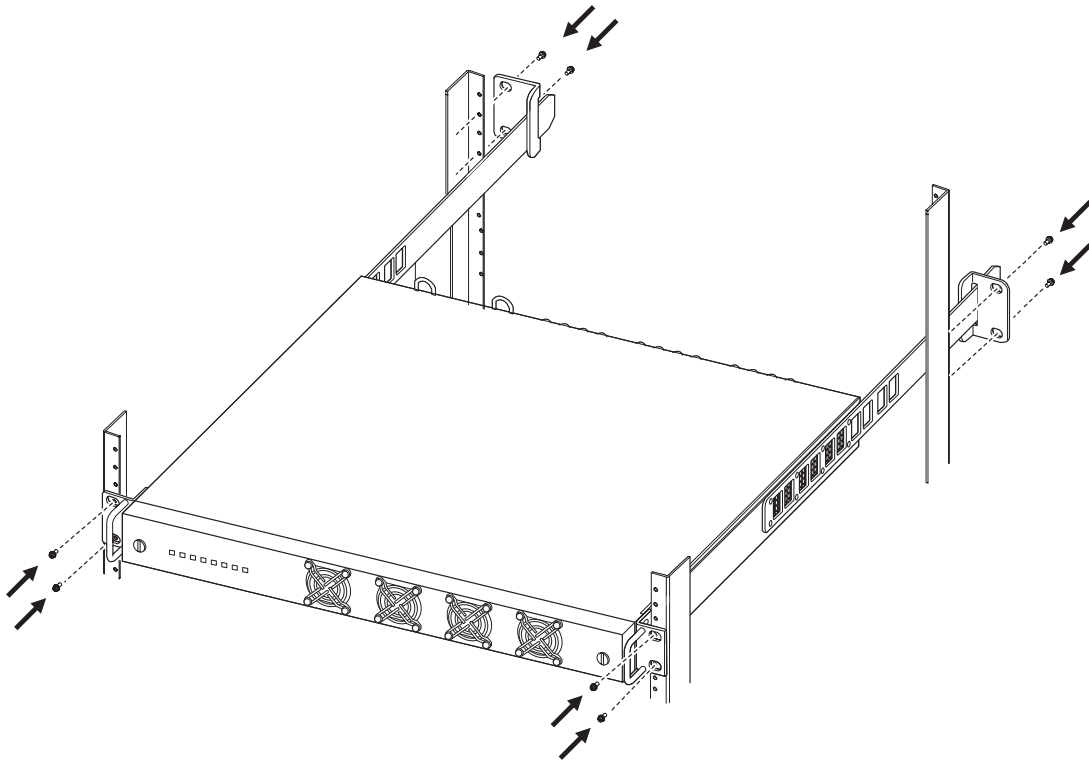
- Allowing water, metal items, scraps of food or other foreign objects inside the unit may cause a fire and/or electric shocks.

■ Choosing the best installation location

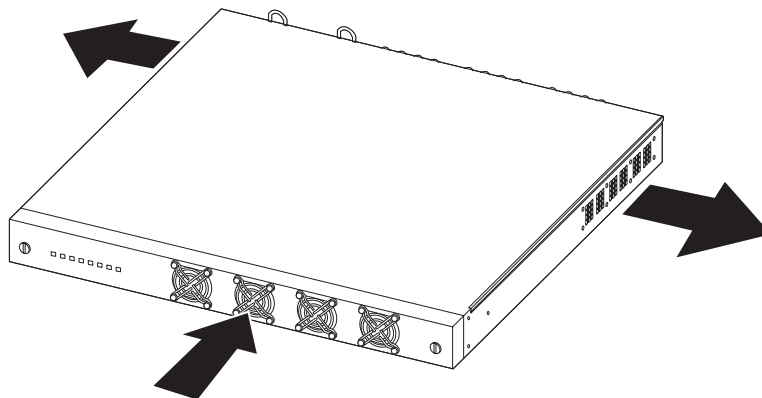
- This unit is a device for indoor use only.
- Securely mount the unit on the 19-inch standard rack that complies with the EIA standards (overall depth: 600 mm (23-5/8 inches) or more).



- Attach the rack mount fittings (supplied) using the 3 mount fitting screws (supplied) (for each side).
- Be sure to attach the “Rear panel support fitting” rack mount (supplied) that supports the rear of the unit. Select 4 places (on each side) suited to the depth of the rack to secure the unit to the rack with screws. (Prepare support fittings appropriate for the rack if the supplied fittings cannot be attached.)



- Screws for attaching the rack mount fittings and rear panel support fittings and for attaching to the rack are not supplied with this unit.
- Securely affixed with screws that match an appropriately sized rack.



- Secure sufficient space around the ventilation holes at the front and side of the front cover.
- Do not install the unit in a manner in which the unit or cables can be easily damaged.
- Avoid installing the unit where it will be exposed to direct sunlight or to the hot air that is blown out from other products.
- Installing the unit in a very humid, dusty, or vibration-prone location may cause malfunction.

Installing the Control Panel AV-HS60C2/AV-HS60C4

When installing or connecting the unit, be sure to ask your dealer.

■ Connecting the power supply

- Connect the <SIGNAL GND> terminal on the rear panel of the unit to the ground of the system.
- Use the Control Panel AV-HS60C2/AV-HS60C4 with both the power supply 1 and the power supply 2.
An alarm is displayed when there is no AC power input to the power supply 1 and the power supply 2 or when the power switch is set to <OFF>.

■ Handle carefully.

- Dropping the unit or subjecting it to strong impact or vibration may cause trouble and/or malfunctioning.

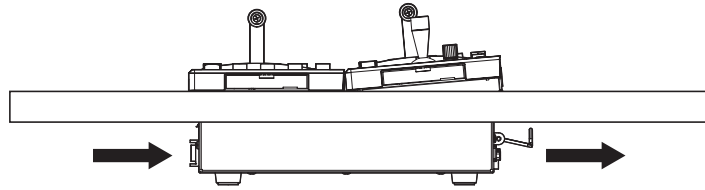
■ Do not allow any foreign objects to enter inside the unit.

- Allowing water, metal items, scraps of food or other foreign objects inside the unit may cause a fire and/or electric shocks.

■ Choosing the best installation location

- This unit is a device for indoor use only.

- Install the unit on a sufficiently strong, stable, and level surface for use.
- Secure a space surrounding the ventilation holes on the front panel of the power supply unit and on the rear panel of the Control Panel AV-HS60C2/AV-HS60C4 so that air circulation is not impeded.
In particular, ensure sufficient space between ventilation and wiring when using mounted in a panel or table.



- Avoid installing the unit where it will be exposed to direct sunlight or to the hot air that is blown out from other products.
- Installing the unit in a very humid, dusty or vibration-prone location may cause malfunction.

Installing the Menu Panel AV-HS60C3

Attach the panel using 4 mounting holes (M4 screw $\times 4$, 75 mm (2-15/16 inches) pitch) on the rear panel of the Menu Panel AV-HS60C3.
For details, refer to “Dimensions of the Menu Panel AV-HS60C3”.

Connection

Connecting the imaging systems

SDI input terminals

Connect cameras, VTR, and other external sources.

The SDI input of the Gateway Unit has a frame synchronizer function, so asynchronous SDI signals can be input.

To reduce the amount of delay, build a synchronous system by switching the frame synchronizer function [Off] and supplying synchronizing signals to this unit and the input devices.

SDI output terminals

Connect the switcher output signal to monitors and other external devices.

SFP28 terminal

Connect between each of the units according to the system connection plan provided by the place of purchase.

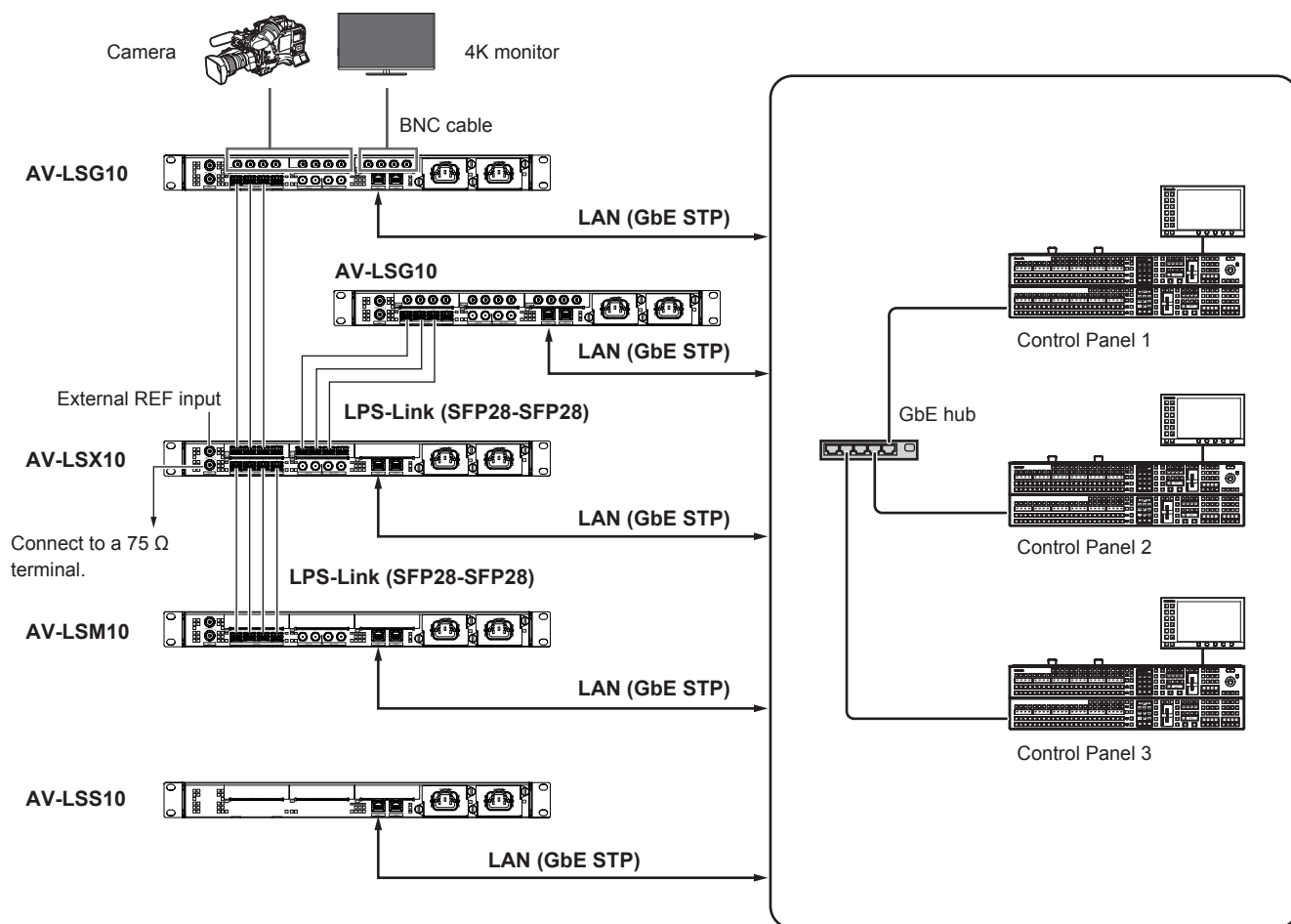
Recommended cables: Either an SFP28 direct attach cable suited to 25 Gbps transfers or an optical module and optical fiber cable

REF terminal

Connect the system sync signal from the sync signal generator.

Loop-through output is performed in external sync mode. If the loop-through output is not going to be used, provide a 75 Ω termination.

Example of connections between 4K switchers



- Do not use the LAN2 terminal on any of the units. Do not connect anything to these terminals.
- Do not connect anything to the REF terminals on AV-LSM10/AV-LSG10.

Connecting the control systems

Connecting the Live Production Suite system and the Control Panel AV-HS60C2/AV-HS60C4

Connect the <LAN1> terminal on each of the units and the <MAIN FRAME> terminal on the control panel using a LAN cable (CAT5E or better) via a GbE hub.

Recommended cables: LAN cable (CAT5E or better) or straight cable, STP (Shielded Twisted Pair), maximum 100 m

■ Connecting the control panel 2/3

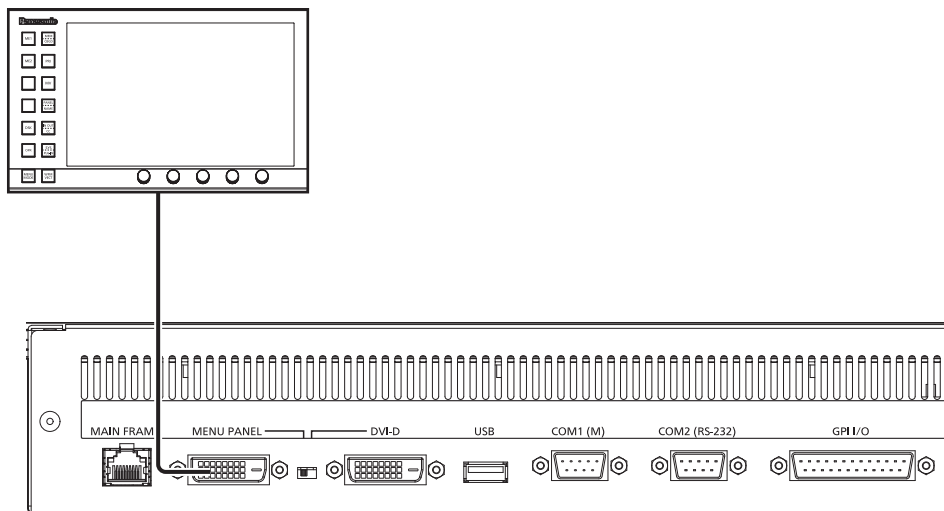
Connection is possible with a LAN cable (CAT5E or better) via a GbE hub.

NOTE

- The serial port cannot be used with the control panel.

Connecting the Menu Panel AV-HS60C3

Connect the control panel and the optional Menu Panel AV-HS60C3.



NOTE

- A 1366×768 resolution DVI-D monitor and a USB mouse cannot be connected to the control panel.
- The <DVI-D> terminal and <USB> jack cannot be used with the Live Production Suite series.

Connecting a computer

By connecting from the network that is configured by the switcher system via LAN, you can control it from a web browser on a computer.

For details on the compatible OS and browser, refer to “Peripheral equipment requirements”.

Computer settings

Set an IP address within the private address range for the connected computer that is different from each of the other units. Set the same address as the subnet mask for each of the units.

Refer to “Network settings” for information about the network settings for each unit.

Web browser settings

Launch the web browser on the computer and enter the IP address for the switcher system. (Default value: 192.168.0.90)

The user name and password entered are set up beforehand on the Control Panel.

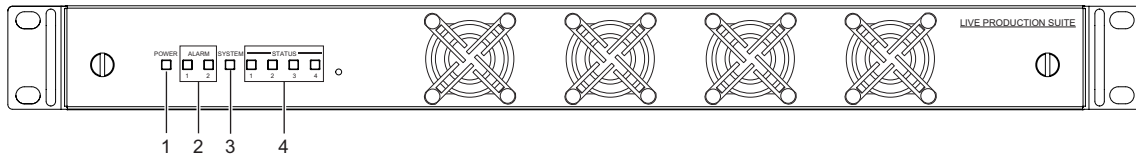
Set with <SYS> button → [System] → [Network] tab → [PC Access].

Chapter 3 **Part Names and Functions**

This chapter describes the names, functions, and operations of each part of the unit.

Parts common to each unit AV-LSG10/AV-LSX10/AV-LSM10/AV-LSS10

Front panel



1 Power lamp <POWER>

Lights when power is supplied to the <AC IN 1>/<AC IN 2> terminals.

2 Alarm lamp 1 <ALARM 1>

Lights when there is a problem with the AC IN 1 power on this unit (drop in voltage).

Alarm lamp 2 <ALARM 2>

Lights when there is a problem with the AC IN 2 power on this unit (drop in voltage).

An alarm message is displayed on the menu panel while the lamp is on.

While an alarm is occurring, you can see what the alarm is for by selecting the <SYS> button in the top menu → [MAINTENANCE] → [Alarm] tab.

3 System lamp <SYSTEM>

Lights when the unit's cooling fan is stopped or when the internal temperature has risen.

An alarm message is displayed on the menu panel when this happens.

4 Status lamps <STATUS1> - <STATUS4>

These indicate which role this unit is performing as part of a switcher system.

When 1 is on : Gateway Unit

When 2 is on : XPT Unit

When 3 is on : ME Unit

When 4 is on : System Manager Unit

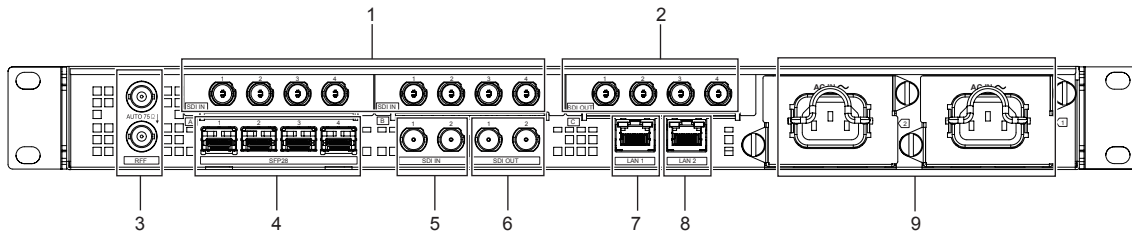


NOTE

- When an alarm occurs, cease operation immediately and be sure to contact the place of purchase.

Gateway Unit AV-LSG10

Rear panel



1 <SDI IN A 1> - <SDI IN A 4>, <SDI IN B 1> - <SDI IN B 4> terminals (connector: BNC×8/signal: SDI IN)

The menu panel display on the first Gateway Unit displays SDI IN 1 to SDI IN 8. The display on the second and later units display in sequential order.

2 <SDI OUT C 1> - <SDI OUT C 4> terminals (connector: BNC×4/signal: SDI OUT)

The menu panel display on the first Gateway Unit displays SDI OUT 1 to SDI OUT 4. The display on the second and later units display in sequential order.

3 <REF> terminals (connector: BNC×2/signal: Genlock)

Loop-through output is performed in external sync mode. If loop-through output is not going to be used, provide a 75 Ω termination.
Black burst signals are output from both terminals in the internal sync mode.
Not used on this unit. Do not connect a cable.

4 <SFP28 1> - <SFP28 4> terminals (connector: SFP28×4)

Used for LPS-Link connections between units. Connect according to the system connection plan.
Use SFP28-SFP28 direct attach cables for LPS-Link cables.

5 <SDI IN 1>, <SDI IN 2> terminals (connector: BNC×2/signal: SDI IN)

The menu panel display on the first Gateway Unit displays SDI IN 9 and SDI IN 10. The display on the second and later units display in sequential order.

6 <SDI OUT 1>, <SDI OUT 2> terminals (connector: BNC×2/signal: SDI OUT)

The menu panel display on the first Gateway Unit displays SDI OUT 5 and SDI OUT 6. The display on the second and later units display in sequential order.

7 <LAN1> terminal (connector: RJ-45/signal: 1000BASE-T)

Used to connect the units in the switcher system or the control panel.
Use a GbE hub, etc., and connect all of the units according to the system connection plan.

8 <LAN2> terminal (connector: RJ-45)

For a future expansion feature. Do not connect a cable.

9 <AC IN ~ 1>, <AC IN ~ 2> terminals (signal: AC)

Connect the supplied AC Cables and insert each into an AC outlet. (AC100 V to 240 V, 50 Hz/60 Hz)

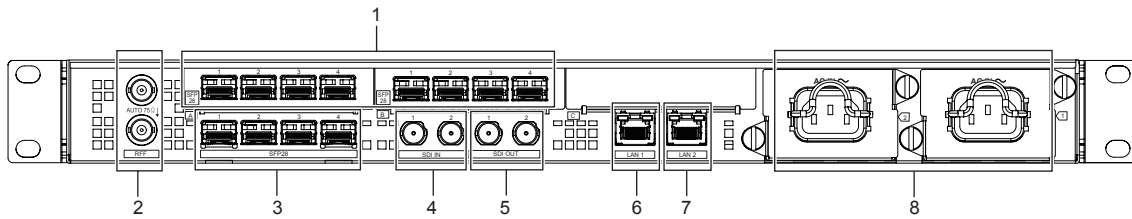
- The supplied AC Cables have 3-pin plugs with grounding terminals. Plug into 3-pin outlets equipped with grounding terminals.
- If you are unable to use 3-pin outlets, be sure to contact the place of purchase.

NOTE

- The cables to be connected to the SDI input/output terminals should be suitable for transfer of 12G-SDI.
- The shielded cables to be connected to the <LAN> terminals should conform to 1000BASE-T.
- The cables to be connected to the <SFP28> terminals should be suitable for 25 Gbps transfer.

XPT Unit AV-LSX10

Rear panel



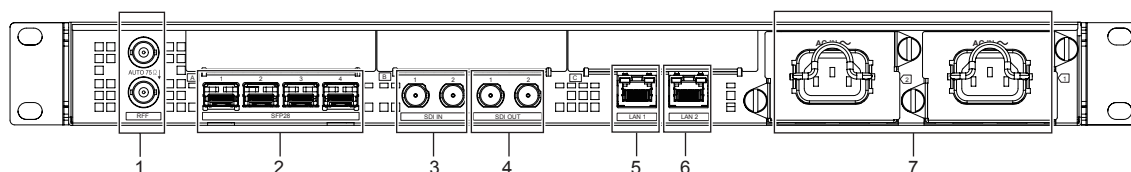
- 1 **<SFP28 A 1> - <SFP28 A 4>, <SFP28 B 1> - <SFP28 B 4> terminals (connector: SFP28×8)**
Used for LPS-Link connections between units. Connect according to the system connection plan.
Use SFP28-SFP28 direct attach cables for LPS-Link cables.
- 2 **<REF> terminals (connector: BNC×2/signal: Genlock)**
Loop-through output is performed in external sync mode. If loop-through output is not going to be used, provide a 75 Ω termination.
Black burst signals are output from both terminals in the internal sync mode.
- 3 **<SFP28 1> - <SFP28 4> terminals (connector: SFP28×4)**
Used for LPS-Link connections between units. Connect according to the system connection plan.
Use SFP28-SFP28 direct attach cables for LPS-Link cables.
- 4 **<SDI IN 1>, <SDI IN 2> terminals (connector: BNC×2/signal: SDI IN)**
Not used on this unit. Do not connect a cable.
- 5 **<SDI OUT 1>, <SDI OUT 2> terminals (connector: BNC×2/signal: SDI OUT)**
Not used on this unit. Do not connect a cable.
- 6 **<LAN1> terminal (connector: RJ-45/signal: 1000BASE-T)**
Used to connect the units in the switcher system or the control panel.
Use a GbE hub, etc., and connect all of the units according to the system connection plan.
- 7 **<LAN2> terminal (connector: RJ-45)**
For a future expansion feature. Do not connect a cable.
- 8 **<AC IN ~ 1>, <AC IN ~ 2> terminals (signal: AC)**
Connect the supplied AC Cables and insert each into an AC outlet. (AC100 V to 240 V, 50 Hz/60 Hz)
 - The supplied AC Cables have 3-pin plugs with grounding terminals. Plug into 3-pin outlets equipped with grounding terminals.
 - If you are unable to use 3-pin outlets, be sure to contact the place of purchase.

NOTE

- The shielded cables to be connected to the <LAN> terminals should conform to 1000BASE-T.
- The cables to be connected to the <REF> terminals should be 5C-FB or equivalent double-shielded cables.
- The cables to be connected to the <SFP28> terminals should be suitable for 25 Gbps transfer.

ME Unit AV-LSM10

Rear panel



1 <REF> terminals (connector: BNC×2/signal: Genlock)

Loop-through output is performed in external sync mode. If loop-through output is not going to be used, provide a 75 Ω termination.

Black burst signals are output from both terminals in the internal sync mode.

Not used on this unit. Do not connect a cable.

2 <SFP28 1> - <SFP28 4> terminals (connector: SFP28×4)

Used for LPS-Link connections between units. Connect according to the system connection plan.

Use SFP28-SFP28 direct attach cables for LPS-Link cables.

3 <SDI IN 1>, <SDI IN 2> terminals (connector: BNC×2/signal: SDI IN)

Not used on this unit. Do not connect a cable.

4 <SDI OUT 1>, <SDI OUT 2> terminals (connector: BNC×2/signal: SDI OUT)

Not used on this unit. Do not connect a cable.

5 <LAN1> terminal (connector: RJ-45/signal: 1000BASE-T)

Used to connect the units in the switcher system or the control panel.

Use a GbE hub, etc., and connect all of the units according to the system connection plan.

6 <LAN2> terminal (connector: RJ-45)

For a future expansion feature. Do not connect a cable.

7 <AC IN ~ 1>, <AC IN ~ 2> terminals (signal: AC)

Connect the supplied AC Cables and insert each into an AC outlet. (AC100 V to 240 V, 50 Hz/60 Hz)

- The supplied AC Cables have 3-pin plugs with grounding terminals. Plug into 3-pin outlets equipped with grounding terminals.

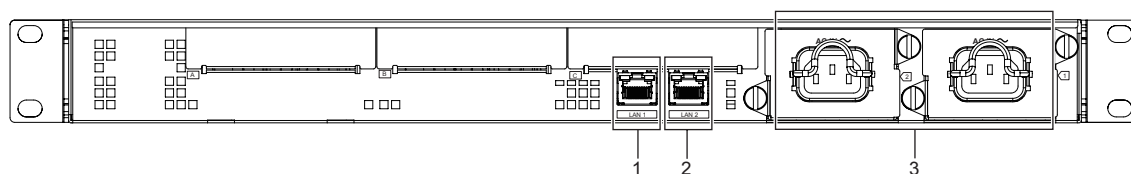
- If you are unable to use 3-pin outlets, be sure to contact the place of purchase.

NOTE

- The shielded cables to be connected to the <LAN> terminals should conform to 1000BASE-T.
- The cables to be connected to the <SFP28> terminals should be suitable for 25 Gbps transfer.

System Manager Unit AV-LSS10

Rear panel



1 <LAN1> terminal (connector: RJ-45/signal: 1000BASE-T)

Used to connect the units in the switcher system or the control panel.

Use a GbE hub, etc., and connect all of the units according to the system connection plan.

2 <LAN2> terminal (connector: RJ-45)

For a future expansion feature. Do not connect a cable.

3 <AC IN ~ 1>, <AC IN ~ 2> terminals (signal: AC)

Connect the supplied AC Cables and insert each into an AC outlet. (AC100 V to 240 V, 50 Hz/60 Hz)

- The supplied AC Cables have 3-pin plugs with grounding terminals. Plug into 3-pin outlets equipped with grounding terminals.
- If you are unable to use 3-pin outlets, be sure to contact the place of purchase.

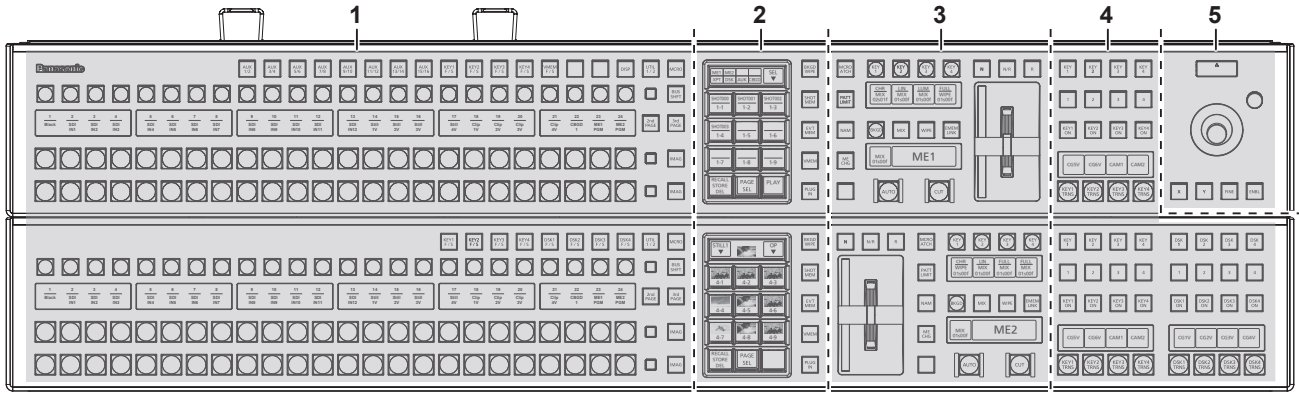
NOTE

- The shielded cables to be connected to the <LAN> terminals should conform to 1000BASE-T.

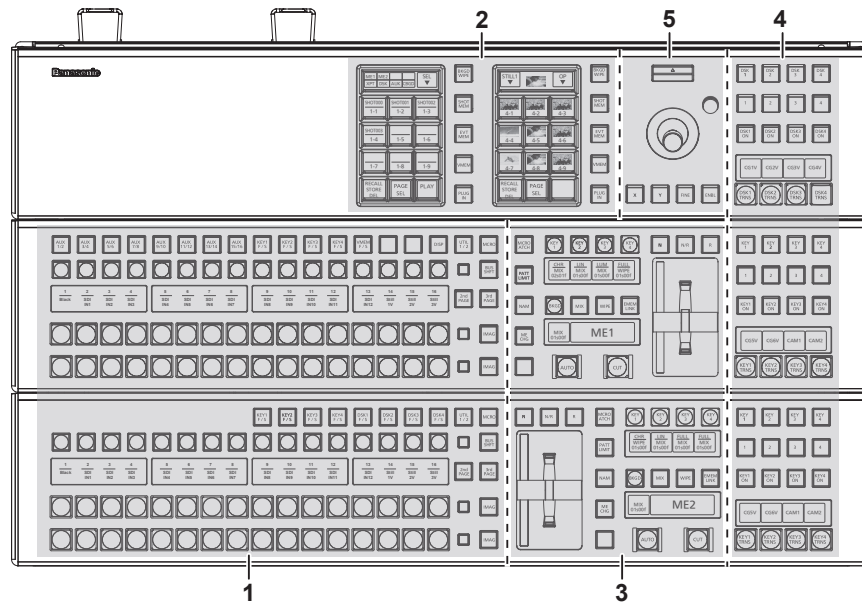
Control Panel AV-HS60C2/AV-HS60C4

Operation panel

■ AV-HS60C2



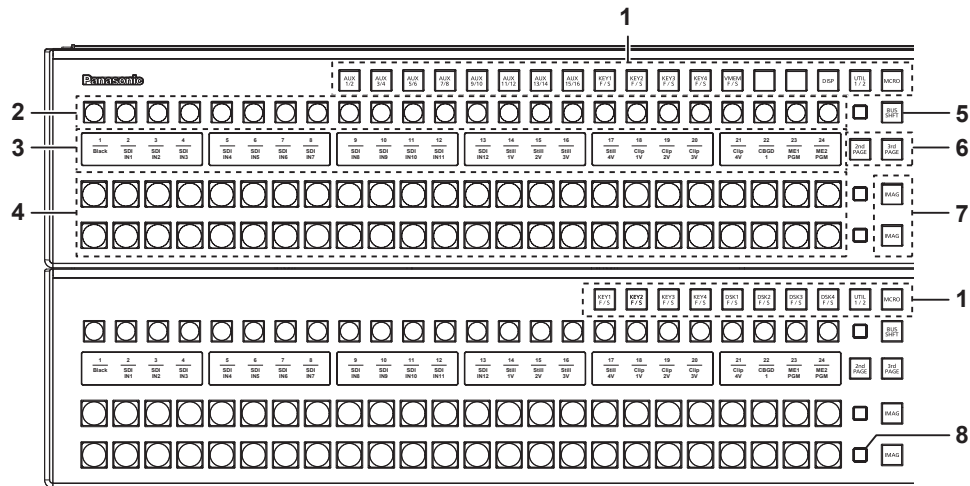
■ AV-HS60C4



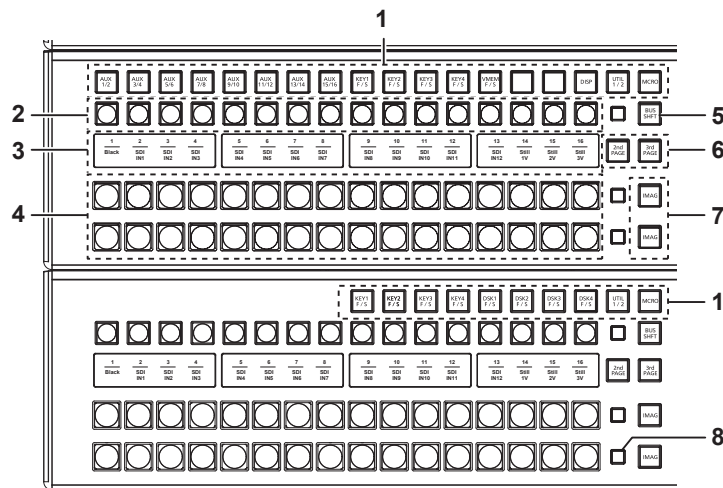
- 1 Crosspoint area
- 2 Multi-selection panel area
- 3 Transition area
- 4 KEY/DSK operation area
- 5 Positioner area

Crosspoint area

■ AV-HS60C2



■ AV-HS60C4



1 KEY bus selector buttons (KEY BUS DELEGATION)

Switches functions that can be operated using the KEY bus crosspoint buttons.

<AUX 1/2> to <AUX 15/16> buttons	<p>Switches to the source selector buttons for the AUX buses.</p> <ul style="list-style-type: none"> If you press the same buttons again while the <AUX 1/2> to <AUX 15/16> buttons are selected, the bus in the background is selected. <p>Example)</p> <p>If you press the <AUX 1/2> button again while the AUX1 bus is selected, the AUX2 bus is selected.</p> <ul style="list-style-type: none"> The <AUX 1/2> to <AUX 3/4> buttons have the MIX transition function. (page 119) The <AUX 1/2> to <AUX 15/16> buttons have the crosspoint link coupling function. (page 117)
<KEY1 F/S> to <KEY4 F/S> buttons	<p>Switches to the source selector buttons for the key fill buses or key source buses.</p> <ul style="list-style-type: none"> If you select key fill signal or key source signal using the KEY bus crosspoint buttons, the signals are linked and another signal is automatically selected. The unit's linking operation has two modes. The mode setting can be made from the <OPR> button on the top menu → [SOURCE LINK] → [Key Assign] tab → [Master/Slave]. The KEY3/KEY4 functions become the PinP1/PinP2 functions in the Live Production Suite.
<V MEM F/S> button	Switches to the source selector buttons for the fill buses or source buses of [CLIP1], [CLIP2] (video memory) and [STILL1], [STILL2] (still image memory) input buses.
<MCRO> button	Switches to the start button to play back the macro memory assigned to the KEY bus crosspoint buttons. The assignment can be made from the <MEM> button on the top menu → [MACRO] → [XPT Panel1] - [XPT Panel3] tab. (page 160)
<DSK1 F/S> to <DSK4 F/S> buttons	<p>Switches to the source selector buttons for the DSK fill buses or DSK source buses.</p> <ul style="list-style-type: none"> If you select key fill signal or key source signal using the KEY bus crosspoint buttons, the signals are linked and another signal is automatically selected. The unit's linking operation has two modes. The mode setting can be made from the <OPR> button on the top menu → [SOURCE LINK] → [Key Assign] tab → [Master/Slave]. The <DSK3 F/S> and <DSK4 F/S> buttons cannot be used with the Live Production Suite.

2 KEY bus crosspoint buttons (AV-HS60C2: 1 to 24, AV-HS60C4: 1 to 16)

Selects the source of the bus which was selected by the KEY bus selector buttons.

Source can be selected using the <2nd PAGE>/<3rd PAGE> button. (AV-HS60C2: Maximum of 96, AV-HS60C4: Maximum of 64) (page 25)

3 Source name display panels

Displays applications of the crosspoint buttons. The display settings of the source name display panels can be made from the <NAME> button on the top menu → [SOURCE NAME] → [Panel Name] tab.

When operating other than macro bus: “crosspoint number” on the upper line, “input source name” on the lower line

When operating macro bus: “macro name” on the upper line, “input source name” on the lower line

4 PGM/A bus crosspoint buttons (AV-HS60C2: 1 to 24, AV-HS60C4: 1 to 16), PST/B bus crosspoint buttons (AV-HS60C2: 1 to 24, AV-HS60C4: 1 to 16)

Selects the video signals of the PGM/A bus and PST/B bus.

Source can be selected using the <2nd PAGE>/<3rd PAGE> button. (AV-HS60C2: Maximum of 96, AV-HS60C4: Maximum of 64) (page 25)

- Bus mode can be selected from the <OPR> button on the top menu → [OTHER SETTINGS] column → [Bus Mode] tab.

5 <BUS SHFT> button

Press the <AUX 1/2> to <AUX 15/16>/<KEY1 F/S> to <KEY4 F/S>/<VMEM F/S>/<DSK1 F/S>/<DSK2 F/S> buttons while holding down the <BUS SHFT> button to switch the bus selection applications. For the <AUX 1/2> to <AUX 15/16> buttons, the bus selection applications can be switched even when the selected button is pressed again.

Example) <KEY1 F/S> button

When only the <KEY1 F/S> button is pressed, the KEY bus crosspoint buttons are switched to the source selector buttons of the KEY1 fill bus.

When the <KEY1 F/S> button is pressed while the <BUS SHFT> button is held down, the KEY bus crosspoint buttons are switched to the source selector buttons of the KEY1 source bus.

6 <2nd PAGE>/<3rd PAGE> buttons

Switch the page to select the source with the KEY bus crosspoint buttons, PGM/A bus crosspoint buttons, or PST/B bus crosspoint buttons.

- The pages of the buses included in the corresponding ME can be switched at once. To switch pages at individual buses, assign the <2nd PAGE>/<3rd PAGE> button to the KEY bus crosspoint buttons, PGM/A bus crosspoint buttons, and the PST/B bus crosspoint buttons. (page 115)

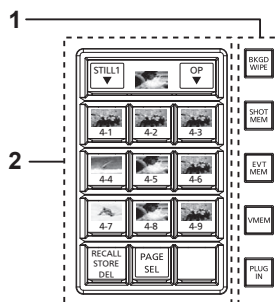
Button status		Displayed page
<2nd PAGE> button	<3rd PAGE> button	
Off	Off	First page
Lit	Off	Second page
Off	Lit	Third page
Lit	Lit	Fourth page

7 <IMAG> button

These buttons cannot be used with the Live Production Suite.

8 Bus tally

Indicates the output status of the buses. The buses that comprise the on-air tallies will light up.

Multi-selection panel area**1 Mode selection button**

Switches functions that can be operated on the multi-selection panel.

<BKGD WIPE> button	Selects background wipe preset.
<SHOT MEM> button	Registers/recalls/deletes register memories of the shot memory.
<EVT MEM> button	Recalls register memories of the event memory. This button is also used to select register memories during EMEM-LINK transition. • Registration/editing are performed using the menu.
<VMEM> button	Records [CLIP1], [CLIP2] (video memory) and [STILL1], [STILL2] (still image memory) to the current frame memories and plays them back.
<PLUG IN> button*	Used as a plug-in software menu.

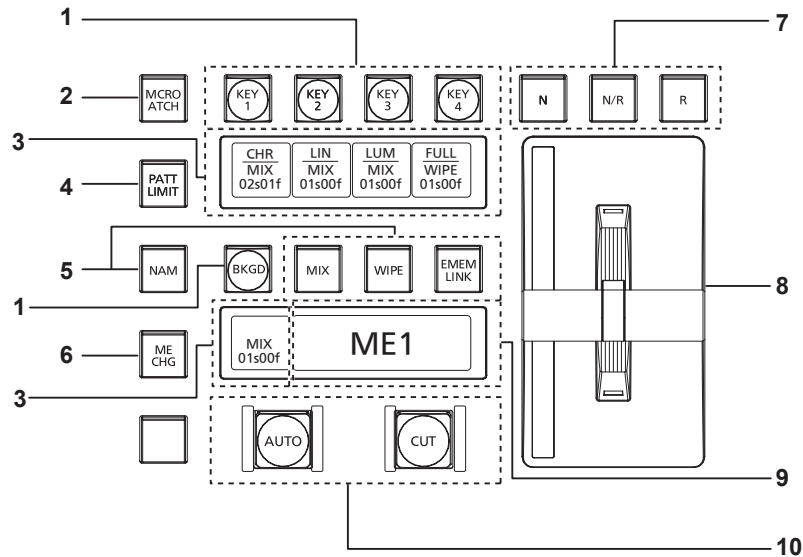
* This is a function to be supported in the future.

2 Multi-selection menu panel

When the mode selection button is pressed, the menu to be displayed is switched.

For details, refer to “Basic operations for the multi-selection panel area”.

Transition area

**1 Transition target selection buttons (<BKGD>/<KEY1>/<KEY2>/<KEY3>/<KEY4>)**

Sets the operation target for the next transition to be executed when the fader lever or <AUTO>/<CUT> button is operated.

2 <MCRO ATCH> button

Switches between enabling/disabling macro attach functions assigned to the button of the corresponding ME.

- When set to on, the macro attach function is enabled.
- The button to which the macro attach function is assigned is illuminated in a specific color while it is on. The light color setting can be made from the <PANEL> button on the top menu → [BUTTON COLOR] → [Setting] tab → [Macro Attach] in the [No Sel Other] column.

3 Status display

Displays the key type (KEY only)/transition type/transition time.

4 <PATT LIMIT> button

Restricts the amount of the background wipe transition for the corresponding ME.

- When set to on, the pattern limit function is enabled.
- Set pattern limit details from the <ME1>/<ME2> button on the top menu → [BKGD] → [Transition] tab → [Pattern Limit] column.

5 Transition type selection buttons (<NAM>/<MIX>/<WIPE>/<EMEM LINK>)

<MIX> button	Switches images while overlapping. During the transition, the output total of the A bus and B bus is kept at 100%. In background transition, the above operation is applied when the <NAM> button is off. It will perform non-additive mixing or color mix mixing depending on the setting of the top menu <ME1>/<ME2> button → [BKGD] → [Transition] tab → [Trans Type] column when the <NAM> button is on. For details, refer to "<NAM/CMIX> button setting".
<WIPE> button	Performs transition according to the patterns set in the menu or selected at the wipe preset on the multi-selection panel area.
<EMEM LINK> button	Performs transition according to the patterns registered in the event memory. (page 81)

6 <ME CHG> button

Switches the display of the multi-selection panel area to the menu for changing ME which is the operation target. (page 120)

7 Wipe direction selection buttons

Selects the wipe direction when executing the background transition. The operation is not performed when the transition is a key.

<N> button	Wiping proceeds in the normal direction.
<R> button	Wiping proceeds in the reverse direction.
<N/R> button	The normal direction is replaced with the reverse direction (or vice versa) when the transition is completed. • On/off of the <N>/<R> button is also switched according to the wipe direction.

8 Fader lever/transition status

Used to execute background or key transitions. When the lever is moved as far as it will go, the transition is completed. If the fader lever has been operated during auto transition, auto transition will be switched to manual operation as soon as the fader lever position overtakes the amount of the transition being executed.

For details on the transition status display, refer to "Transition status display".

9 ME status area

Displays the ME of the operations target. Use the <ME CHG> button to switch the ME of the operation target.

10 Transition execution button

<AUTO> button	Automatically executes transition. (Auto transition) • To set the transition time, select the <ME1>/<ME2> button on the top menu → [BKGD] → [Transition] tab → [Transition] column → [AUTO Time].
<CUT> button	Executes transition instantly.

■ Transition status display

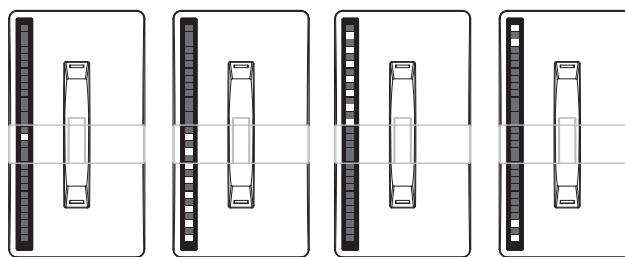


Fig. 1

Fig. 2

Fig. 3

Fig. 4

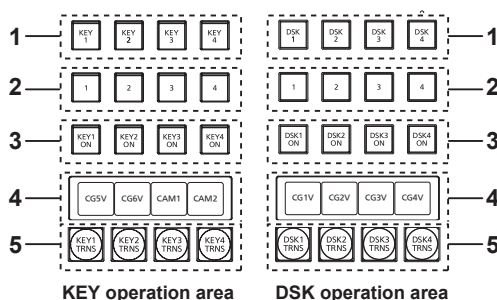
The transition status display at the left side of the fader lever indicates not the lever position but the amount of transition, and also works during auto transition.

During pattern limitation, the amount of limitation will also be displayed. (Fig. 1)

If the fader lever position and the amount of images do not match after memory playback or auto transition execution, every other display will be displayed. When displayed at one side (Fig. 2, Fig. 3), push the lever towards the displayed side to make the lever position recognize.

If multiple operations of BKGD and KEY1 to KEY4 are performed in the next transition, both sides may become unmatched. In such a case, the display will be like Fig. 4, so move the fader lever back and forth to make the lever position recognize.

KEY/DSK operation areas



KEY operation area

DSK operation area

1 Operation target selection buttons (<KEY1>/<KEY2>/<KEY3>/<KEY4>/<DSK1>/<DSK2>/<DSK3>/<DSK4>)

Selects the operation target for key/DSK preset memory.

The <DSK3> and <DSK4> buttons cannot be used with the Live Production Suite.

2 Key/DSK preset memory buttons (<1>/<2>/<3>/<4>)

Recalls/stores the key preset memory. (page 91)

- Short press: Recalls data saved to the corresponding button. (Recall)
 - Long press: Stores the current key settings to the corresponding button. (Store)
- Current key setting can be deleted (Delete) by press and holding. For details, refer to "Key preset".

3 <KEY1 ON>/<KEY2 ON>/<KEY3 ON>/<KEY4 ON>/<DSK1 ON>/<DSK2 ON>/<DSK3 ON>/<DSK4 ON> buttons

Executes/cancels each key with a cut transition.

The <DSK3 ON> and <DSK4 ON> buttons cannot be used with the Live Production Suite.

4 Source name display panels

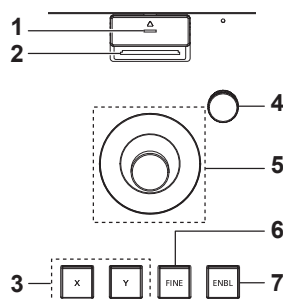
Displays the source name selected for each key.

5 <KEY1 TRNS>/<KEY2 TRNS>/<KEY3 TRNS>/<KEY4 TRNS>/<DSK1 TRNS>/<DSK2 TRNS>/<DSK3 TRNS>/<DSK4 TRNS> buttons

Executes transition with the transition type and transition time for each key set in the menu. (pages 60, 71)

The <DSK3 TRNS> and <DSK4 TRNS> buttons cannot be used with the Live Production Suite.

Positioner area



1 Memory card access LED

Lights up while accessing the memory card.

Do not turn off the power of the unit or eject the memory card while lit. The memory card or data in the memory card may be damaged.

2 Memory card slot

Insert an SD memory card (optional) or an SDHC memory card (optional).

3 Positioner buttons (<X>/<Y>)

<X> button	Enables/disables the X-axis operation of the positioner (horizontal direction). When set to on, operation is enabled.
<Y> button	Enables/disables the Y-axis operation of the positioner (vertical direction).

4 Z-axis dial

Used to set the numeric values at the numeric entry items on the Menu Panel AV-HS60C3.
It corresponds to the third from the left of the rotary encoders on the Menu Panel AV-HS60C3.

5 Positioner

Used to set the numeric values at the numeric entry items on the Menu Panel AV-HS60C3.

- X axis (horizontal direction): Corresponds to the leftmost of the rotary encoders on the Menu Panel AV-HS60C3.
- Y axis (vertical direction): Corresponds to the second from the left of the rotary encoders on the Menu Panel AV-HS60C3.

6 <FINE> button

Changes the amount of change in parameter for the positioner operation.
When set to on, finer adjustments can be made.

7 <ENBL> button

Lit: Enables operations of the positioner and Z-axis dial.
Off: Disables operations of the positioner and Z-axis dial.

NOTE

- This unit detects the position of the positioner and sets the position to the center by the time when the startup is completed after power is turned on. Do not touch the positioner until the startup of the unit is completed.

Memory cards

Memory cards used with the unit should conform to SD or SDHC standards.

Be sure to format memory cards using the unit.

Memory cards with the following capacity can be used for the unit. The unit does not support SDXC memory cards.

SD memory card: 1 GB to 2 GB

SDHC memory card: 4 GB to 32 GB

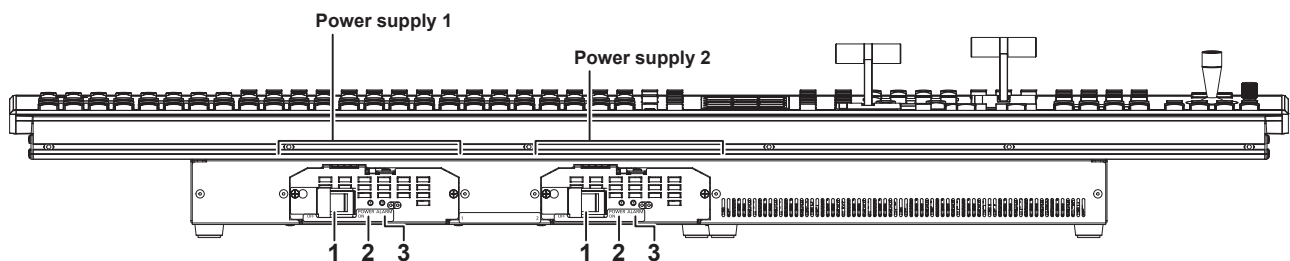
For the latest information not available in the Operating Guide, visit the following website.

<https://pro-av.panasonic.net/> (English only)

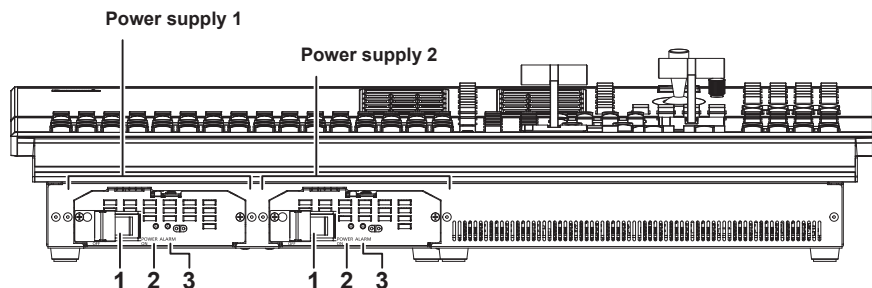
- Keep the following points in mind when using or storing memory cards.
 - Avoid high temperatures/humidities.
 - Do not expose to water droplets.
 - Avoid electrical charges.

Front panel

AV-HS60C2



AV-HS60C4



1 <POWER> switch (with safety guard)

Turns power on/off.

- When turning off the power of the redundant power supply model (AV-HS60C2 /AV-HS60C4), set both the <POWER> switch for the power supply 1 and the <POWER> switch for the power supply 2 to <OFF>.

2 Power indicator

When power is input into the <AC IN 1>/<AC IN 2> terminal, both <POWER> switches of the power supply 1 and the power supply 2 will light up when they are set to <ON>.

3 Alarm indicator <ALARM>

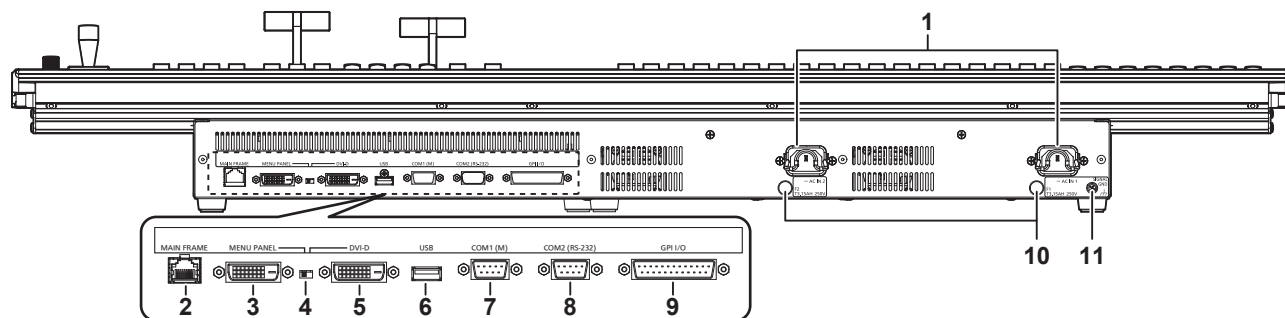
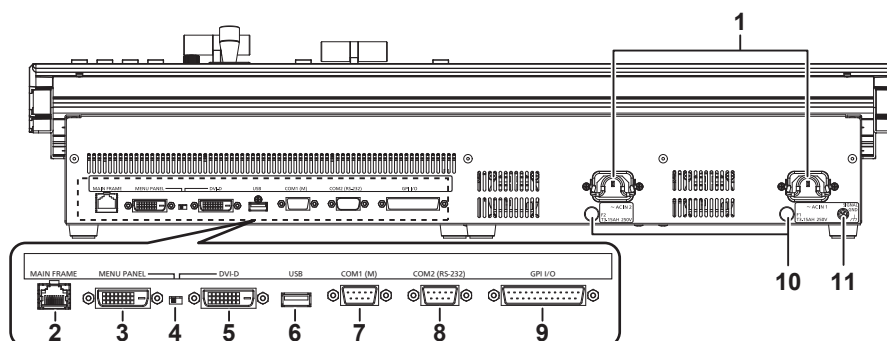
Lights up when there is a problem (voltage decrease) in the power supply of the Control Panel AV-HS60C2/AV-HS60C4. At this time, an alarm message is displayed on the Menu Panel AV-HS60C3.

For the redundant power supply model (AV-HS60C2 /AV-HS60C4), an alarm will be displayed if both <POWER> switches of the power supply 1 and the power supply 2 have not turned on.

When an alarm has occurred, details of the problem can be checked from the <SYS> button on the top menu → [MAINTENANCE] → [Alarm] tab. (page 170)

NOTE

- When an alarm has occurred, stop using the unit immediately, and be sure to contact your dealer. Continuous use of the unit even after an alarm has occurred could damage the unit.

Rear panel**■ AV-HS60C2****■ AV-HS60C4****1 <AC IN 1>/<AC IN 2> terminals (signal: AC)**

Connects one end of the supplied AC cable to this terminal and the other end to the AC outlet. (AC 100 V to 240 V, 50 Hz/60 Hz)

- The supplied AC cable has a 3-pin plug with a grounding terminal. Connect to a 3-pin power outlet which is equipped with a grounding terminal.
- If a 3-point power outlet is not available, be sure to consult your dealer.

2 <MAIN FRAME> terminal (connector: RJ-45/signal: 100Base-TX)

Connect the <LAN1> terminal on each of the units in the Live Production Suite and the <MAIN FRAME> terminal on the control panel using a LAN cable (CAT5E or better) via a GbE hub.

- When connected to the <LAN> terminal, no video will be displayed on the Menu Panel AV-HS60C3.

3 <MENU PANEL> terminal (connector: DVI-D/signal: independent signal)

Connects the Menu Panel AV-HS60C3.

- Cannot be used concurrently with a DVI monitor (computer) connected to the <DVI-D> terminal. Select with the display selector switch.
- This is the dedicated interface for the Menu Panel AV-HS60C3. Do not connect with DVI output devices.

4 Display selector switch

Switches the terminal to be used to the <MENU PANEL> terminal or <DVI-D> terminal depending on the connected device.

Switch this when the power is off. Output will not be performed properly if switched with the power turned on. Restarting of the unit will be necessary. Set the power to <OFF>, and then set it back to <ON>.

Only the <MENU PANEL> terminal is enabled on the Live Production Suite series.

5 <DVI-D> terminal (connector: DVI-D/signal: DVI OUT)

Connects the DVI monitor (computer) used for the menu display.

- Monitor resolution: 1366×768 compatible monitor
- Cannot be used concurrently with the <MENU PANEL> terminal. Select with the display selector switch.

This terminal cannot be used with the Live Production Suite series.

6 <USB> terminal (connector: USB (type A, female)/signal: USB)

Used for the menu operation of the DVI monitor (computer).

- Cannot be used for the Menu Panel AV-HS60C3.

This terminal cannot be used with the Live Production Suite series.

7 <COM1 (M)> terminal (connector: D-sub 9-pin (female), inch screw/signal: RS-422)

Used for master connection of external devices.

This terminal cannot be used with the Live Production Suite series.

8 <COM2 (RS-232)> terminal (connector: D-sub 9-pin (male), inch screw/signal: RS-232)

Used to control external device.

This terminal cannot be used with the Live Production Suite series.

9 <GPI I/O> terminal (connector: D-sub 25-pin (female), inch screw/signal: GPI)

Equipped with 8 contact input ports (GPI IN) that control the unit externally, 10 output ports (GPI OUT) that output tallies or status information from the unit, and an alarm output port (ALARM OUT).

This terminal cannot be used with the Live Production Suite series.

10 <F1>/<F2> terminals

(Fuse)

11 <SIGNAL GND> terminal (signal: SG)

Connects to the ground of the system.

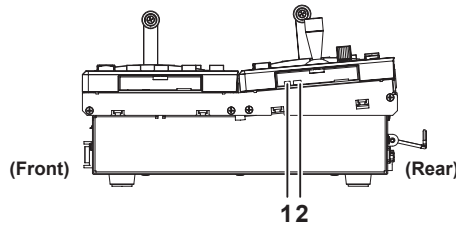


NOTE

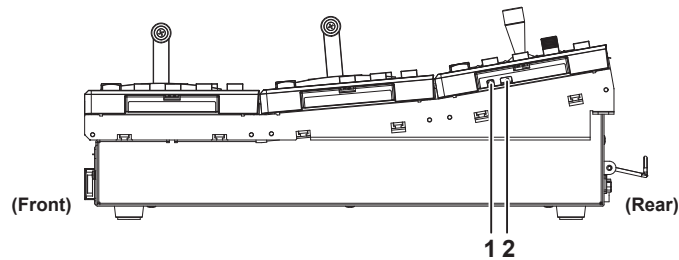
- For the cable connecting to the <DVI-D> terminal, use a double-shielded cable.
- For the cable connecting to the <MAIN FRAME> terminal, use a shielded cable.

Side (right)

■ AV-HS60C2



■ AV-HS60C4



1 Reset switch

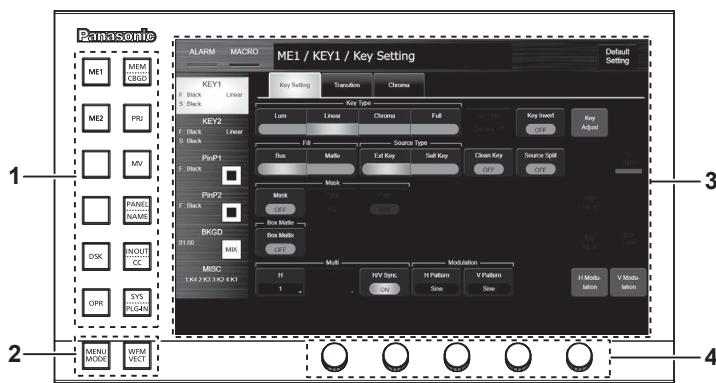
The reset switch for the Control Panel. (For maintenance)

2 Service switch

The switch for maintenance. Normally use it by setting to forward.

Menu Panel AV-HS60C3

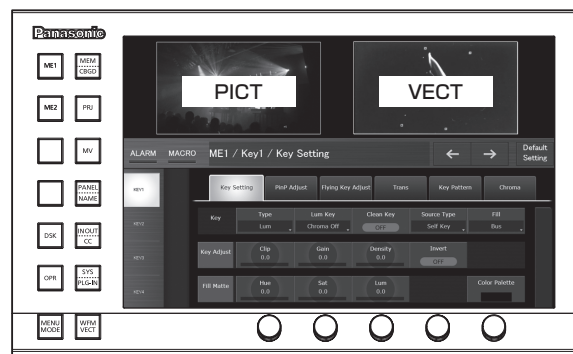
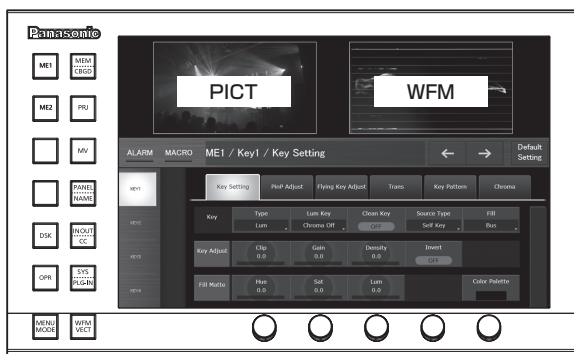
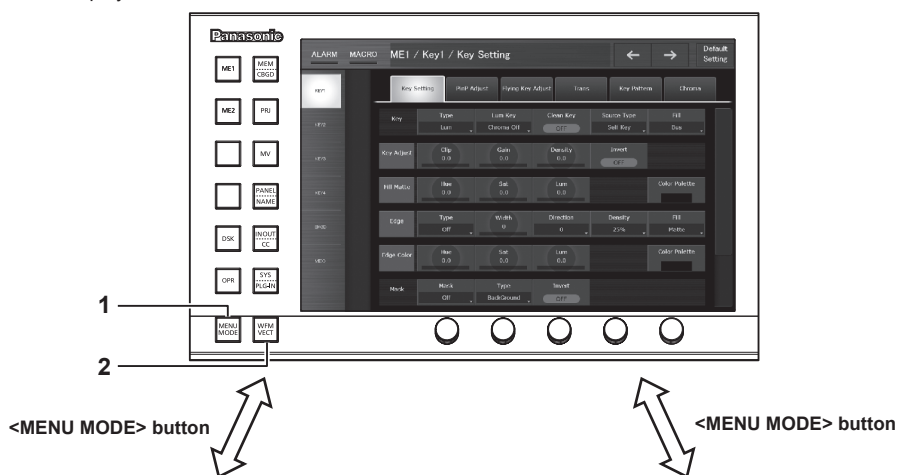
Operation panel



- 1 Top menu buttons (<ME1>, <ME2>, <DSK>, <OPR>, <MEM/CBGD>, <PRJ>, <MV>, <PANEL/NAME>, <IN OUT/CC>, <SYS/PLG-IN>)**
Selects the first hierarchy of the menu.
- 2 Split-screen buttons (<MENU MODE>, <WFM VECT>)**
Switches the display of the menu screen.
For details, refer to “Split display of the menu screen”.
There is no split menu screen display with the Live Production Suite.
- 3 Menu screen**
- 4 Rotary encoders**
When the rotary encoder is turned, the numeric values of the number button focused on the menu can be changed.
When the rotary encoder is double-clicked or held down, the numeric values of the number button focused on the menu will return to the default settings.

Split display of the menu screen

There is no split menu screen display with the Live Production Suite.



1 <MENU MODE> button

Each time this button is pressed, the full screen display and split display (PICT, WFM/VECT, menu) of the menu are switched.
The display content is as follows when the menu screen is split.

Display position	Display content
Upper left	Images selected in the DISP bus are displayed.
Upper right	The WFM (waveform monitor) or VECTOR (vectorscope) for the video selected in the DISP bus is displayed.
Bottom	The menu will be displayed.

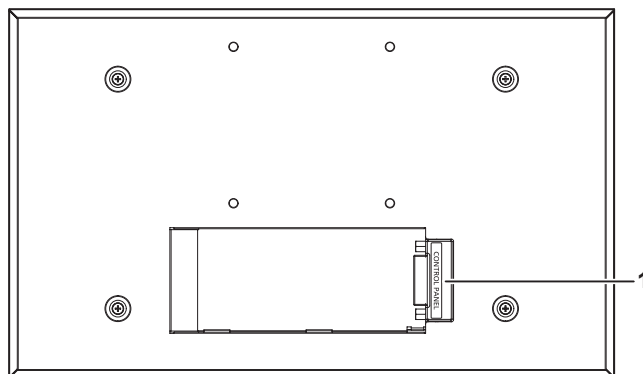
2 <WFM VECT> button

Each time the button is pressed when the menu display is split, the WFM (waveform monitor) and VECTOR (vectorscope) displayed at the upper right of the screen are switched.

NOTE

- When anything other than [DISP] is selected using the <SYS> button → [SYSTEM] → [Display] tab → [Video Codec] column → [Target] item, the image selected in the DISP bus, the WFM, or the VECTOR is not displayed.
- Image, WFM, and VECTOR are not displayed in the Menu Panel AV-HS60C3 connected to the control panel 2/3.

Rear panel



1 <CONTROL PANEL> terminal (connector: DVI-D/signal: independent signal)

Connects the Control Panel AV-HS60C2/AV-HS60C4.

- This is the dedicated interface for connection with the Control Panel AV-HS60C2/AV-HS60C4 (optional). Do not connect with DVI output devices.

Chapter 4 **Preparations**

This chapter describes basic operations and matters to be performed prior to use.

Turning power on/off

Turning power on

1 Supply power to the power supplies <POWER 1> and <POWER 2> of each unit.

- Supply power to both power supply 1 <POWER 1> and power supply 2 <POWER 2>.
- The power indicator will light up when power is supplied.

Turning power off

1 Stop supplying power to the power supplies <POWER 1> and <POWER 2> of each unit.

- Stop supplying power to both power supply 1 <POWER 1> and power supply 2 <POWER 2>.
- The power indicator will go off when power is cut off.

NOTE

- Do not turn off the power when accessing the memory card or the Storage Module. Data in the memory card may be damaged.
- When the power is turned on, the unit boots with the same settings as were active when the power was turned off, with the exception of image data in the VMEM (video memory). (Resume function)

Note that, in the following items, the changed settings will be backed up at approximately 60-second intervals in the non-volatile memory, and the settings at the time of shutdown will be restored, but the settings changed within approximately 60 seconds before turning off the power may not be updated. To update securely, do not change settings within approximately 60 seconds before turning off the power.

- Background wipe preset
- Key source preset

Basic menu operations

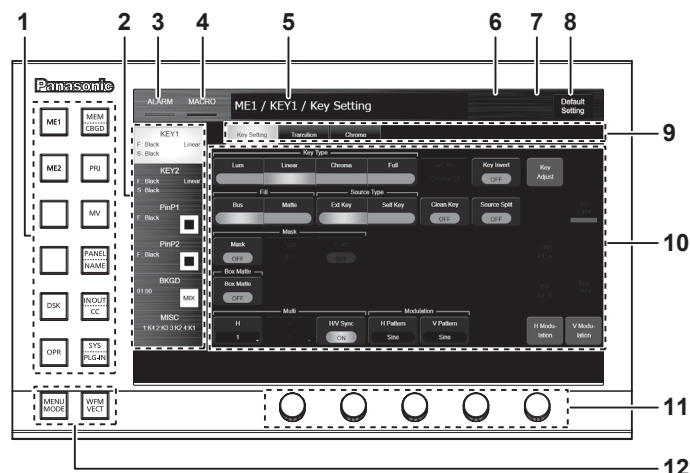
This section describes basic operations of the menu. Connect with a menu panel AV-HS60C3, etc., to perform menu operations. This document is written based on the operations with the Menu Panel AV-HS60C3. Operations may differ depending on the connected devices.

For configuration of the menu, refer to “Setting menu table”.

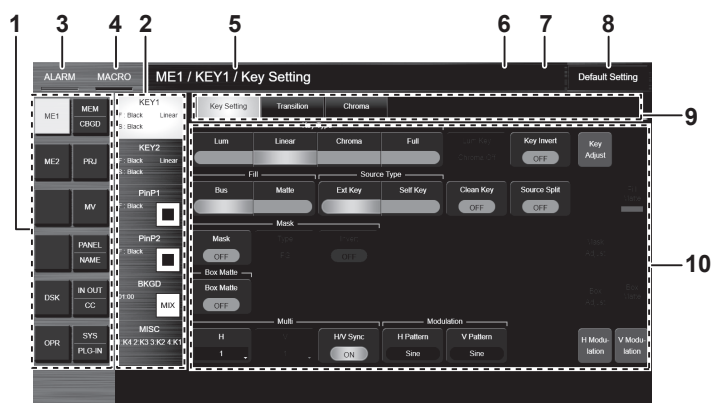
Menu configuration and operations

Menu display

■ Menu Panel AV-HS60C3



■ LAN connected computer



1 Top menu

Selects the first hierarchy of the menu.

2 Function menu

Selects the second hierarchy of the menu. When items you want to set are not displayed, move the scrollbar to display them.

3 [ALARM]

When an alarm has occurred, the [ALARM] indicator area will light up red.

If [ALARM] is selected, the same page as displayed with the <SYS> button on the top menu → [MAINTENANCE] → [Alarm] tab will appear.

4 [MACRO]

The status for the [MACRO] indicator is as follows.

- Lights up red during macro recording.
- Lights up green during macro execution.
- Lights up orange when the macro playback is paused.

If [MACRO] is selected, the same page as displayed from the <MEM> button on the top menu → [MACRO] → [Macro] tab page will appear. Check [Status] in the [Macro] tab.

5 Page title

Displays the title of the displayed page. As a page title, the top menu/function menu/menu tab of the displayed page will be displayed.

6 Previous screen

Returns to the page of up to last 10 operations.

7 Next screen

Moves to the next page from the returned page.

8 [Default Setting] button

Initializes the corresponding pages when the menu tab or the function menu is selected while the button is selected.

9 Menu tab

Selects the third hierarchy of the menu.

10 Page

Makes various settings. When items you want to set are not displayed, move the scrollbar to display them.
One line within a page is called a column.

11 Rotary encoders

Used for entering numeric values. They are not equipped with a LAN connected computer.
For details, refer to “Entering numeric values using the rotary encoders or the Control Panel”.

12 Split-screen buttons (<MENU MODE>, <WFM VECT>)

Switches the display of the menu screen.

For details, refer to “Split display of the menu screen”.

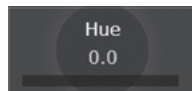
There is no screen split button with the Live Production Suite.

Numeric entry item operations

In numeric entry items, numeric values can be entered using the following two methods.

The contents displayed on the screen will differ depending on the item to be input, such as time.

- Operations using the on-screen numerical keypad
- Operations using the rotary encoders

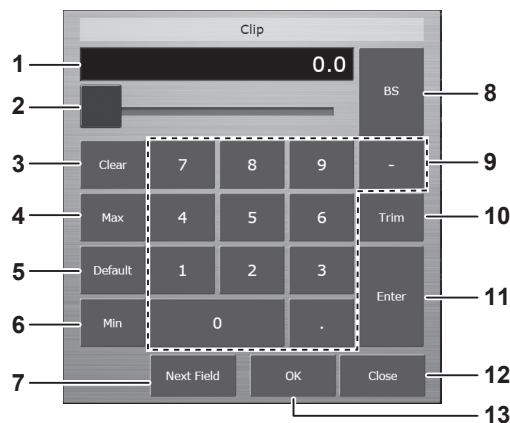


Entering numeric values using the on-screen numerical keypad

When numeric entry items are selected, the on-screen numerical keypad appears. If set the values and closed the keypad, the numeric values set for the items and the numeric bar will be displayed.

The contents displayed on the screen will differ depending on the item to be input, such as time.

■ On-screen numerical keypad



1 Entry field

The entered numeric values are displayed. After selecting [Enter], the numeric values are displayed in the display format corresponding to the item. Immediately after displaying the on-screen numerical keypad, the current numeric values are displayed.

2 Slider

Move the slider to change the numeric values in the entry field, and then the value is confirmed.

3 [Clear]

Clears all numeric values in the entry field.

4 [Max]

Reflects the maximum setting values for the item in the entry field.

5 [Default]

Reflects the default values in the entry field.

6 [Min]

Reflects the minimum setting values for the item in the entry field.

7 [Next Field]

Fixes the changed value without closing the on-screen numerical keypad and moves to the next numeric entry item in the same column, when selected [Next Field] and then [OK].

8 [BS]

Erases the last digit of the numeric values in the entry field.

9 [0] - [9], [.] , [:], [-]

Selects the values you want to enter in the entry field in sequence. For the time entry, [.] is replaced with [:], and [-] is not displayed.

10 [Trim]

Enters differential values to change the numeric values. This item is not displayed for the time entry.

Select [Trim], and then enter the “numeric value” or “minus” + “numeric value” after the current numeric values display. After entering the differential values, press [Enter] to reflect the numeric values converted in the display format corresponding to the item in the entry field.

11 [Enter]

Displays the entered value in the display format of the item, and set the value.

Example) Conversion display of the entered numeric values (when the setting range is between [-10.0] and [10.0])

[1] + [0] + [Enter] = [10.0]

[1] + [Enter] = [1.0]

[.] + [1] + [Enter] = [0.1]

[-] + [.] + [1] + [Enter] = [-0.1]

12 [Close]

Closes the on-screen numerical keypad.

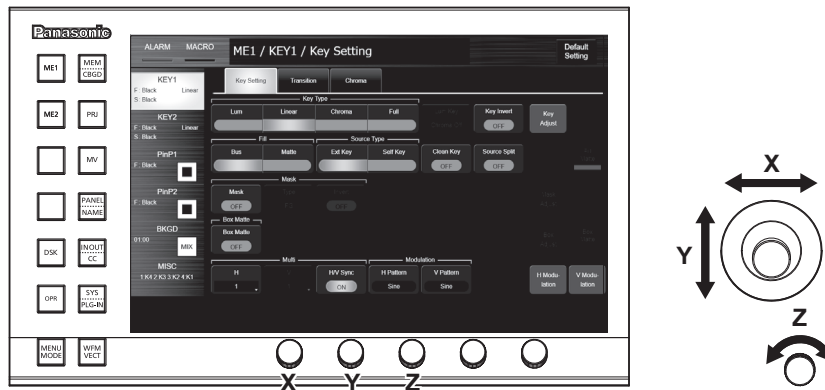
13 [OK]

Fixes the changes and closes the on-screen numerical keypad.

Entering numeric values using the rotary encoders or the Control Panel

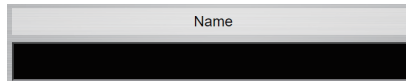
The encoder menu display switches when an R menu item is selected. The numeric values change when you turn the rotary encoder knob corresponding to the item you want to set. The 3 items from the left of the encoder menu can also be manipulated using the Positioner (X axis and Y axis) and the Z axis dial.

The rotary encoders have a push switch function. When double-clicked, the items will be restored to the default numeric values.

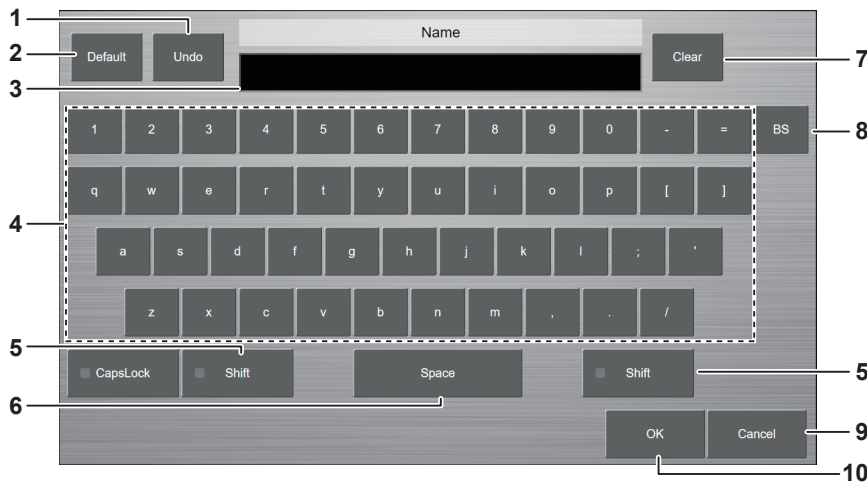


Text entry item operations

When text entry items are selected, the on-screen keyboard appears. If set the values and closed the keyboard, the text set for the items will be displayed.



■ On-screen keyboard



1 [Undo]

Reflects the values entered before the on-screen keyboard is displayed in the entry field.

2 [Default]

Reflects the default values in the entry field.

3 Entry field

Displays the entered text. Immediately after displaying the on-screen keyboard, the current text strings are displayed.

4 Alphanumerics, symbols

Selects the alphanumerics or symbols you want to enter in the entry field.

5 [Shift]

Switches the keyboard display. (Uppercase, lowercase)

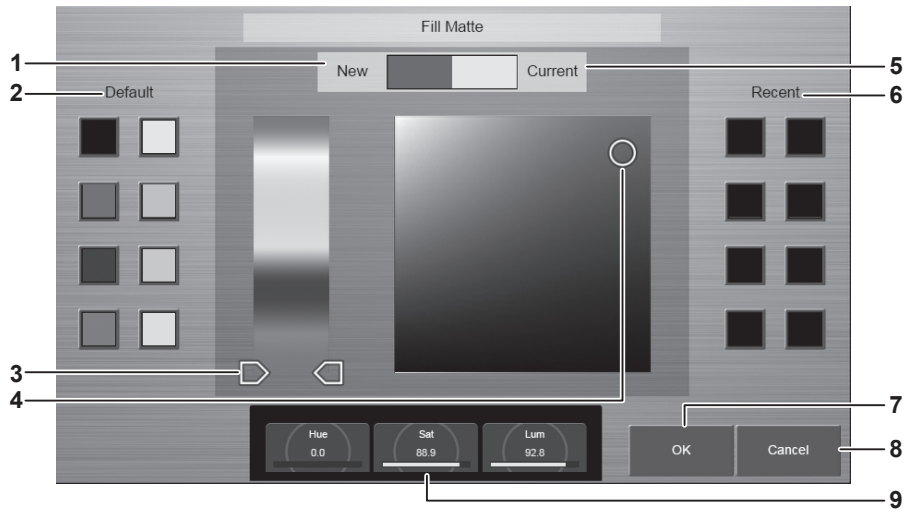
- 6 **[Space]**
Enters a space in the entry field.
- 7 **[Clear]**
Erases all characters in the entry field.
- 8 **[BS]**
Erases the last character in the entry field.
- 9 **[Cancel]**
Closes the on-screen keyboard.
- 10 **[OK]**
Fixes the changes and closes the on-screen keyboard.

Color settings menu operations

When an R menu item with a color displayed beneath it is selected, the color palette screen is displayed.



■ Color palette screen



- 1 **[New]**
Displays the colors being changed on the color palette screen.
- 2 **[Default]**
Displays 8 default colors. The same colors are set when selected.
- 3 **Hue Pad**
Tap any color to set hue.
Vertical axis: Color tone (Hue)
- 4 **Sat/Lum Pad**
Tap any color to set saturation and luminance.
Horizontal axis: Saturation (Sat)
Vertical axis: Luminance (Lum)
- 5 **[Current]**
Displays the color set before the color palette screen is displayed.
- 6 **[Recent]**
Displays the recently set colors. The same colors are set when selected.
Just like the color palette screen for the other items, this cannot be resumed.
- 7 **[OK]**
The changes are confirmed and the color palette screen closes.
- 8 **[Cancel]**
The changes are canceled and the color palette screen closes.
- 9 **[Hue], [Sat], [Lum]**
Displays the color being changed in numeric values. The values can be changed with the rotary encoder and the software keypad.

Other buttons

List box

The selection screen opens. When the item is selected, the screen closes, and the item is displayed at the lower part of the list box. Depending on the function, after selecting the item, select [OK] to close the screen.



Radio button

Select an item from multiple options.



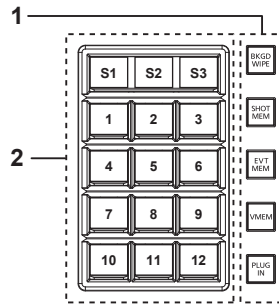
Check button

Set items to on/off. On and off will switch whenever selected.



Basic operations for the multi-selection panel area

The multi-selection panel area is a color liquid crystal panel with buttons, which integrates wipe pattern selection and various memory operations.



1 Mode selection button

Switches the mode using the buttons at the right side of the multi-selection panel area.

2 Multi-selection menu panel

S1 - S3	This is the status area of the menu. Displays and functions differ by menu. Depending on the menu, perform operations with the button which appear on S1 or S3 area.
1 - 12	Consists of 12 button sets of 3×4. Displays and functions differ by menu.

NOTE

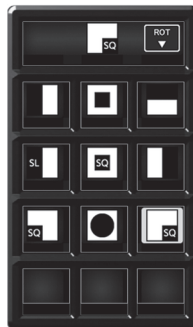
- You can also swap ME areas through the multi-selection panel area. For details, refer to “Switching the ME area in the Control Panel AV-HS60C2/ AV-HS60C4”.

Background wipe preset menu

Press the <BKGD WIPE> button on the multi-selection panel area to display the background wipe preset menu.

12 background wipe preset patterns can be stored for each ME.

The wipe setting used in the corresponding ME is always stored to the pattern button selected in the pattern selection menu. If another pattern button is selected, the wipe pattern and setting values stored previously are retrieved.



Pattern selection menu

■ Pattern selection menu

Press the <BKGD WIPE> button on the multi-selection panel area to display the pattern selection menu.

S2	Current pattern	Displays the current background wipe pattern.
S3	[ROT]	Rotates the wipe pattern by 90° or 180°. There will not be any changes if you selected a rotation-disabled pattern.
1 - 12	Pattern 1 to pattern 12	Selects the background wipe preset pattern.

NOTE

- The selection button for the background wipe preset menu in the multi-selection panel will move to top left (pattern 1) when shot memory or event memory is played back.

Shot memory menu

Press the <SHOT MEM> button on the multi-selection panel area to display the shot memory menu.

Register and play back the 81 register memories (9 pages×9 memories).

Pages 1 to 9 can be specified for the page numbers of the memories.

Numbers 1 to 9 can be specified as the respective memory numbers for the specified page numbers.



Operation menu for the register memory



[TARGET SELECT] menu



[PAGE SELECT] menu

■ Operation menu for the register memory

Press the <SHOT MEM> button on the multi-selection panel area to display the operation menu for the register memory.

S1, S2	Status display field of the [TARGET SELECT] menu	Displays the items selected in the [TARGET SELECT] menu.
S3	[SEL]	Moves to the [TARGET SELECT] menu.
1 - 9	Register memory for operation target	Selects the register memory for the operation target. Shows the shot memory name on the upper line and the shot memory number on the lower line.
10	[RECALL/STORE/DEL]	Switches the operation mode.
11	[PAGE SEL]	Moves to the [PAGE SELECT] menu.
12	—	—

■ [TARGET SELECT] menu

Select [SEL] in the operation menu of the register memory to display the [TARGET SELECT] menu.

S1 - S3	[TARGET SELECT]	Displays the menu title.
1	[ME SELF]	Select the registration target of the shot memory (for [STORE] mode) or playback target (for [RECALL] mode).
2	[ME ALL]	• [ME SELF]: The ME row with the multi-selection panel (either one of ME1 or ME2) becomes the target of registering or playing back.
3	—	• [ME ALL]: The target (ME1, ME2, DSK, AUX) set by selecting with <MEM> button → [SHOT MEMORY] → [Multi Select] tab becomes the target of registering or playing back.
4	[XPT]	• [XPT]: Crosspoint information is made the target of registering and playing back.
5	[CBGD]	• [CBGD]: Color background setting information is made the target of registering and playing back.
6	—	
7	—	
8	—	
9	—	
10	—	—
11	[EXIT]	Moves to the operation menu for the register memory.
12	—	—

■ [PAGE SELECT] menu

Select [PAGE SEL] in the operation menu of the register memory to display the [PAGE SELECT] menu.

S1 - S3	[PAGE SELECT]	Displays the menu title.
1 - 9	[PAGE1] - [PAGE9]	Selects the page number of the register memory.
10	—	—
11	[EXIT]	Moves to the operation menu for the register memory.
12	—	—

Event memory menu

Press the <EVT MEM> button on the multi-selection panel area to display the event memory menu.

Play back the 81 register memories (9 pages×9 memories).

Pages 1 to 9 can be specified for the page numbers of the memories.

Numbers 1 to 9 can be specified as the respective memory numbers for the specified page numbers.



Operation menu for the register memory



[TARGET SELECT] menu



[PAGE SELECT] menu

■ Operation menu for the register memory

Press the <EVT MEM> button on the multi-selection panel area to display the operation menu for the register memory.

S1, S2	Status display field of the [TARGET SELECT] menu	Displays the items selected in the [TARGET SELECT] menu.
S3	[SEL]	Moves to the [TARGET SELECT] menu.
1 - 9	Register memory for operation target	Selects the register memory for the operation target. Page numbers, sub-numbers, etc. are displayed in each item.
10	—	—
11	[PAGE SEL]	Moves to the [PAGE SELECT] menu.
12	[PLAY]	Starts playback when awaiting or pausing playback.

■ [TARGET SELECT] menu

Select [SEL] in the operation menu of the register memory to display the [TARGET SELECT] menu.

S1 - S3	[TARGET SELECT]	Displays the menu title.
1	[ME SELF]	Selects the event memory playback target.
2	[ME ALL]	• [ME SELF]: The ME row with the multi-selection panel (either one of ME1 or ME2) becomes the target of playing back.
3	—	• [ME ALL]: The target (ME1, ME2, DSK, AUX) set by selecting with <MEM> button → [EVENT MEMORY] → [Multi Select] tab becomes the target of playing back.
4	[XPT]	• [XPT]: Crosspoint information is made the target of playing back.
5	[CBGD]	• [CBGD]: Color background setting information is made the target of playing back.
6	[CLIP]	• [CLIP]: The clip is made the target for playing back.
7	—	
8	—	
9	—	
10	—	—
11	[EXIT]	Moves to the operation menu for the register memory.
12	—	—

■ [PAGE SELECT] menu

Select [PAGE SEL] in the operation menu of the register memory to display the [PAGE SELECT] menu.

S1 - S3	[PAGE SELECT]	Displays the menu title.
1 - 9	[PAGE1] - [PAGE9]	Selects the page number of the register memory.
10	—	—
11	[EXIT]	Moves to the operation menu for the register memory.
12	—	—

Video memory menu

Press the <VMEM> button on the multi-selection panel area to display the video memory menu.

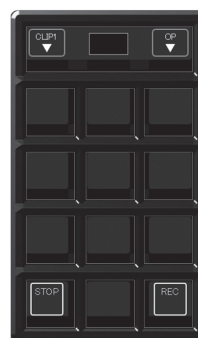
Record or play back the moving image memories (Clip) and still image memories (Still), and save or recall the register memories.



Operation menu for the register memory



[PLAY] menu



[REC] menu



[CHANNEL SELECT] menu



[OPERATION SELECT] menu



[PAGE SELECT] menu

■ Operation menu for the register memory

Press the <VMEM> button on the multi-selection panel area to display the operation menu for the register memory.

S1	[STILL1], [STILL2], [CLIP1], [CLIP2]	Moves to the [CHANNEL SELECT] menu. • Among [STILL1], [STILL2] and [CLIP1], [CLIP2], the buttons for the operation target will be displayed.
S2	Current thumbnails	Displays the thumbnails stored as the operation target among [STILL1], [STILL2] and [CLIP1], [CLIP2].
S3	[OP]	Moves to the [OPERATION SELECT] menu.
1 - 9	Register memory for operation target	Selects the register memory for the operation target. Page numbers, sub-numbers, etc. are displayed in each item.
10	[RECALL/STORE/DEL]	Switches the operation mode.
11	[PAGE SEL]	Moves to the [PAGE SELECT] menu.

■ [PLAY] menu (only when operating [CLIP1], [CLIP2])

Select [PLAY] in the [OPERATION SELECT] menu to display the [PLAY] menu.

S1	[CLIP1], [CLIP2]	Moves to the [CHANNEL SELECT] menu. • Among [CLIP1], [CLIP2], the buttons for the operation target will be displayed.
S2	Current thumbnails	Displays the thumbnails stored as the operation target among [STILL1], [STILL2] and [CLIP1], [CLIP2].
S3	[OP]	Moves to the [OPERATION SELECT] menu.
4	[LEAD]	Moves to the beginning of the Clip.
6	[LAST]	Moves to the end of the Clip.
8	[PAUSE]	Pauses playback of Clip for the operation target.
10	[STOP]	Stops playback of Clip for the operation target.
12	[PLAY]	Starts playback of Clip for the operation target.

■ [REC] menu

Select [REC] in the [OPERATION SELECT] menu to display the [REC] menu.

S1	[STILL1], [STILL2], [CLIP1], [CLIP2]	Moves to the [CHANNEL SELECT] menu. • Among [STILL1], [STILL2] and [CLIP1], [CLIP2], the buttons for the operation target will be displayed.
S2	Current thumbnails	Displays the thumbnails stored as the operation target among [STILL1], [STILL2] and [CLIP1], [CLIP2].
S3	[OP]	Moves to the [OPERATION SELECT] menu.
10	[STOP]	Stops recording Clip for the operation target. • Operations are impossible for [STILL1], [STILL2].
12	[REC]	Records the source selected with the VMEM bus in the video memory for the operation target.

■ [CHANNEL SELECT] menu

Select [STILL1], [STILL2] or [CLIP1], [CLIP2] in the operation menu of the register memory to display the [CHANNEL SELECT] menu.

S1 - S3	[CHANNEL SELECT]	Displays the menu title.
1 - 8	[STILL1], [STILL2], [CLIP1], [CLIP2]	Selects the operations target. Returns to the original menu when selected.
10	[STILL/CLIP]	The display changes to either [STILL1]/[STILL2] or [CLIP1]/[CLIP2].
11	[EXIT]	Returns to the original menu.

■ [OPERATION SELECT] menu

Select [OP] in the operation menu of the register memory to display the [OPERATION SELECT] menu.

S1 - S3	[OPERATION SELECT]	Displays the menu title.
1	[REG SEL]	Moves to the operation menu for the register memory.
2	[PLAY]	Moves to the [PLAY] menu. • Operations are impossible for [STILL1], [STILL2].
3	[REC]	Moves to the [REC] menu.
11	[EXIT]	Returns to the original menu.

■ [PAGE SELECT] menu

Select [PAGE SEL] in the operation menu of the register memory to display the [PAGE SELECT] menu.

S1 - S3	[PAGE SELECT]	Displays the menu title.
1 - 9	[PAGE1] - [PAGE9]	Selects the page number of the register memory.
11	[EXIT]	Returns to the original menu.

Plug-in menu

Press the <PLUG IN> button on the multi-selection panel area to display the plug-in menu.

Used as a plug-in software menu.

Content differs depending on plug-in software specifications.

Menu delegation function

When a button on the Control Panel is double-clicked, the menu screen displayed on the Menu Panel or the multi-selection panel area can be switched. At the same time, the normal operation activated when the button is pressed is also executed.

Enabling/disabling the menu delegation function

Enable/disable the menu delegation function at the Menu Panel and the multi-selection panel area separately.

1 Select the <PANEL> button → [OTHER SETTINGS] → [Panel1]/[Panel2]/[Panel3] tab.

2 Select an item in [MenuPanel] or [Select Panel] in the [Delegation] column.

[OFF]	Enables the menu delegation function.
[ON]	Disables the menu delegation function.

Menu delegation function list

Button		Transition menu of the Menu Panel	Transition menu of the multi-selection panel area
Button position	Operation target button		
Crosspoint area	<CBGD1>*1, <CBGD2>*1	The <CBGD> button on the top menu → [CBGD] → [CBGD] tab	—
	<STILL1 V/K>, <STILL2 V/K>*1	The <MEM> button on the top menu → [STILL] → [Still] tab	Selection of the register memories ([STILL1], [STILL2])
	<CLIP1 V/K>, <CLIP2 V/K>*1	The <MEM> button on the top menu → [CLIP] → [Play Clip] tab	Selection of the register memories ([CLIP1], [CLIP2])
Transition area	<WIPE>	The <ME1>/<ME2> button on the top menu → [BKGD] → [Border/Trim] tab	—
	<EMEM LINK>	The <MEM> button on the top menu → [EVENT MEMORY] → [Register] tab	Select the registered memory of the event memory
	<MCRO ATCH>	The <MEM> button on the top menu → [MACRO] → [Macro Attach] screen	—
	<PATT LIMIT>	The <ME1>/<ME2> button on the top menu → [BKGD] → [Transition] tab	—
	<AUTO>	The <ME1>/<ME2> button on the top menu → [BKGD] → [Transition] tab	—
KEY operation area	<KEY1>, <KEY2>, <PinP1>, <PinP2>*2	<ul style="list-style-type: none"> When the key type is [Lum]/[Linear]/[Full] The <ME1>/<ME2> button on the top menu → [KEY1], [KEY2] → [Key Setting] tab When the key type is [Chroma] The <ME1>/<ME2> button on the top menu → [KEY1], [KEY2] → [Chroma] tab When Resizer is enabled The <ME1>/<ME2> button on the top menu → [KEY1], [KEY2] → [Resizer] tab 	—
DSK operation area	<DSK1>, <DSK2>*2	The <DSK> button on the top menu → [DSK1], [DSK2] → [Setting] tab	—

*1 Can be used when assigned to the PGM/A bus crosspoint buttons or PST/B bus crosspoint buttons.

*2 These are linked with the selection of the selection buttons that are the target of operation in the KEY/DSK operation section (<KEY1>/<KEY2>/<PinP1>/<PinP2>/<DSK1>/<DSK2>), and you can select the bus assign buttons (<1> - <6>) that have the relevant KEY buses assigned.

You can make the following linking settings by selecting top menu <PANEL> button → [OTHER SETTINGS] → [Panel1]/[Panel2]/[Panel3] tab → [Delegation] column → [Bus Assign].

[OFF]	There is no link with the operation of the bus assign buttons.
[ON]	Linked with the operation of the bus assign buttons.

Various settings

Network settings

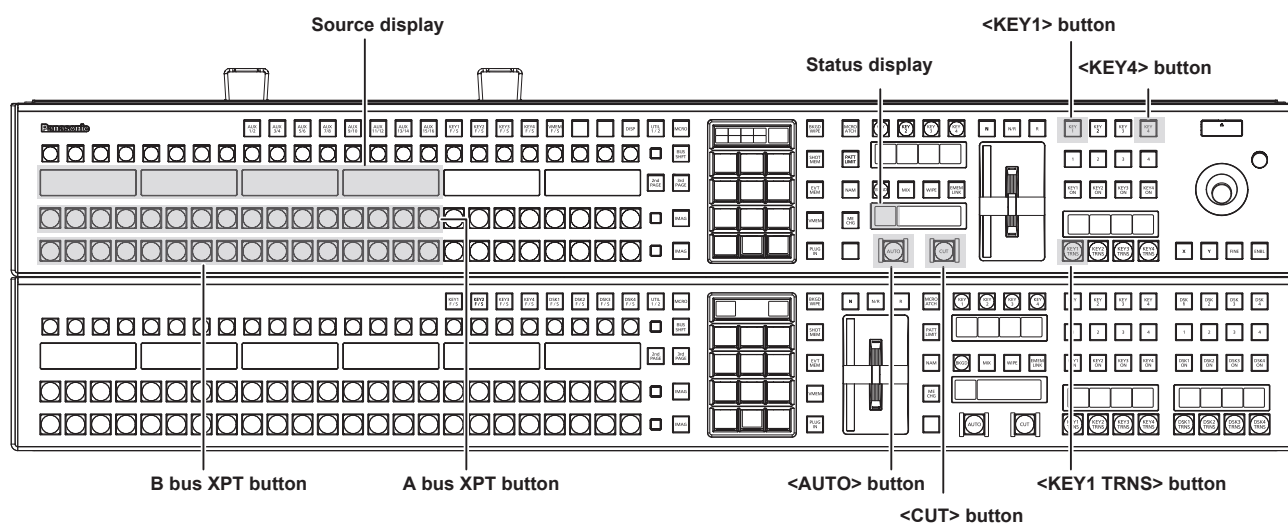
Configure the network for the Control Panel AV-HS60C2/AV-HS60C4 and the Live Production Suite system.

Configuring the network for the Control Panel AV-HS60C2/AV-HS60C4

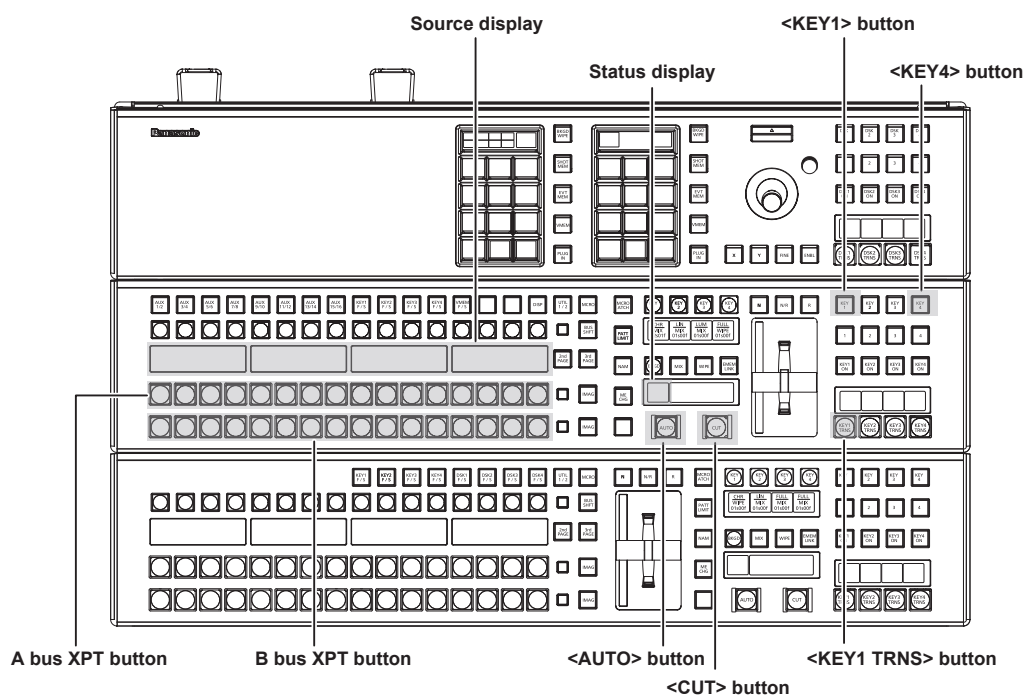
Configure the network for the Control Panel AV-HS60C2/AV-HS60C4.

- Connect control panel AV-HS60C2/AV-HS60C4 to the same subnet as the LAN to which each of the units in Live Production Suite series is connected.
- The connection destination depends on the number of control panels AV-HS60C2/AV-HS60C4 connected.
 - When only one panel is connected
Connect control panel AV-HS60C2/AV-HS60C4 to the same subnet as the LAN to which each of the units in Live Production Suite series is connected. It is necessary to perform the network setting of the Control Panel AV-HS60C2/AV-HS60C4. (page 16)
 - When two or more panels are connected
Set the IP addresses for the 3 Control Panels AV-HS60C2/AV-HS60C4, and they need to be connected to the same subnet.
- The default setting is as follows: IP address: 10.0.0.2, subnet mask: 255.255.255.248, IP address of the connecting Main Frame: 10.0.0.1, and default gateway: 0.0.0.0

■ AV-HS60C2



■ AV-HS60C4



- 1 Turn off the power of the Control Panel AV-HS60C2/AV-HS60C4.

2 Turn on the power of the Control Panel AV-HS60C2/AV-HS60C4 while pressing the <KEY1> button, <KEY4> button, and <KEY1 TRNS> button in the KEY operation section of the ME line at the top.

The Control Panel AV-HS60C2/AV-HS60C4 is booted in the network setting mode.

Part of the status display and the source display in the ME line at the top will become as follows when it goes into the network setting mode.

- Status display: Setting item is displayed.

The setting item is switched every time the <AUTO> button in the ME line at the top is pressed.

Display	Setting item	Setting example
IP	IP address	192.168.0.8
MSK	Subnet mask	255.255.255.0
GTW	Default gateway	0.0.0.0
MIP	IP address of the connecting Live Production Suite system	192.168.0.90

- Source display: Setting value is displayed.

The value will increase by pressing the A bus XPT button under the setting value.

The value will decrease by pressing the B bus XPT button under the setting value.

3 Set each item.

Change the setting value for each setting item, and confirm by pressing the <CUT> button in the ME line at the top.

- The <CUT> button will light up in green when the setting is correctly made.
- The <CUT> button will light up in red when the setting is not correctly made.
- The changed setting value is not confirmed when the setting item is switched without pressing the <CUT> button.
- When the value of the IP address is changed and the <CUT> button is pressed, the value is checked against the value of the subnet mask. At this time, if the binary of the host address is changed to 0 or 1, the changed value is not confirmed. The <CUT> button lights up in red. In this case, change the value of the subnet mask, and then change the value of the IP address.

4 Turn off the power of the Control Panel AV-HS60C2/AV-HS60C4.



NOTE

- For the subnet mask, use the same address as the address set for the <LAN> terminal of the Live Production Suite system.
- Set the IP address that does not overlap with the following IP address.
 - The IP address set to other device that is connected to the <LAN1> terminal of the Live Production Suite system
 - The IP address set for the <LAN1> terminal of the Live Production Suite system
- If the default setting for the <LAN1> terminal of the Live Production Suite system is not changed, it can be connected as the control panel 2/3 when the value described in the setting example is set.
- For details on the network setting for the <LAN1> terminal of the Live Production Suite system, refer to "Configuring the network for the Live Production Suite system".

Configuring the network for the Live Production Suite system

Configure the network for the <LAN1> terminal of the Live Production Suite system.

- The default setting is as follows: IP address: 192.168.0.90, subnet mask: 255.255.255.0, default gateway: No setting

1 Select the <SYS> button → [SYSTEM] → [Network] tab.

2 Set/check [IP Address] and [Subnet Mask] in the [Network] column.

[IP Address]	This can be changed from a web browser. For details, contact your dealer.
[Subnet Mask]	This can be changed from a web browser. For details, contact your dealer.

3 Check [Default Gateway] and [MAC Address] in the [Network] column.

[Default Gateway]	Checks the default gateway.
[MAC Address]	Checks the MAC address.

4 Select the <PANEL> button → [OTHER SETTINGS] → [Panel2] tab → [Network] column, and set the IP address of the control panel 2 to be connected.

[IP Address]: Sets the IP address of the control panel 2 to be connected. (Setting example: 192.168.0.8)

Set this only when the control panel 2 is connected.

5 Select the <PANEL> button → [OTHER SETTINGS] → [Panel3] tab → [Network] column, and set the IP address of the control panel 3 to be connected.

[IP Address]: Sets the IP address of the control panel 3 to be connected. (Setting example: 192.168.0.9)

Set this only when the control panel 3 is connected.



NOTE

- To enable the settings, the system must be rebooted. Set the power to <OFF>, and then set it back to <ON>.
- If you do not connect the control panel or computer to the <LAN1> terminal of the Live Production Suite system, it is not necessary to set up via the menu.
- If you use the device to be connected with the settings matching the default settings of the <LAN1> terminal of the Live Production Suite system, it is not necessary to set up via the menu.

Setting signal formats

Select the system format.

- 1 Select the <SYS> button → [SYSTEM] → [Video] tab.
- 2 Set [Video Format] in the [Video Format] column.

Setting sync signals

Set the external sync signals supplied to the <REF> terminal of the XPT Unit and output phase.

- 1 Select the <SYS> button → [SYSTEM] → [Video] tab.
- 2 Set the output phase in the [Output Phase] column.
- 3 Select a sync signal in [Sync] in the [Reference] column.
 - Selects from [BB], [BB Advanced], [Tri-level sync], [Internal], and [ST2059].

Setting input signals

Various input signal settings

Make various settings for SDI input signals.

- For details, refer to “Setting input signals”.

- 1 Select the <IN OUT> button → [SDI IN 1] to [SDI IN 20] → [Frame Buffer]/[Status] tab, and make the following settings.

[Frame Buffer] tab	Sets the frame synchronizer, and freeze effects.
[Status] tab	Displays the information on the images for SDI input signals.

- 2 Select the <CC> button → [C/C IN 1-5] to [C/C IN 16-20] → select the tab you want to set, and then set the color collector.
 - Make the settings for color correctors built into the <SDI IN 1> to <SDI IN 20> terminals.

Setting video source names

Set source names displayed on the source name display panels of the Control Panel and the MultiView display.

- For details, refer to “Setting the source name”.

- 1 Select the <NAME> button → [SDI IN]/[IP IN]/[INTERNAL]/[ME]/[DSK]/[AUX]/[MV] → [Panel Name]/[MV Name] tab, and make the settings for source names, etc.

Setting video source links

Make the settings for links of key fills and key sources handled as keys. When key fills (key sources) are selected with the KEY bus crosspoint buttons, the linked key sources (key fills) are selected automatically. Select which of key fill and key source to be set as a master from the menu. The same setting can be used for the AUX bus link setting.

- For details, refer to “Selecting the key source”.

- 1 Select the <OPR> button → [SOURCE LINK] → [Key Assign] tab.
- 2 Assign the items in the slave list at the right row to the items in the master list at the left row.
 - With that, key fill and key source link settings are complete.
 - When enabling/disabling link settings with the AUX bus link settings, proceed to the step 3.
- 3 Select the [AUX Bus Link] tab.
- 4 Select an item in [AUX1/2 Link] to [AUX15/16 Link] in the [AUX1-10 Link]/[AUX11-16 Link] column.

[ON]	Enables link settings.
[OFF]	Disables link settings.

Button settings

Assigning video sources to buttons

External video input signals and internally generated signals can be assigned to the crosspoint buttons (the PGM/A, PST/B, and KEY bus crosspoint buttons) in the crosspoint area.

- For details, refer to “Assigning signals to buttons”.

- 1 Select the <PANEL> button → [XPT ASSIGN] → [Panel1]/[Panel2]/[Panel3] tab, and make the following settings.

[Panel1] tab	Assigns the control panel 1.
[Panel2] tab	Assigns the control panel 2 (second Control Panel).
[Panel3] tab	Assigns the control panel 3 (third Control Panel).

Disabling button/block operations

Operations can be disabled for each button or block.

- For details, refer to “Disabling button operations”.

1 Select the <PANEL> button → [BUTTON INHIBIT] → [Panel1]/[Panel2]/[Panel3] tab, and make the following settings.

[Panel1] tab	Assigns the control panel 1.
[Panel2] tab	Assigns the control panel 2 (second Control Panel).
[Panel3] tab	Assigns the control panel 3 (third Control Panel).

Setting button colors

For details on the button color settings, refer to “Setting the button color”.

Setting output signals

Make various settings for SDI output signals.

- For details, refer to “Setting output signals”.

1 Select the <IN OUT> button → [OUT ASSIGN] → [Assign] tab, and make the following settings.

[Assign] tab	Assigns output matrix.
--------------	------------------------

2 Select the <CC> button → [C/C OUT 1-6] to [C/C OUT 7-12] → select the tab you want to set, and then set the color collector.

- Make the settings for color correctors built into the <C/C OUT 1> to <C/C OUT 12> terminals.
- Refer to “Setting the ME output and DSK output” for details about advanced settings for the output from the ME/DSK block.

Setting MultiView displays

If the output signal is set to MV1, MV2, multiple images can be simultaneously displayed on a maximum of 16 split screens.

- For details, refer to “Setting MultiView displays”.

1 Select the <MV> button → [MV1-2] → [MV1], [MV2] tabs.

2 In the [Pattern] column, make the settings for the split pattern of the MultiView display.

- When [Assign] is selected, the source settings screen will be displayed on a sub-screen.

3 In the [MV Frame]/[Tally Box]/[Tally Label L]/[Tally Label R]/[Display] column, set the information displayed on the sub-screen.

Setting a tally

Setting reference outputs

For details on the tally group settings, refer to “Setting a tally”.

1 Select the <SYS> button → [PERIPHERAL] → [Tally] tab.

2 Select the items in [Target A], [+Target B], [+Target C], [+Target D], [+Target E], [+Target F], [+Target G], and [+Target H] in the [Tally Group1 (On-Air)] column.

- Select up to eight reference outputs to be used for the on-air tally.

3 Select the items in [Target A], [+Target B], [+Target C], [+Target D], [+Target E], [+Target F], [+Target G], and [+Target H] in the [Tally Group2] to [Tally Group4] column.

- Aside from [Tally Group1 (On-Air)], additional three tally groups can be set. When [Color] is selected, colors to be used for the tally in the MultiView display can also be set.

Setting date and time

Set the date and time to be used as a timestamp when saving files to the memory card or the Storage Module. It can also be displayed on the split screen of the MultiView display.

1 Select the <SYS> button → [MAINTENANCE] → [Misc] tab.

2 Set the date and time in the [Date]/[Time] columns.

[Date] column	Sets the year, month, and date in [Year], [Month], and [Date].
[Time] column	Sets the hour, minute, and second in [Hour], [Minute], and [Second].

3 Select [Set] in the [Date]/[Time] column.

Chapter 5 **Basic Operations**

This chapter describes menu operations.

Background transition

Selecting a bus

Select sources to be used for background transitions.

1 Press the crosspoint buttons.

- Depending on the operating status, the buttons pressed will light in one of three color patterns.

Type	Color when lit*	Description
High tally	[Red]	Lights when the selected source is included in the on-air output.
Low tally	[Yellow]	Lights when the selected source is not included in the on-air output but included in the program output.
Preset tally	[Green]	Lights when the selected source is included in neither the on-air output nor the program output.

* Indicates the default colors. To change the colors, select the <PANEL> button on the top menu → [BUTTON COLOR] → [Settings] tab → [Select Button] column.

- The color when lit for the buttons not selected can also be set by source or by block. (page 129)

Selecting a bus using the SHIFT function

The SHIFT function is to switch pages of the crosspoint buttons with the <2nd PAGE>/<3rd PAGE> button.

There are two ways to perform the SHIFT function.

All SHIFT	Use the <2nd PAGE>/<3rd PAGE> button to switch all pages of buses included in the corresponding ME at once. (page 25)
Single SHIFT	Assign the <2nd PAGE>/<3rd PAGE> button to the crosspoint buttons to switch pages. (page 115) Using the assigned button, only the pages of individual bus can be switched.

The <2nd PAGE>/<3rd PAGE> buttons are available in two modes. The setting can be changed using the menu. (page 118)

[Normal]	The buttons are turned on only while they are pressed.
[Page Lock]	The buttons are turned on and off each time they are pressed.

Selecting the bus mode

Set the bus operating mode. (page 118)

1 Select the <OPR> button → [OTHER SETTINGS] → [Bus Mode] tab.

2 Set an item in [Bus Mode] in the [Bus Mode] column.

[A/B]	When the fader lever is at side A, the signals selected on the A bus are used as the source of the PGM bus. When the fader lever is at side B, the signals selected on the B bus are used as the source of the PGM bus.
[PGM-A/PST-B]	Using a flip-flop system, the signals selected on the A bus are always used as the source of the PGM bus, and the signals selected on the B bus are always used as the source of the PST bus.
[PGM-B/PST-A]	Using a flip-flop system, the signals selected on the B bus are always used as the source of the PGM bus, and the signals selected on the A bus are always used as the source of the PST bus.

Transition operations

Operate transitions using the transition area on the Control Panel.

1 Select the transition type.

- Use the transition type selection buttons. (page 26)

2 Execute the transition using the fader lever or the transition execution button.

Manual transition	Move the fader lever to execute the transition.
Auto transition	Press the <AUTO> button to execute the transition automatically.
Cut transition	Press the <CUT> button to execute the transition instantaneously.

- The lighting of the bus name display panel to the right of the PGM/A bus crosspoint buttons and PST/B bus crosspoint buttons, whether High tally color or Low tally color, indicates the output status of the buses.

Lighting color	Description
High tally	Lights when the relevant bus is included in the on-air output.
Low tally	Lights when the relevant bus is not included in the on-air output but included in the program output.
Off	Lights when the relevant bus is included in neither the on-air output nor the program output.

■ Setting the transition time

1 Select the <ME1>/<ME2> button → [BKGD] → [Transition] tab.

2 Select [AUTO Time] in the R menu, and set [AUTO Time] in the encoder menu.

- Set the transition time.

NOTE

- The units used for time display of the unit can be set to either in seconds/frame or in frames. (page 118)

■ Setting the start and end points of a transition

1 Select the <ME1>/<ME2> button → [BKGD] → [Transition] tab.

2 Select [Margin Adjust] in the R menu, and set [Start Point] and [End Point] in the encoder menu.

[Start Point]	Sets the start point for the background transition. The background transition will start after the start point of the manual transition or the auto transition when a value larger than 0 is set for [Start Point]. At this time, the lamp for start point of the fader lever will blink in the transition status display.
[End Point]	Sets the end point for background transition. The background transition will complete before the end point of the manual transition or the auto transition when a value larger than 0 is set for [End Point]. At this time, the lamp for end point of the fader lever will blink in the transition status display.

- While the <PATT LIMIT> button is lighting up, the settings of [Start Point] and [End Point] are disabled.

■ <NAM/CMIX> button setting

Set the behavior of background transition when the <MIX> button is on.

1 Select the <ME1>/<ME2> button → [BKGD] → [Transition] tab.

2 Select the items in [NAM/CMIX] and [Type] in the [NAM/CMIX] column.

- The settings for [NAM/CMIX] are linked to the lighting status of the <NAM/CMIX> button.

[NAM/CMIX] items	[Type] items	Image operations
[OFF]	—	Images switch by overlapping. During the transition, the output total of the A bus and B bus is kept at 100%.
[ON]	[NAM]	Switches the images in the A bus/B bus with non-additive mixing. It will be high luminance with the A bus at 100% and the B bus at 100% when the fader lever is positioned midway.
	[CMIX]	The images are mid way between the A bus and B bus images, becoming a MIX composition that is the color set in [CMIX Matte] in the R menu. (Color mix composition)

■ Transition curve settings

1 Select the <ME1>/<ME2> button → [BKGD] → [Transition] tab.

2 Select the items in [MIX] and [WIPE] in the [Trans Curve] column.

- The transition curve can be set individually for each of MIX and WIPE according to the selection state of the transition type.

[Linear]	Straight line
[S Soft]	A shallow S curve
[S Mid]	An intermediate S curve
[S Hard]	A deep S curve

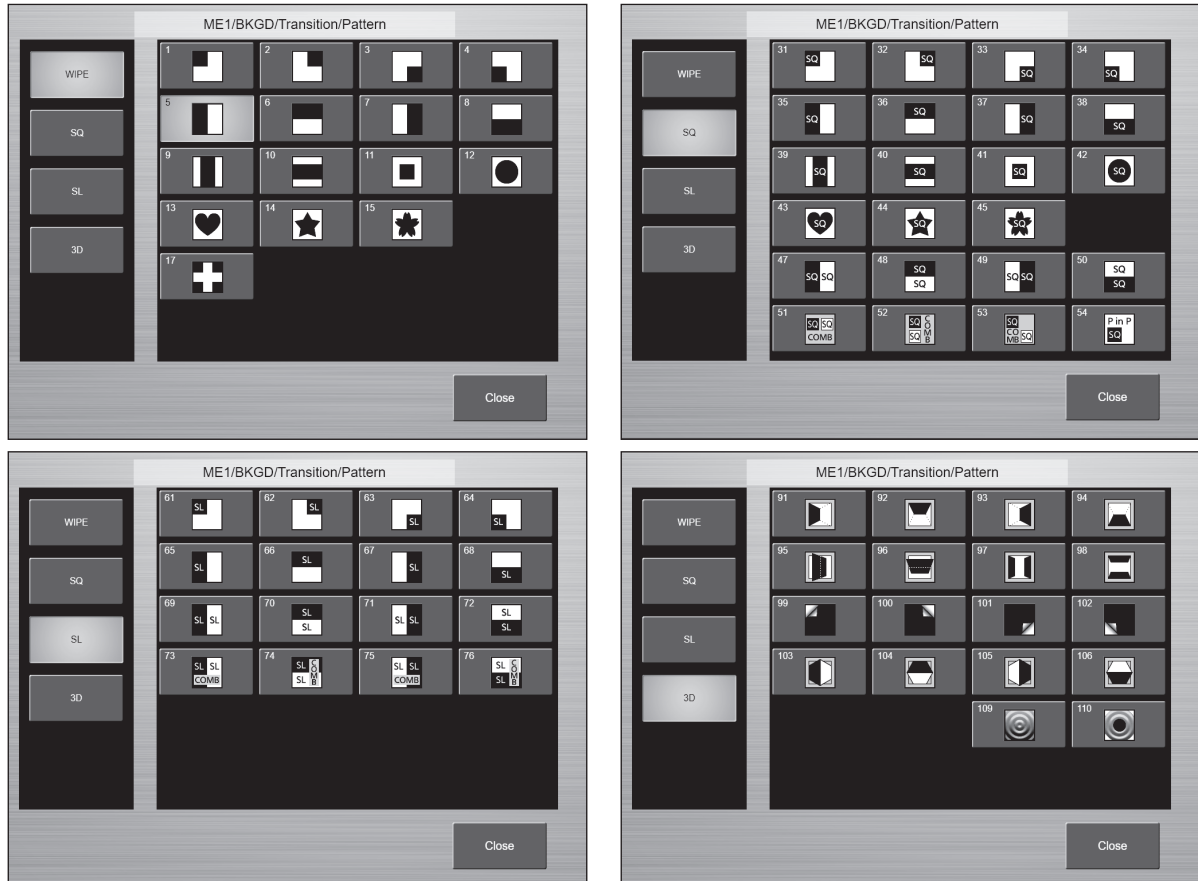
Wipe

Selecting the wipe pattern for background transition

Set the wipe pattern for background transition.

- 1 Select the <ME1>/<ME2> button → [BKGD] → [Transition] tab.
- 2 Select an item displayed with a transition pattern icon in the [WIPE Patt] column.
 - Select the wipe pattern for background transition.

■ Wipe pattern screens for background transition

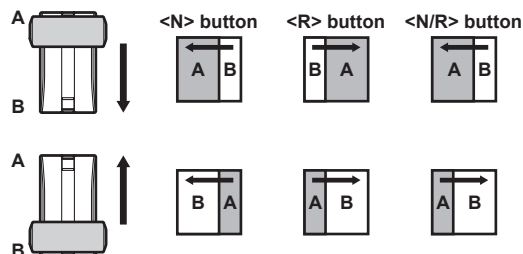


Selecting the wipe direction

Press a wipe direction selection button to select the wipe direction for the background transition.

For details, refer to “Transition operations”.

■ Fader lever operations and wipe directions (when WIPE: 7 is selected as a wipe pattern)



Wipe decorations (border, soft effect)

Add a border effect or soft effect to the wiping of background transitions.

- 1 Select the <ME1>/<ME2> button → [BKGD] → [Border/Trim] tab.
- 2 Select an item in [Border] in the [Border] column.

[OFF]	Does not add the border effect.
[ON]	Adds the border effect.

3 Select [Border] in the R menu, and set [Width] and [Soft] in the encoder menu.

[Width]	Sets the border width.
[Soft]	Sets the amount of soft effect.

NOTE

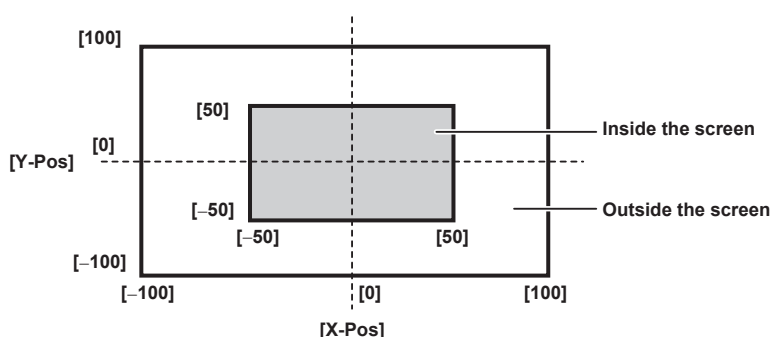
- When [Border] in the [Border] column is set to [ON], the amount of soft effect set using [Soft] in the [Border] column is indicated as the ratio of soft effect to the border width. To add only soft effect to a wipe, set [Border] in the [Border] column to [OFF].
- The wipe pattern screen is displayed when you select an item displayed with a transition pattern icon displayed by selecting top menu <ME1>/<ME2> button → [BKGD] → [Transition] tab → [WIPE Patt] column.
- When the following waveforms are selected, a border is not applied even if [Border] in the [Border] column is set to [ON].
 - SQ: 47, 48, 49, 50

Setting the border color

When [Matte] is selected in [Border Fill] in the [Border] column, you can set the color of the border.

1 Select the <ME1>/<ME2> button → [BKGD] → [Border/Trim] tab.**2 Adjust the color.**

- Select [Border Matte] in the R menu and adjust the color in the color palette screen.

Modifying wipe**1 Select the <ME1>/<ME2> button → [BKGD] → [Transition] tab.****2 Select the items in [N/R] in the [Direction] column.**

- This setting is linked with the <N/R> button.

[ON]	When the transition is complete, the normal direction and reverse direction swap with each other.
[OFF]	When the transition is complete, the normal direction and reverse direction do not swap with each other.

3 Select the items in [Direction] in the [Direction] column.

- This setting is linked with the <N>/<R> button.

[Normal]	Wiping proceeds in the normal direction.
[Reverse]	Wiping proceeds in the reverse direction.

4 Select an item in [Pattern Limit].

- This setting is linked with the <PATT LIMIT> button.

[OFF]	Does not restrict the amount of wipe transition for background transition. If the setting is changed from [ON] to [OFF], transition is made according to the position of the fader lever at the time specified in [Return Time].
[ON]	Restricts the amount of wipe transition for background transition. <ul style="list-style-type: none"> • The amount of transition for mixed transitions is also limited by selecting top menu <OPR> button → [OTHER SETTINGS] → [Transition] tab → [Pattern Limit] column → [Mix Enable], and setting it to [ON].

5 Select [Patt Limit] in the R menu, and display the encoder menu.**6 Set [Size] in the encoder menu.**

- Set the size restriction on the amount of transition.

7 Set [Return Time] in the encoder menu.

- Set the transition time to the position of the fader lever when [Pattern Limit] is set to [OFF] from [ON].

8 Select the <ME1>/<ME2> button → [BKGD] → [Pos/Modify] tab.**9 Select [Pos/Size] in the R menu, and set [X] and [Y] in the encoder menu.**

- Set the start position of the next pattern waveforms.
 - WIPE: 11, 12, 13, 14, 15

- SQ: 41, 42, 43, 44, 45, 51, 52, 53, 54
- These can be set only when the target pattern is selected in the background.
Either operate the fader lever or press the <AUTO> button to check the wipe operation.
Example) When [X] is set to [-50], and [Y] is set to [-50]
The next screen (or key) appears from the bottom left, and wipes in towards the center of the screen.

Setting the wipe direction switching mode

1 Select the <OPR> button → [OTHER SETTINGS] → [Transition] tab.

2 Select the items in [N/R Recall] in the [BKGD WIPE] column.

[Off]	The wipe direction ([Normal]/[Reverse]) is maintained for each background wipe preset.
[Normal]	When you change the background transition type ([MIX]/[WIPE]) or the background wipe preset, the wipe direction switches to [Normal].

Setting trimming, aspect ratio

Set the behavior for the trimming and aspect ratio. This is applied to the background transition.

1 Select the <ME1>/<ME2> button → [BKGD] → [Border/Trim] tab.

2 Set the items in the [Trim Mode] column.

- Set the trimming for the pattern waveforms of SQ and 3D.
- This is enabled when the following pattern waveforms are selected.
- SQ: 41, 51 - 54

[Off]	Does not perform trimming.
[4:3 Smooth]	Performs trimming in the 4:3 aspect ratio, and smoothly executes transition to the 16:9 video.
[Manual]	Trimming occurs at the trimming position set in [Trim] in the R menu.

3 Select [Trim] in the R menu, and set the trimming positions with [Left], [Top], [Right], and [Bottom] in the encoder menu.

- The trimming position is set as follows according to the setting of the [Pair] item in the [Trim] column.
- [OFF]: The amount of trimming is set individually for [Left], [Right], [Top], and [Bottom].
- [ON]: The amount of trimming is set as a pair for [Left] and [Right], [Top] and [Bottom], so the amount changes to be the same. (Symmetrical vertically or horizontally)
- The parameters can also be changed with the Positioner.
Set the behavior with [Positioner] in the encoder menu. [Positioner] switches between [L/T] and [R/B] each time you select it.
- [L/T]: [Left] and [Top] are changed.
- [R/B]: [Right] and [Bottom] are changed.

4 Select [Wipe Aspect] in the R menu, and set [WipeAspect] in the encoder menu.

- Adjust the aspect ratio of the wipe pattern.
- The following pattern waveforms are changed.
- WIPE: 11 - 15
- SQ: 42 - 45
- SQ41 and 51 to 54 are not applicable. The aspect ratio is adjusted with [Left], [Top], [Right], or [Bottom].

5 Select an item in [Smooth] in the [Trim] column.

[OFF]	The aspect ratio for set wipe pattern will be constant regardless of the transition. For SQ waveform, it may become discontinuous at the edge of transition.
[ON]	The aspect ratio is changed from the aspect ratio of the preset wipe pattern to the standard ratio in accordance with the transition.

- Modifies the next pattern waveforms.
- WIPE: 11 - 15
- SQ: 42 - 45
- SQ: 41, 51 to 54 and 3D: 107 are also applicable.

Setting the turn page effect

Set the parameters for the Page Turn effect.

- Modify the following pattern waveforms.
- 3D: 99, 100, 101, 102

1 Select the <ME1>/<ME2> button → [BKGD] → [Pos/Modify] tab.

2 Select the item in [Light].

[OFF]	Does not add the lighting effect.
[ON]	Adds the lighting effect.

- This setting is also applied to the following pattern waveforms.
- 3D: 109, 110

3 Select [Page Turn] in the R menu, and set [Size], [Radius], and [Angle] in the encoder menu.

[Size]	Set the size when reduced.
[Radius]	Set the radius for the Page Turn effect.
[Angle]	Set the angle for the Page Turn effect.

Ripple effect settings

Set the following pattern waveforms.

- 3D: 109
The set ripple amount is implemented when the transition amount reaches 50%, then the transition continues while the MIX composition is performed.
- 3D: 110
The set ripple amount is implemented on the border parts of the circular wipe.

1 Select the <ME1>/<ME2> button → [BKGD] → [Pos/Modify] tab.**2 Select the item in [Light].**

[OFF]	A lighting effect is not added.
[ON]	A lighting effect is added.

- This setting is also applied to the following pattern waveforms.
- 3D: 99, 100, 101, 102

3 Select [Ripple] in the R menu, and set [Amplitude], [Frequency], and [Speed] in the encoder menu.

[Amplitude]	Set the wave amplitude.
[Frequency]	Set the wave frequency.
[Speed]	Set the speed that the wave moves.

Setting spin effects

A spin effect can be added during the background transition.

1 Select the <ME1>/<ME2> button → [BKGD] → [Pos/Modify] tab.**2 Select the items in the [Spin Mode] column.**

[Off]	Does not spin regardless of setting value of [X-Spin], [Y-Spin], and [Z-Spin].
[Trans Spin]	Spins in specified amount of spin depending on the transition.
[Auto Spin]*	Spins in speed in accordance with specified amount of spin regardless of the transition.
[Manual Spin]*	Tilts in specified amount of spin regardless of the transition.

* It may become discontinuous at the edge of transition in the [Auto Spin] or [Manual Spin] modes.

3 Select [Spin] in the R menu, and set [X-Spin], [Y-Spin], and [Z-Spin] in the encoder menu.

- This sets the amount of rotation of the spin effect during background transition.
- An effect can be added to the following pattern waveforms.
- [Z-Spin]
WIPE: 1 - 15, 17
SQ: 42 - 45
- [X-Spin], [Y-Spin], [Z-Spin]
SQ: 41, 51 - 54

Setting the Multi Pattern effect

The wipe pattern can be divided to the specified number.

- Enabled when the following pattern waveform is selected.
- WIPE

1 Select the <ME1>/<ME2> button → [BKGD] → [Modify] tab.**2 Set the specification method of the number of division in [H/V Sync] of the [Multi] column.**

[ON]	Makes the number of division the same in horizontal and vertical directions.
[OFF]	Different number of division can be specified for horizontal and vertical directions.

3 Set the number of division in horizontal and vertical direction in [H] and [V] of the [Multi] column.**Setting the Modulation effect**

An effect to ripple the wipe edge can be added.

- Enabled when the following pattern waveforms are selected.
- WIPE: Except 24 (Free Wipe)

- SQ: 42, 43, 44, 45

1 Select the <ME1>/<ME2> button → [BKGD] → [Modify] tab.

2 Select [H Modulation] and [V Modulation] in the R menu, and set [Amplitude], [Frequency], and [Speed] in the encoder menu.

[Amplitude]	Sets the amplitude of the wave.
[Frequency]	Sets the frequency of the wave.
[Speed]	Sets the speed of the wave movement.

3 Select the items in [H Pattern] and [V Pattern] in the [Modulation] column.

[Sine]	Selects sine waves.
[Delta]	Selects delta wave.

Setting the transition MID Position

Adjusts the position and size of the pattern waveform when the transition amount is in the range of 40% to 60% (mid position).

- Enabled when the following pattern waveforms are selected.

- SQ: 51, 52, 53, 54

1 Select the <ME1>/<ME2> button → [BKGD] → [Position] tab.

2 Select [MID Position] in the R menu, and display the encoder menu.

3 Set [X] and [Y] in the encoder menu.

Sets the position of the pattern waveform.

- SQ: 51 will place two sub-screens symmetrical to the Y axis.
- SQ: 52 will place two sub-screens symmetrical to the X axis.
- SQ: 53 will place two sub-screens symmetrical to the center point.

4 Set [Size] in the encoder menu.

Sets the size of the pattern waveform.

Setting the transition start position

1 Select the <ME1>/<ME2> button → [BKGD] → [Position] tab.

2 Select [Pos/Size] in the R menu, and set [X], [Y], and [Size] in the encoder menu.

Setting the transition mid position

1 Select the <ME1>/<ME2> button → [BKGD] → [Position] tab.

2 Select [MID Position] in the R menu, and set [X], [Y], and [Size] in the encoder menu.

3 Select the [Transition] tab.

4 Select [Margin Adjust] in the R menu, and set [Mid Margin] in the encoder menu.

- Set the mid area.

Setting spin effects

1 Select the <ME1>/<ME2> button → [BKGD] → [Position] tab.

2 Select the items in the [Spin Mode] column.

[Off]	Does not spin regardless of setting value of [X-Spin], [Y-Spin], and [Z-Spin].
[Trans Spin]	The spin will be at the specified spin amount between the mid position and the end point.
[Auto Spin]*	The behavior will be the same as [Manual Spin], irrespective of the [Spin] setting in the R menu.
[Manual Spin]*	Tilts in specified amount of spin regardless of the transition.

* It may become discontinuous at the edge of transition in the [Auto Spin] or [Manual Spin] modes.

3 Select [Spin] in the R menu, and set [X-Spin], [Y-Spin], and [Z-Spin] in the encoder menu.

- This sets the amount of rotation of the spin effect during background transition.

NOTE

- Adjust to an angle so that you cannot see side surfaces other than the added side surface.

KEY

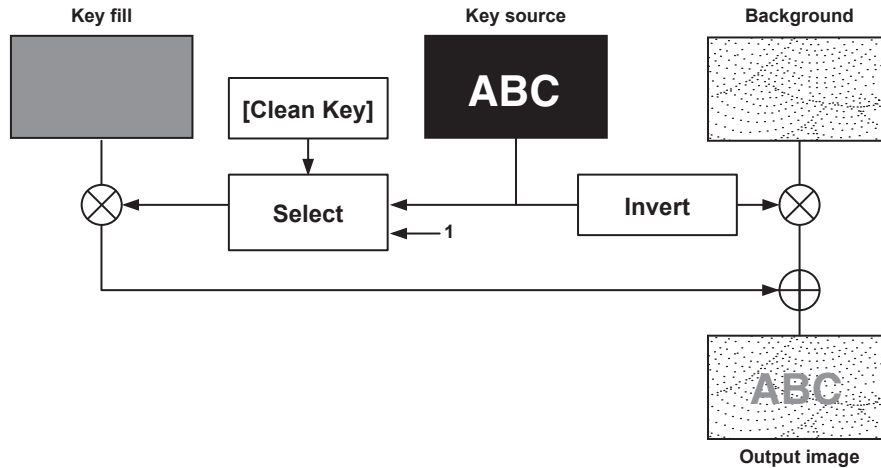
Combine the background image with another image. The key definition can be adjusted, and an edge can be added to the combined image.

The unit comes with two keys for each ME.

The functional differences between KEY1/KEY2 and DSK1/DSK2 are as follows.

	KEY1	KEY2	DSK1, DSK2
Transition type	[WIPE]	[WIPE]	[MIX]
Transition wipe pattern	[WIPE]/[SQ]/[SL]/[3D]	[WIPE]/[SQ]/[SL]/[3D]	[MIX] only
Chroma key	Standard	Standard	Not possible

The following shows how key combinations work.



Selecting the key type

Set the key type on the Menu Panel.

1 Select the <ME1>/<ME2> button → [KEY1], [KEY2] → [Key Setting] tab.

2 Select the items in the [Key Type] column.

- Select the method to generate key signals.

[Lum] (luminance key/self key)	Creates key signals from luminance components or luminance and chroma components of key fill signals. • Since the luminance key is operated as a self key, the key fill signals are used as the key source signals. The key signals do not change even when the key source signals are switched.
[Linear] (linear key)	Creates key signals from luminance components of key source signals. It is used when the key source signal and key fill signal are different. Use source with a black background and white characters or shape to be combined by the key as the key source signal. Source which is not black and white may not be combined clearly. Source with white background and black characters can be used by inverting the keys with the key invert function.
[Chroma] (chroma key)	Creates key signals using a specific hue of key source signals as the reference.
[Full] (full key)	Creates key signals using the images on the full screen as the key source signals. • For the full key, the images on the full screen are used as the key source signals. The key signals do not change even when the key source signals are switched.

3 Select the item in [Lum Key].

[Chroma Off]	Generates the key signals only from the luminance components.
[Chroma On]	Generates the key signals considering the chroma components in addition to the luminance components. This item is set when a low luminance component color is used for key signals such as when cutting blue characters.

4 Select the item in [Key Invert].

[OFF]	Cuts key fill with a key signal.
[ON]	Does not cut key fill with a key signal. The part of key fill not cut out with the key signal is superimposed on the background image. This item is used when key fill source has been cut with a key signal beforehand using an external device.

Selecting the source type

Select the mode to link selection of key source signal with key fill selection. The selection status is stored for each source signal.

1 Select the <ME1>/<ME2> button → [KEY1], [KEY2] → [Key Setting] tab.

2 Select the items in the [Source Type] column.

[Self Key]	Uses the source selected in the key fill bus column as the key source signal.
[Ext Key]	Different key source signals are used as the source for the key fill and for the key source.

Selecting the fill type

Select the fill type.

1 Select the <ME1>/<ME2> button → [KEY1], [KEY2] → [Key Setting] tab.

2 Select an item in the [Fill] column.

[Bus]	Uses the bus signal for the key fill signal.
[Matte]	Uses the internal fill matte for the key fill signal. The color for fill matte uses the color set in [Fill Matte] in the R menu.

Setting the matte color

Set the fill matte color.

1 Select the <ME1>/<ME2> button → [KEY1], [KEY2] → [Key Setting] tab.

2 Adjust the color.

- Select [Fill Matte] in the R menu and adjust the color in the color palette screen.

Selecting the key source

The key source is selected with the KEY bus crosspoint button corresponding to the bus specified with the bus assign buttons.

Setting the link between key fill signal and key source signal

To link the selection of key fill signal and key source signal, select the <OPR> button on the top menu → [SOURCE LINK] → [Key Assign] tab → [Master/Slave], and set [Fill to Source] or [Source to Fill].

For details, refer to “Setting the key coupling”.

- [Fill to Source]: When the key fill signal (master) is selected, the key source signal (slave) changes automatically.
- [Source to Fill]: When the key source signal (master) is selected, the key fill signal (slave) changes automatically.

Selecting the key fill signal and the key source signal separately

Use the <BUS SHFT> button to temporarily enable selection of a source different from the link setting using the crosspoint buttons.

■ When [Fill to Source] is set

Key fill signal: If a bus assign button <1> - <6> to which a key bus ([KEY1F/S], [KEY2F/S]) has been set is pressed without pressing the <BUS SHFT> button, the applicable bus crosspoint button will have selected the key fill signal. At this time, the bus assign button will light with the Low tally light.

Key source signal: If a bus assign button <1> - <6> to which a key bus ([KEY1F/S], [KEY2F/S]) has been set is pressed while pressing the <BUS SHFT> button, the applicable bus crosspoint button will have selected a source for the key source that is different from the linked setting. At this time, the bus assign button will light with the Preset tally light. The modified source for the key source is not memorized as a linked setting, and when a different key fill source is selected, it returns to the source that has been linked.

■ When [Source to Fill] is set

Key source signal: If a bus assign button <1> - <6> to which a key bus ([KEY1F/S], [KEY2F/S]) has been set is pressed without pressing the <BUS SHFT> button, the applicable bus crosspoint button will have selected the key source signal. At this time, the bus assign button will light with the Preset tally light.

Key fill signal: If a bus assign button <1> - <6> to which a key bus ([KEY1F/S], [KEY2F/S]) has been set is pressed while pressing the <BUS SHFT> button, the applicable bus crosspoint button will have selected a source for the key fill that is different from the linked setting. At this time, the bus assign button will light with the Low tally light. The modified source for the key fill is not memorized as a linked setting, and when a different key source source is selected, it returns to the source that has been linked.

Maintaining the individual selection state for the key fill signal and the key source signal

1 Select the <ME1>/<ME2> button → [KEY1], [KEY2] → [Key Setting] tab.

2 Select the item in [Source Split].

[OFF]	Do not maintain the individual selection state for the key fill signal and the key source signal.
[ON]	Maintain the individual selection state for the key fill signal and the key source signal.

Key transitions

Setting the key transition mode

Transition mode and transition time can be set separately for key in and key out.

1 Select the <ME1>/<ME2> button → [KEY1], [KEY2] → [Transition] tab.

2 Select [CUT], [MIX] or [WIPE] in the [In Type]/[Out Type] column.

- Select the transition mode.

3 Select [In Time]/[Out Time] in the R menu, and set [In Time]/[Out Time] in the encoder menu.

- Set the transition time. Set the transition time as with background transitions.

4 Select an item in [Type] in the [In/Out Sync] column.

[Separate]	Sets the [In Type] column and the [Out Type] column separately.
[IN=OUT]	The [In Type] column setting becomes the same as the [Out Type] column setting.

■ Transition curve settings**1 Select the <ME1>/<ME2> button → [KEY1], [KEY2] → [Transition] tab.****2 Select the items in [MIX] and [WIPE] in the [Key Transition Curve] column.**

- The transition curve can be set individually for each of MIX and WIPE according to the selection state of the transition type.

[Linear]	Straight line
[S Soft]	A shallow S curve
[S Mid]	An intermediate S curve
[S Hard]	A deep S curve

Operations on the KEY operation section**■ Operating the <KEY1 TRNS>, <KEY2 TRNS> buttons**

Press the <KEY1 TRNS>, <KEY2 TRNS> buttons to execute a transition with the transition type and transition time of respective keys which have been set on the menu.

The <KEY1 TRNS>, <KEY2 TRNS> buttons flicker during key in, and light when the transition is complete. If the <KEY1 TRNS>, <KEY2 TRNS> buttons are pressed while key in is complete, transition of the key image (key out) is executed.

The <KEY1 TRNS>, <KEY2 TRNS> buttons light during key out, and go off when the transition is complete. If the <KEY1 TRNS>, <KEY2 TRNS> buttons are pressed during the transition, the transition direction is reversed.

Key wipe transition

Set the pattern and position of key wipe transition on the menu.

1 Select the <ME1>/<ME2> button → [KEY1], [KEY2] → [Transition] tab.**2 Select an item displayed with a transition pattern icon, then select the wipe pattern.**

Upper icon	Select the wipe pattern for key in.
Lower icon	Select the wipe pattern for key out.

3 Select an item in [WIPE] in the [In/Out Sync] column.

[Separate]	Sets the wipe patterns for [In] and [Out] separately.
[IN=OUT]	Matches the wipe pattern of [Out] to the wipe pattern of [In].









4 Select [In Position]/[Out Position] in the R menu, and set [X-Pos] and [Y-Pos] in the encoder menu.

- Set the start position of the next pattern waveform.
 - WIPE: 11, 12, 13, 14, 15
 - SQ: 41, 42, 43, 44, 45, 46

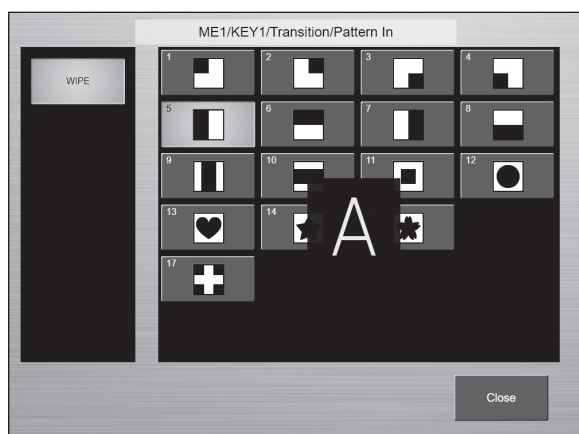
5 Select an item in [Position] in the [In/Out Sync] column.

[Separate]	Sets the start position of pattern waveform separately for key in and key out.
[IN=OUT]	Sets the start position of pattern waveform for key out to the start position of pattern waveform for key in.

■ Pattern examples for wipe transition

	Pattern example 1	Pattern example 2	Pattern example 3	Pattern example 4
Key in				
Key out				

■ Wipe pattern screens for key transition



Setting the Multi Pattern effect

The wipe pattern can be divided to the specified number.

- Enabled when the following pattern waveform is selected.
 - WIPE

1 Select the <ME1>/<ME2> button → [KEY1], [KEY2] → [Key Setting] tab.

2 Set the specification method of the number of division in [H/V Sync] of the [Multi] column.

[ON]	Makes the number of division the same in horizontal and vertical directions.
[OFF]	Different number of division can be specified for horizontal and vertical directions.

3 Set the number of division in horizontal and vertical direction in [H] and [V] of the [Multi] column.

Setting the Modulation effect

An effect to ripple the wipe edge can be added.

- Enabled when the following pattern waveforms are selected.
 - WIPE
 - SQ: 42, 43, 44, 45

1 Select the <ME1>/<ME2> button → [KEY1], [KEY2] → [Key Setting] tab.

2 Select [H Modulation] and [V Modulation] in the R menu, and set [Amplitude], [Frequency], and [Speed] in the encoder menu.

[Amplitude]	Sets the amplitude of the wave.
[Frequency]	Sets the frequency of the wave.
[Speed]	Sets the speed of the wave movement.

3 Select an item in [H Pattern], [V Pattern] in the [Modulation] column.

[Sine]	Selects sine waves.
[Delta]	Selects delta wave.

Adjusting the luminance key/linear key

Adjust the luminance key and linear key definition.

1 Select the <ME1>/<ME2> button → [KEY1], [KEY2] → [Key Setting] tab.

2 Select [Key Adjust] in the R menu, and set [Clip], [Gain], and [Density] in the encoder menu.

[Clip]	Sets the reference level for creating key signals.
[Gain]	Sets the key amplitude.
[Density]	Sets the key density.

3 Select an item in [Key Invert].

[OFF]	Does not invert the key signals generated internally.
[ON]	Inverts the key signals generated internally.

Adjusting the chroma key

Execute sampling for the selected key source to adjust the key definition. Options are required for the chroma key of KEY2.

- 1 Execute sampling of the selected key source. (page 62)
- 2 Remove the noise in the background image. (page 62)
- 3 Remove the noise in the foreground image. (page 63)
- 4 Remove the noise in the detail areas. (page 63)
- 5 Fine-tune the noise or transparency of the image. (page 64)
- 6 Fine-tune the generated chroma key signal. (page 66)

Executing sampling of the selected key source

- To execute the sampling automatically

- 1 Select the <ME1>/<ME2> button → [KEY1], [KEY2] → [Chroma] tab.
- 2 Select an item in the [Auto Compute] column.

[Auto Compute]	Executes sampling automatically.
[Reset]	Resets the sampled content.

- To execute the sampling manually

- 1 Select the <ME1>/<ME2> button → [KEY1], [KEY2] → [Chroma] tab.

- 2 Set an item in the [Chroma PVW Mode] column.

- Set the preview monitor. Change the video signals from [ME1PVW], [ME2PVW], [ME1 KEYPVW], [ME2 KEYPVW] outputs to those for chroma key preview.

[Off]	Displays the normal preview image. The sample marker is not displayed.
[Key1], [Key2]	The preview image selected in the [Chroma PVW Mode] column is displayed. The sample marker is displayed. Because this is a common setting for [Key1], [Key2], changing this setting for one key changes the setting of all the other keys.

- 3 Select [Composite] in the [Chroma PVW View] column.

- The image for the chroma key preview becomes a composite image of the background and foreground images.

- 4 Select [Select BG] in the [Sampling Mode] column.

- This sets the reference color (background color) for extracting the foreground image from the key source.

- 5 Select [Sample Area] in the R menu, and set [X-Pos], [Y-Pos], and [Size] in the encoder menu.

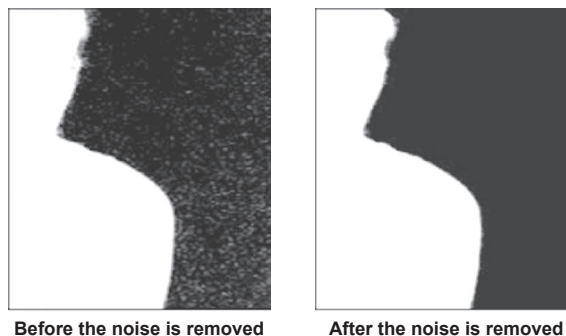
- Set the position and size of the sample marker.

- 6 After setting the sample area, select [Sampling].

- The area that has been set is now sampled.
- If you select [Undo] after sampling is executed, the status returns to the pre-sampling status.
- When sampling is performed while [Point] in the [Select BG] column is set to [ON], a narrower color range will be specified as the base colors than if it was set to [OFF].

Removing noise in the background image

Remove the noise in the background image. Perform this operation several times to remove noise.



- 1 Select the <ME1>/<ME2> button → [KEY1], [KEY2] → [Chroma] tab.
- 2 Select [Matte] in the [Chroma PVW View] column.

- The image for the chroma key preview becomes a matte image.

3 Select [Clean BG] in the [Sampling Mode] column.

- Remove the noise in the background image.

4 Select [Sample Area] in the R menu, and set [X-Pos], [Y-Pos], and [Size] in the encoder menu.

- Set the position and size of the sample marker at the position of noise (white dots) in the background image.

5 After setting the sample area, select [Sampling].

- The noise in the area that has been set is now removed.
- If you select [Undo] after sampling is executed, the status returns to the pre-sampling status.

Removing noise in the foreground image

Remove the noise in the foreground image. Perform this operation several times to remove noise.



Before the noise is removed



After the noise is removed

1 Select the <ME1>/<ME2> button → [KEY1], [KEY2] → [Chroma] tab.

2 Select [Matte] in the [Chroma PVW View] column.

- The image for the chroma key preview becomes a matte image.

3 Select [Clean FG] in the [Sampling Mode] column.

- Remove the noise in the foreground image.

4 Select [Sample Area] in the R menu, and set [X-Pos], [Y-Pos], and [Size] in the encoder menu.

- Set the position and size of the sample marker at the position of noise (black dots) in the foreground image.

5 After setting the sample area, select [Sampling].

- The noise in the area that has been set is now removed, and the foreground image is restored.
- If you select [Undo] after sampling is executed, the status returns to the pre-sampling status.

Removing color irregularity in the detail areas

After performing the procedures in “Executing sampling of the selected key source”, “Removing noise in the background image”, and “Removing noise in the foreground image”, there will still be some color irregularity in detail areas such as around hair in the following image. This step removes the color irregularity remaining in the detail areas.



1 Select the <ME1>/<ME2> button → [KEY1], [KEY2] → [Chroma] tab.

2 Select [Composite] in the [Chroma PVW View] column.

- The image for the chroma key preview becomes a composite image of the background and foreground images.

3 Select [Sponge] in the [Sampling Mode] column, then select [Spill–] in [Mode] in the [Sponge] column.

- The noise remaining in the detail areas of the image is removed.

4 Select [Sample Area] in the R menu, and set [X-Pos], [Y-Pos], and [Size] in the encoder menu.

- Set the position and size of the sample marker at the position of the remaining noise in the image.

5 After setting the sample area, select [Sampling].

- The noise in the area that has been set is now removed, and the colors become more natural.
- If you select [Undo] after sampling is executed, the status returns to the pre-sampling status.

NOTE

- Execute sampling in both the light and dark areas as the sample area.
- If the noise cannot be completely removed from the foreground image even after performing noise removal, select [Fine Tuning] in the [Sampling Mode] column to make fine adjustments to the image. (page 64)

Fine-tuning the noise or transparency of the image

Fine-tune the noise or transparency of the image.

1 Select the <ME1>/<ME2> button → [KEY1], [KEY2] → [Chroma] tab.**2 Select an item in the [Chroma PVW View] column.**

[Composite]	The image for the chroma key preview becomes a composite image of the background and foreground images. • Set [Resizer] to [OFF]. If [ON] is set, image for chroma key preview will be reduced and sampling will not be performed properly. Set [Resizer] by selecting the [Resizer] tab and setting it in the [Mode] column.
[Matte]	The image for the chroma key preview becomes a matte image.
[Proc.FG]	The image for the chroma key preview becomes the processed foreground image (image before combining with the background in which only color component processing was performed for the chroma key source).
[FG]	The image for the chroma key preview becomes the chroma key source image before processing.

3 Select an item in the [Sampling Mode] column.

- For details on the items, refer to “Setting items for image adjustment”.

4 Select [Sample Area] in the R menu, and set [X-Pos], [Y-Pos], and [Size] in the encoder menu.

- Set the position and size of the sample marker at the position of the remaining noise in the image.

5 After setting the sample area, select [Sampling].

- The noise in the area that has been set is now removed.
- If you select [Undo] after sampling is executed, the status returns to the pre-sampling status.

Setting items for image adjustment

Select the adjustment mode by selecting top menu <ME1>/<ME2> button → [KEY1], [KEY2] → [Chroma] tab → [Sampling Mode] column.

- For details of [Select BG], refer to “Executing sampling of the selected key source”.
- For details on [Clean BG], refer to “Removing noise in the background image”.
- For details on [Clean FG], refer to “Removing noise in the foreground image”.

■ [Sponge]

The behavior when sampling is executed is different depending on the [Mode] setting in the [Sponge] column.

- [Spill-]
This reduces the leaking of blues and greens in foreground images.
- [Matte+]
Select the semi-transparent parts of the subject in the foreground image and make them matte (non-transparent).
[Matte+] makes the semi-transparent parts non-transparent, but does not change the color to the original color. (When [Clean FG] is selected in the [Sampling Mode] column, the original state is restored including the color information.)
- [FG Trans]
Increase transparency of the low transparency area in the foreground image.
This is useful when making areas covered with thick smoke or clouds in the foreground image semi-transparent.
- [Detail+]
Decrease transparency of the high transparency area in the background image.
This is useful when restoring the details of an image (such as stray hairs or smoke), which have been lost as a result of operations such as [Clean BG].

■ [Fine Tuning]

Adjust detailed images.

1 Select the <ME1>/<ME2> button → [KEY1], [KEY2] → [Chroma] tab.**2 Select [Composite] in the [Chroma PVW View] column.**

- Select a composite image of the background image and key.

3 Select [Fine Tuning] in the [Sampling Mode] column.**4 Select [Sample Area] in the R menu, and set [X-Pos], [Y-Pos], and [Size] in the encoder menu.**

- Set the position and size of the sample marker at the position to sample.

5 After setting the sample area, select [Sampling].

6 Select [Fine Tuning] in the R menu, and display the encoder menu.**7 Set [Spill] in the encoder menu.**

- Remove and restore noise.

Increase the value in the minus direction to remove a large amount of noise from the foreground image, and to make the image colors approach the complementary color (opposite color) of the blue screen. Increase the value in the plus direction to make the image colors approach the original foreground image.

**8 Set [Trans] in the encoder menu.**

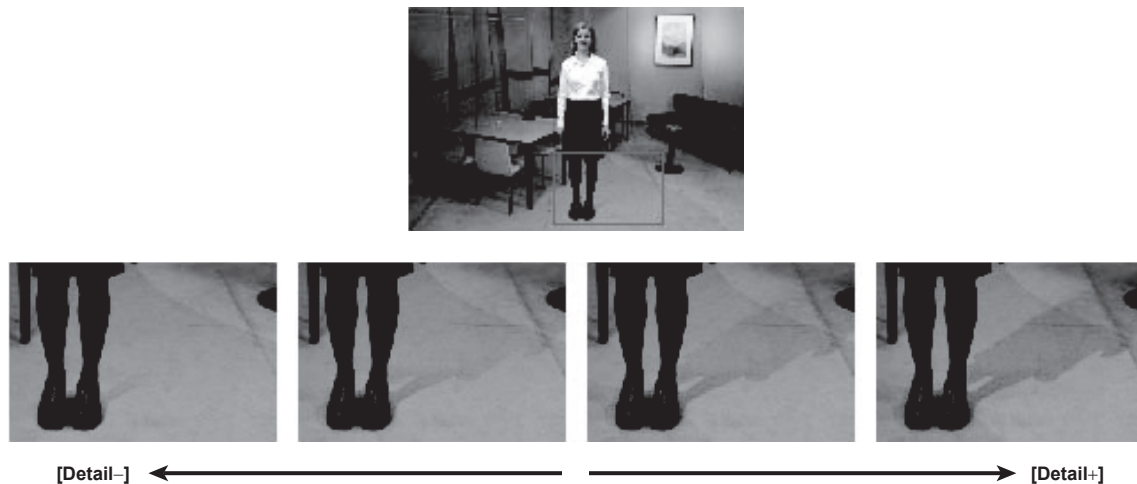
- Adjust the matte information for the color close to the color of the foreground image.

This is useful when making areas covered with thick smoke or clouds in the foreground image semi-transparent.

**9 Set [Detail] in the encoder menu.**

- Adjust the matte information for the color close to the color of the background image.

This is useful when restoring the details of an image (such as stray hairs or smoke), which have been lost in the foreground image as a result of sampling.



Fine-tuning the generated chroma key signals

Fine-tune generated chroma key signals.

1 Select the <ME1>/<ME2> button → [KEY1], [KEY2] → [Chroma] tab.

2 Select an item in [Narrow] in the [Adjust] column.

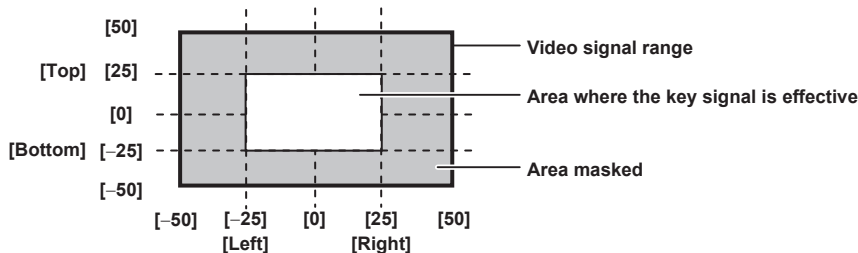
[Off]	Does not adjust the width of the chroma key signal.
[0.5], [1.0], [1.5]	Adjusts the width of the chroma key signal. The key signal width can be adjusted horizontally in 0.5 (half-pixel) increments.

3 Select [Phase Adjust] in the R menu, and set [Phase] in the encoder menu.

- Adjust the horizontal phase of the chroma key signal. The key signal position can be adjusted horizontally in 0.5 (half-pixel) increments.

Masking the key signals

Mask the key signals using the mask signal of the box pattern. The following figure is the status when [Type] is set to [FG], and [Invert] is set to [OFF].



1 Select the <ME1>/<ME2> button → [KEY1], [KEY2] → [Key Setting] tab.

2 Select an item in [Mask] in the [Mask] column.

- Set the mask method.

[OFF]	Does not mask the key signals.
[ON]	Select [Mask Adjust] in the R menu, and mask the area to be set with the encoder menu.

3 Select an item in [Type] in the [Mask] column.

- Set the image to be masked.

[FG]	Masks the foreground and displays the background.
[BG]	Masks the background and displays the foreground.

4 Select an item in [Invert] in the [Mask] column.

[ON]	Inverts the mask signal.
[OFF]	Does not invert the mask signal.

5 Select [Mask Adjust] in the R menu, and set [Left], [Top], [Right], and [Bottom] in the encoder menu.

- Set the area to be masked. The [Left] setting cannot exceed the [Right] setting (and vice versa), and the [Top] setting cannot exceed the [Bottom] setting (and vice versa).

[Left]	Masks the key left position.
[Top]	Masks the key top position.
[Right]	Masks the key right position.
[Bottom]	Masks the key bottom position.

- The parameters can also be changed with the Positioner.

Set the behavior with [Positioner] in the encoder menu. [Positioner] switches between [L/T] and [R/B] each time you select it.

- [L/T]: [Left] and [Top] are changed.
- [R/B]: [Right] and [Bottom] are changed.

Setting box matte

A matte can be added under the key.

1 Select the <ME1>/<ME2> button → [KEY1], [KEY2] → [Key Setting] tab.

2 Select an item in [BOX Matte] of the [BOX Matte] column.

[ON]	The box matte is added.
[OFF]	The box matte is not added.

3 Adjust the color.

Select [BOX Matte] in the R menu and adjust the color in the color palette screen.

4 Set the position and size.

Select [BOX Adjust] in the R menu, and set [X], [Y], [H Size], and [V Size] in the encoder menu.

5 Set the density.

Select [BOX Adjust] in the R menu, and set [Density] in the encoder menu.

PinP (Picture in Picture)

Entered key fill and key source signals are moved and expanded using DVE effects and are combined with the background image.

Since PinP uses DVE effects, the image is delayed by one frame.

Setting the PinP shape**1 Select the <ME1>/<ME2> button → [PinP1], [PinP2] → [Resizer] tab.****2 Set [Mark Shape].**

- Select [Square] (square), [Circle] (circle), [Heart] (heart), [Flower] (flower), or [Star] (star), for the PinP shape.
- When [Square] is selected, the display area can be adjusted with [Trim (Square)].

Adjusting PinP**Adjusting the position and size****1 Select the <ME1>/<ME2> button → [PinP1], [PinP2] → [Resizer] tab.****2 Set [X] and [Y] in the [Position] column.**

- Set the PinP position.

3 Set [Size] in the [Position] column.

- Set the PinP size.
- Up to 100% can be set for [PinP1] and [PinP2].

4 Set [X], [Y], and [Z] in the [Rotation] column.

- Set the tilt for the PinP image.
- This setting is available only for [KEY1] and [KEY2].
- [X] and [Y] will be disabled when anything other than [Off] is selected in [WipeMask] in the [Mode] column.

5 Set [X-Aspect] and [Y-Aspect] in the [Rotation] column.

- Set the aspect ratio for the PinP image.
- This can be set only for [KEY1] and [KEY2].

PinP decorations

Add a border or soft effect to PinP.

1 Select the <ME1>/<ME2> button → [PinP1], [PinP2] → [Resizer] tab.**2 Select an item in [Border] in the [Border] column.**

[Off]	Does not add the border effect.
[On]	Adds the border effect.

3 Set [Width] in the [Border] column.

- Sets the border width.

4 Set [Soft] in the [Border] column.

- Sets the amount of soft effect. When set to [0.0], the soft effect is disabled.

5 Set an item in [Mode] in the [Border] column.

[Fix]	Keeps the border width constant.
[Variable]	Changes the border width to suit the PinP size.

NOTE

- When [Border] in the [Border] column is set to [On], the amount of soft effect set using [Soft] in the [Border] column is indicated as the ratio of soft effect to the border width. To add only soft effect to PinP, set [Border] in the [Border] column to [Off].

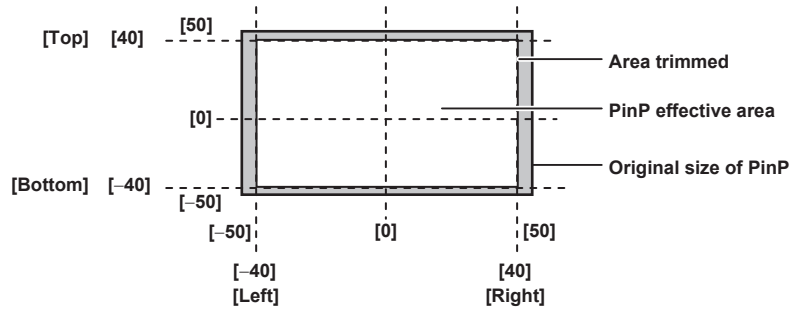
Setting the border color**1 Select the <ME1>/<ME2> button → [PinP1], [PinP2] → [Resizer] tab.**

2 Adjust the color.

- Set the [Hue], [Sat], [Lum], or [Color Palette] in [Border Color] in the R menu.

Setting the trimming

Set the trimming type and values as well as operation for when manual is set. The default setting is as shown in the following figure.



1 Select the <ME1>/<ME2> button → [PinP1], [PinP2] → [Resizer] tab.

2 Select an item in [Preset] in the [Trim(Square)] column.

[Trim]	Trimming is performed.
[Pair]	Changes the settings in such a way that the [Left] and [Right] trimming amounts, and the [Top] and [Bottom] trimming amounts are the same. (This makes for a top-bottom and left-right symmetry.)
[Manual]	Trims using the values set with [Trim Adjust1] and [Trim Adjust2].

3 Set the [Left], [Top], [Right], or [Bottom] in [Trim] in the R menu.

- Set the trimming value. The [Left] setting cannot exceed the [Right] setting (and vice versa), and the [Top] setting cannot exceed the [Bottom] setting (and vice versa).

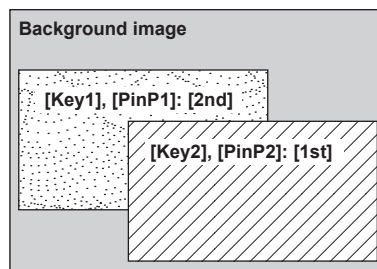
[Left]	Sets the left trimming value.
[Top]	Sets the top trimming value.
[Right]	Sets the right trimming value.
[Bottom]	Sets the bottom trimming value.

4 Set [WipeAspect] in the [Trim] column.

- The aspect ratio of the wipe pattern is changed when anything other than [Off] is selected in [WipeMask] in the [Mode] column.

Setting the priority

Set the priority (image positioning). The default setting is as shown in the following figure.



1 Select the <ME1>/<ME2> button → [MISC] → [Key Priority] tab.

2 Select an item in [Key1], [Key2], [PinP1], [PinP2] in the [Key Priority] column.

- Select the priority for any key from [1st], [2nd].
- Changing the setting of one item will change the settings of other items accordingly. In the default setting, if [Key1], [PinP1] is changed from [2nd] to [1st], then the settings of [Key2], [PinP2] also change as follows.
 - [Key2], [PinP2]: [1st] → [2nd]

Setting [Key Link]

Combine [Key1], [Key2], [PinP1], [PinP2] in the same ME to start transitions simultaneously.

1 Select the <ME1>/<ME2> button → [MISC] → [Key Link] tab.

2 Select an item in [Key1], [Key2], [PinP1], [PinP2] in the [Key On Link] column.

- Select [Off], [Group1] or [Group2] for any key.
 - Keys that were set in the same group operate in conjunction.
 - Example) When [Key1], [PinP1] is set to [Group1], and [Key2], [PinP2] is set to [Off]
 - Pressing the <KEY1 TRNS> button starts transitions of [Key1], [PinP1] and [Key2], [PinP2] at the same time.

On/off of the key by the menu operation

Each key can be turned on/off with the cut transition by the menu operation.

1 Select the <ME1>/<ME2> button → [MISC] → [Key On] tab.

2 Select an item in [Key1], [Key2], [PinP1], [PinP2] in the [Key On] column.

[OFF]	Turns off the key.
[ON]	Turns on the key.

NOTE

- The button operation (toggle operation) is recorded instead of recording the on/off status of the key when the macro for operation by the <KEY1 ON>, <KEY2 ON> buttons is recorded. The on/off status of the key is recorded when the on/off of the key is recorded to macro with the above menu operation.

DSK (Downstream key)

Combine characters or other images with the background image of ME1PGM or ME2PGM output.

The selection of the ME1PGM output or the ME2PGM output is performed on the top menu <SYS> button → [DSK SETTING] → [DSK Assign] tab → [DSK Assign] column. (page 169)

Selecting the DSK type

Set the key type on the Menu Panel AV-HS60C3.

1 Select the <DSK> button → [DSK1], [DSK2] → [Key Setting] tab.

2 Select an item in the [Key Type] column.

- Select the method to generate key signals. The selection status is stored for each source.

[Lum] (luminance key/self key)	Creates key signals from luminance components or luminance and chrome components of key fill signals. • Since the luminance key is operated as a self key, the key fill signals are used as the key source signals. The key signals do not change even when the key source signals are switched.
[Linear] (linear key)	Creates key signals from luminance components of key source signals. It is used when the key source signal and key fill signal are different. • Use source with a black background and white characters or shape to be combined by the key as the key source signal. Source which is not black and white may not be combined clearly. Source with white background and black characters can be used by inverting the keys with the key invert function.

3 Select an item in the [Lum Key] column.

[Chroma Off]	Generates the key signals only from the luminance components.
[Chroma On]	Generates the key signals considering the chrome components in addition to the luminance components. This item is set when a low luminance component color is used for key signals such as when cutting blue characters.

4 Select an item in [Clean Key] in the [DSK] column.

[Off]	Cuts key fill with a key signal.
[On]	Does not cut key fill with a key signal. The part of key fill not cut out with the key signal is superimposed on the background image.

Selecting the source type

1 Select the <DSK> button → [DSK1], [DSK2] → [Key Setting] tab.

2 Select an item in [Source Type] in the [DSK] column.

- Select the mode to link selection of key source signal with key fill selection.

[Self Key]	Uses the source selected in the key fill bus column as the key source signal.
[Ext Key]	Always uses an external key. The source signal for fill is set using [Fill] in the [DSK] column.

Selecting the fill type

Select the fill type.

1 Select the <DSK> button → [DSK1], [DSK2] → [Key Setting] tab.

2 Select an item in [Fill] in the [DSK] column.

[Bus]	Uses the bus signal for the key fill signal.
[Matte]	Uses the internal fill matte for the key fill signal. The color set in the [Fill Matte] column is used for the fill matte color.

Setting the matte color

Set the fill matte color.

1 Select the <DSK> button → [DSK1], [DSK2] → [Key Setting] tab.

2 Adjust the color.

- Set the [Hue], [Sat], [Lum], or [Color Palette] in [Fill Matte] in the R menu.

Selecting the DSK source

For details on selecting DSK sources, refer to “Selecting the key source”.

DSK transition

Operating in the DSK operation area

■ Operating the <DSK1 TRNS>, <DSK2 TRNS> buttons

Press the <DSK1 TRNS>, <DSK2 TRNS> buttons in the transition area to execute a transition automatically with the transition time of respective keys set on the menu.

The <DSK1 TRNS>, <DSK2 TRNS> buttons flicker during key in, and light when the transition is complete. If the <DSK1 TRNS>, <DSK2 TRNS> buttons are pressed while key in is complete, transition of the key image (key out) is executed.

The <DSK1 TRNS>, <DSK2 TRNS> buttons light during key out, and go off when the transition is complete. If the <DSK1 TRNS>, <DSK2 TRNS> buttons are pressed during the transition, the transition direction is reversed.

■ Operating the <DSK1 ON>, <DSK2 ON> buttons

Press the <DSK1 ON>, <DSK2 ON> buttons to turn on/off respective DSK with the cut transition.

Setting the DSK transition mode

Transition mode and transition time can be set separately for key in and key out.

1 Select the <DSK> button → [DSK1], [DSK2] → [Transition] tab.

2 Select an item in [Transition] in the [In Type]/[Out Type] column.

- The transition mode available is only [MIX].

[Off]	Disables the transition mode of key in or key out.
[On]	Enables the transition mode of key in or key out.

3 Set [Time] in the [In Type]/[Out Type] column.

- Set the transition time.

4 Select an item in [In=Out] in the [Out Type] column.

[Off]	Sets the [In Type] column and the [Out Type] column separately.
[On]	The [In Type] column setting becomes the same as the [Out Type] column setting.

DSK output

The DSK block outputs the following signals.

For details, refer to “System Menu”.

- DSKPGM1, DSKPGM2: Outputs program signals of DSK compositions.

Select the <SYS> button on the top menu → [MAIN FRAME] → [DSK] tab → [Config] column → [DSK1], [DSK2] and set them to either [DSKPGM1] or [DSKPGM2] to assign the signal to one of the outputs.

- DSKPVW1, DSKPVW2: Outputs DSK preview signals.

Follow the setting of the <SYS> button on the top menu → [MAIN FRAME] → [DSK] tab → [Config] column → [DSK1], [DSK2], and assign the signal to either DSKPVW1 or DSKPVW2 line.

Keyers set to [Off] using the <SYS> button on the top menu → [MAIN FRAME] → [DSK] tab → [DSK PVW] column are not combined.

- DSK EXT1-1, DSK EXT1-2, DSK EXT2-1, DSK EXT2-2: These output signals can be set by the user.

Adjusting the luminance key/linear key

Adjust the luminance key and linear key definition.

1 Select the <DSK> button → [DSK1], [DSK2] → [Key Setting] tab.

2 Set [Clip], [Gain], and [Density] in the [Key Adjust] column.

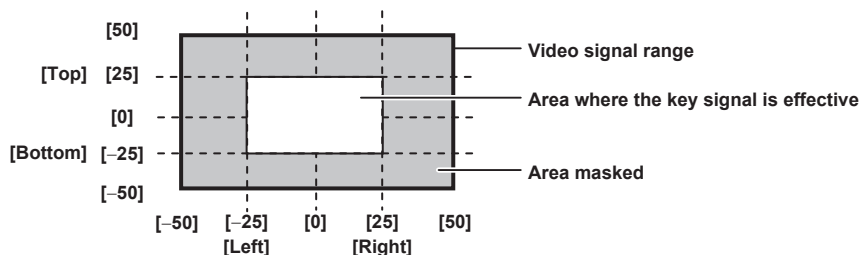
[Clip]	Sets the reference level for creating key signals.
[Gain]	Sets the key amplitude.
[Density]	Sets the key density.

DSK decorations

Add a border, shadow, or other edge to the key.

Masking the DSK

Mask the key signals using the mask signal of the box pattern. The following figure is the status when [Type] is set to [ForeGround].



1 Select the <DSK> button → [DSK1], [DSK2] → [Key Setting] tab.

2 Select an item in [Mask] in the [Mask] column.

- Set the mask method.

[Off]	Does not mask the key signals.
[4:3]	Masks the signals in the 4:3 aspect ratio.
[Manual]	Masks the area set in [Mask Adjust1] or [Mask Adjust2].

3 Select an item in [Type] in the [Mask] column.

- Set the image to be masked.

[ForeGround]	Masks the foreground and displays the background.
[BackGround]	Masks the background and displays the foreground.

4 Select an item in [Invert] in the [Mask] column.

[Off]	Does not invert the mask signal.
[On]	Inverts the mask signal.

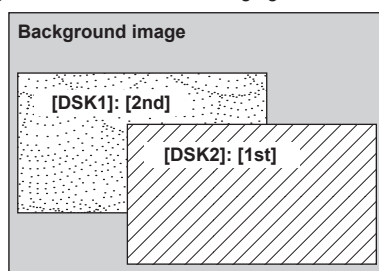
5 Set [Left], [Top], [Right], and [Bottom] in the [Mask Adjust1]/[Mask Adjust2] column.

- Set the area to be masked. The [Left] setting cannot exceed the [Right] setting (and vice versa), and the [Top] setting cannot exceed the [Bottom] setting (and vice versa).

[Left]	Masks the key left position.
[Top]	Masks the key top position.
[Right]	Masks the key right position.
[Bottom]	Masks the key bottom position.

Setting the priority

Set the priority (image positioning). The default setting is as shown in the following figure.



1 Select the <DSK> button → [MISC] tab.

2 Select an item in [DSK1], [DSK2] in the [DSK Priority] column.

- Select the priority for any key from [1st], [2nd].
- Changing the setting of one item will change the settings of other items accordingly. In the default setting, if [DSK1] is changed from [2nd] to [1st], then the settings of [DSK2] also change as follows.
 - [DSK2]: [1st] → [2nd]

Setting [DSK On Link]

To perform transition with the <DSK1 TRNS>, <DSK2 TRNS> buttons, set [DSK1], [DSK2] at the same time.

1 Select the <DSK> button → [MISC] tab.

2 Select an item in [DSK1], [DSK2] in the [DSK On Link] column.

- Select [Off] or [Group1] for any key.
- The following is an operation example when this setting is used.
 - When [DSK1] is set to [On], and [DSK2] is set to [Group1]

Pressing the <DSK1 TRNS> button starts transitions of [DSK1] and [DSK2] at the same time.

NOTE

- The setting is also possible by selecting <SYS> button → [DSK SETTINGS] → [DSK OUT1]/[DSK OUT2] tab → [Priority DSK1]/[Priority DSK2] column. The menu setting values also follow the setting values in the above menu.

On/off of the DSK by the menu operation

Each DSK can be turned on/off with the cut transition by the menu operation.

1 Select the <DSK> button → [MISC] tab.

2 Select an item in [DSK1], [DSK2] in the [DSK On] column.

[OFF]	The DSK is turned off.
[ON]	The DSK is turned on.

NOTE

- The button operation (toggle operation) is recorded instead of recording the on/off status of the DSK when the macro for operation by the <DSK1 ON>, <DSK2 ON> buttons is recorded. The on/off status of the DSK is recorded when the on/off of the DSK is recorded to macro with the above menu operation.

Color corrector

This unit has a color corrector function that enables correction of the color in video signals.

Setting the color corrector

1 Select the <CC> button → [SDI IN 1] to [SDI IN 20] → the tab to be set.

- Select the tab corresponding to the terminal for which you want to set the color corrector.

2 Select an item in [Enable] in the [Operation] column.

[ON]	Enables the color corrector of the relevant channel.
[OFF]	Disables the color corrector.

3 Select an item in [Limit] in the [Operation] column.

[Off]	Does not restrict the color range of input signals.
[108]	Restricts the amplitude level of the colors (R, G, and B) to 0% to 108%.
[104]	Restricts the amplitude level of the colors (R, G, and B) to 0% to 104%.
[100]	Restricts the amplitude level of the colors (R, G, and B) to 0% to 100%.

Initializing the color corrector

1 Select the <CC> button → [SDI IN 1] to [SDI IN 20] → the tab to be set.

- Select the tab corresponding to the terminal for which you want to set the color corrector.

2 Select an item in [Init Target] in the [Setting] column.

[Process]	Initializes the setting value in the [Process] column.
[Tone]	Initializes the setting values in the [Tone1 Black]/[Tone2 Gray L]/[Tone3 Gray H]/[Tone4 White] column.
[RGB Matrix]	Initializes the setting values in the [Matrix R/G]/[Matrix B] column.
[All]	Initializes all.

3 Select [Initialize] in the [Setting] column.

- The corresponding item is initialized.

Copying the setting

1 Select the <CC> button → [SDI IN 1] to [SDI IN 20] → the tab to be set.

- Select the tab corresponding to the terminal for which you want to set the color corrector.

2 Select an item in [Copy Target] in the [Setting] column.

- Select the tab for the copy source of the setting.

3 Select [Copy From] in the [Setting] column.

- The setting of the selected tab is copied. However, the setting of the [Setting] column is not copied.

Process control

1 Select the <CC> button → [SDI IN 1] to [SDI IN 20] → the tab to be set.

- Select the tab corresponding to the terminal for which you want to set the color corrector.

2 Set [Y-Gain], [Pedestal], [C-Gain], and [Hue] in the [Process] column.

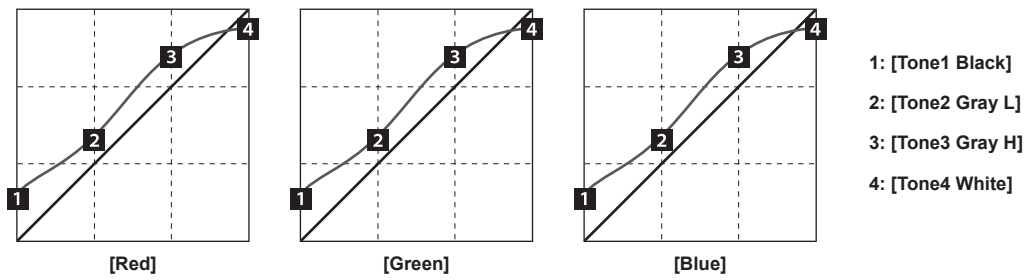
[Y-Gain]	Sets the gain value of the Y signal.
[Pedestal]	Sets the value of the pedestal level (black level).
[C-Gain]	Sets the gain value of the saturation (Sat).
[Hue]	Sets the amount of change of the hue (Hue).

Tone curve

Correct the tone of input images.

Set the tone curve to adjust the screen brightness and contrast.

Adjust R, G, and B separately to adjust white balance or tone.



1 Select the <CC> button → [SDI IN 1] to [SDI IN 20] → the tab to be set.

- Select the tab corresponding to the terminal for which you want to set the color corrector.

2 Set [Red], [Green], and [Blue] in the [Tone1 Black]/[Tone2 Gray L]/[Tone3 Gray H]/[Tone4 White] column.

[Tone1 Black]	Adjusts the black level.
[Tone2 Gray L]	Adjusts the gray Low level.
[Tone3 Gray H]	Adjusts the gray High level.
[Tone4 White]	Adjusts the white level.

3 Select an item in [RGB Link] in the [Tone1 Black] column.

[OFF]	Enables setting of the [Tone1 Black]/[Tone2 Gray L]/[Tone3 Gray H]/[Tone4 White] column independently from RGB.
[ON]	Uses the value of [Red] as the values of [Green] and [Blue] for the [Tone1 Black]/[Tone2 Gray L]/[Tone3 Gray H]/[Tone4 White] column.



NOTE

- The unit simply connects the set black level, gray Low level, gray High level, and white level to create a tone curve. Depending on the setting values, the tone curve might not be as desired.

Adjusting the gain of color matrix

1 Select the <CC> button → [SDI IN 1] to [SDI IN 20] → the tab to be set.

- Select the tab corresponding to the terminal for which you want to set the color corrector.

2 Set [R-G], [R-B], [G-R], [G-B], [B-R], and [B-G] in the [Matrix R/G]/[Matrix B] column.

[R-G]	Sets the gain value in the R-G axis direction.
[R-B]	Sets the gain value in the R-B axis direction.
[G-R]	Sets the gain value in the G-R axis direction.
[G-B]	Sets the gain value in the G-B axis direction.
[B-R]	Sets the gain value in the B-R axis direction.
[B-G]	Sets the gain value in the B-G axis direction.

Internal color signals

The unit supports two lines of internal color signals.

Setting the color background

Set the color of the color background to be used by the bus.

The color can be set by setting the hue (Hue), saturation (Sat), and luminance (Lum), or by recalling the preset eight colors. The recalled colors can also be adjusted using [Hue], [Sat], and [Lum].

Adjusting the colors

- 1 Select the <CBGD> button → [CBGD] → [CBGD] tab.
- 2 Adjust the color.
 - Select [Main Color] in the R menu and adjust the color in the color palette screen.

Setting the gradation

Set the gradation effect for color backgrounds.

Selecting the gradation effects and setting the colors

- 1 Select the <CBGD> button → [CBGD] → [CBGD] tab.
- 2 Select an item in [Wash] in the [CBGD1]/[CBGD2] column.

[ON]	Adds the gradation effect.
[OFF]	Does not add the gradation effect.

- 3 Select an item in [Color Type] in the [CBGD1]/[CBGD2] column.

[Dual]	Adds a 2 color gradation effect using the [Main Color] and [Sub Color] set in the R menu.
[Rainbow]	Adds the rainbow color gradation effect.

- 4 Adjust the color.
 - When [Dual] is selected, select [Sub Color] in the R menu and adjust the color in the color palette screen.
 - When [Rainbow] is selected, select [Rainbow] in the R menu and set [Rainbow Sat] and [Rainbow Lum] in the encoder menu.

Adjusting the gradation waveforms

- 1 Select the <CBGD> button → [CBGD] → [CBGD] tab.
- 2 Select an item in [Pattern] in the [CBGD1]/[CBGD2] column.

[Sine]	Selects sine waves.
[Saw]	Selects sawtooth waves.

- 3 Select [Wave] in the R menu, and set [Cycle], [Phase], and [Angle] in the encoder menu.

[Cycle]	Selects the gradation cycle.
[Phase]	Selects the gradation phase.
[Angle]	Selects the gradation angle.

Setting the gradation movement

- 1 Select the <CBGD> button → [CBGD] → [CBGD] tab.
- 2 Select an item in [Move Type] in the [CBGD1]/[CBGD2] column.

[Off]	Sets no movement.
[Roll]	Scrolls the gradations.
[Rotation]	Rotates the gradations.

- 3 Select [Wave] in the R menu, and set [Speed] in the encoder menu.
 - Set the speed of the gradation movement.

Switching the AUX output

Selecting the AUX output sources

Display the AUX output image on the monitor using the output settings or the settings of the MultiView display.

You can select AUX1 - AUX16 bus sources in the AUX bus crosspoint by pressing a combination of one of the AUX bus selection buttons <AUX 1/2> - <AUX 15/16> and the <BUS SHFT> button.

The selection operation depends on the setting selected with top menu <OPR> button → [SOURCE LINK] → [Key Assign] tab → [Master/Slave].

Operation	[Fill to Source] setting	[Source to Fill] setting
Only the AUX bus selection button is pressed	Odd numbered buses from AUX1 - AUX15 are selected	Even numbered buses from AUX2 - AUX16 are selected
The <BUS SHFT> button + the AUX bus selection button are pressed	Even numbered buses from AUX2 - AUX16 are selected	Odd numbered buses from AUX1 - AUX15 are selected

■ Signals that can be selected on the AUX bus

Signal name	Description of signal
SDI IN1 - SDI IN20	SDI input signals 1 to 20
Still 1V, Still 2V	Video memory (still image) 1, 2 videos
Still 1K, Still 2K	Video memory (still image) 1, 2 keys
Clip 1V, Clip 2V	Video memory (moving image) 1, 2 videos
Clip 1K, Clip 2K	Video memory (moving image) 1, 2 keys
CBGD1, CBGD2	Color background 1, 2
CBAR	Color bar
Black	Black image
ME1PGM, ME2PGM	Program video signal
ME1PVW, ME2PVW	Preview video signal
ME1CLN, ME2CLN	Clean signal
ME1KEYPVW, ME2KEYPVW	Key preview video signal
DSKPGM1, DSKPGM2	DSK program video signal
DSKPVW1, DSKPVW2	DSK preview video signal
DSKEXT1-1, DSKEXT1-2, DSKEXT2-1, DSKEXT2-2	DSK extended signals
MV1, MV2	MultiView display output signal

NOTE

- When the AUX bus image for which the MultiView display output has been selected is displayed on the sub-screen of the MultiView display, the images are looped as if two mirrors were facing each other.
- Refer to “ME unit settings” for details about setting preview video signals and clean signals.

Transitions of AUX1 to AUX4 buses

AUX1 to AUX4 buses can perform MIX transitions.

For details, refer to “AUX1 to AUX4 bus transitions”.

Linking AUX buses

Set the <OPR> button on the top menu → [SOURCE LINK] → [AUX Bus Link] tab to link two AUX buses.

For details, refer to “Linking the AUX bus”.

Memory

The unit has the following memory functions to store setting data.

- Shot memory (page 78)
- Event memory (page 81)
- Macro memory (page 88)
- Key preset (page 91)
- Key source preset (page 121)
- Preset memory of background wipe (page 40)

Shot memory

The background transition pattern, Resizer size, border width, and other video effects can be registered in the memory and recalled.

This is called shot memory, and a single memory is called a register memory.

By setting effect dissolve, it is possible to ensure a smooth change of the switching from the current images to the images or operations registered in the shot memory.



NOTE

- The number of memories that can be registered in the shot memory is 81 (9 pages × 9).
- Operate the shot memory on the Menu Panel or the multi-selection panel.
For details on operating the multi-selection panel, refer to “Shot memory menu”.

Registering register memories of the shot memory

Register the current image effect settings in the register memory.

- 1 Select the <MEM> button → [SHOT MEMORY] → [Register] tab.
- 2 Select an item in [ME1]/[ME2]/[DSK]/[AUX] in the [Store Select] column.

[ON]	Made the target for registering.
[OFF]	Not made the target for registering.

- 3 Select [Store] in the [Register] column.

- The [Store] screen is displayed.

[CBGD], [XPT]	[CBGD]: Set to [On] to make the color background setting information the target of registering. [XPT]: Set to [On] to make the crosspoint information the target of registering.
[Page]	Switches pages. [ALL]: All registered memories are displayed. [1-X] - [9-X]: The registered memories on each page are displayed.
[Sort]	The registered memory display is sorted by memory name ([Name+]/[Name-]), date ([Date+]/[Date-]), or memory number ([No+]/[No-]), in either ascending order (+) or descending order (-).
[View]	Select the display mode. [List]: Registered memories are displayed in a list. [Icon]: Registered memories are displayed as icons.
[Store]	Closes the [Store] screen after registering the target.
[Cancel]	Closes the [Store] screen without registering the target.



NOTE

- A registered register memory can be overwritten.

Recalling register memories of the shot memory (playback)

Recall the image effect settings registered in the register memory.

- 1 Select the <MEM> button → [SHOT MEMORY] → [Register] tab.
- 2 Select an item in [ME1]/[ME2]/[DSK]/[AUX] in the [Recall Select] column.

[ON]	Made the target for playing back.
[OFF]	Not made the target for playing back.

- 3 Select [Recall] in the [Register] column.

- The [Recall] screen is displayed.

[CBGD], [XPT]	[CBGD]: Set to [On] to make the color background setting information the target of playing back. [XPT]: Set to [On] to make the crosspoint information the target of playing back.
[Page]	Switches pages. [ALL]: All registered memories are displayed. [1-X] - [9-X]: The registered memories on each page are displayed.
[Sort]	The registered memory display is sorted by memory name ([Name+]/[Name-]), date ([Date+]/[Date-]), or memory number ([No+]/[No-]), in either ascending order (+) or descending order (-).
[View]	Select the display mode. [List]: Registered memories are displayed in a list. [Icon]: Registered memories are displayed as icons.
[Recall]	Closes the [Recall] screen after recalling the target.
[Cancel]	Closes the [Recall] screen without recalling the target.

■ Resource conflicts

- The following is performed when a new register memory is recalled during shot memory effect dissolve playback or event memory playback.
 - When the target to recall does not overlap between the register memory that is currently playing and the register memory to be newly recalled, both memories are played independently.
 - When the target to recall overlaps between the register memory that is currently playing and the register memory to be newly recalled, playback of the originally playing memory stops and playback of the new memory starts.
- The following is performed when the shot memory effect dissolve playback is performed simultaneously with the transition operation by the fader, <AUTO> button, and <CUT> button.
 - When the recall target of the register memory to be played and the transition target do not overlap, register memory playback and transition each works independently.
 - When the recall target of the register memory to be played and the transition target overlap, register memory playback is prioritized.

■ Playback target (when playing back with the multi-selection panel)

- Playback of [ME1] and [ME2]

The target selected at the start of playback is always played back.

 - When the target selected at registration is either one of [ME1] or [ME2]

The target selected at registration is played back even when either [ME1] or [ME2] is selected at the start of playback.
 - When there is no target selected at registration

[ME1] recorded at registration is played back even when either [ME1] or [ME2] is selected at the start of playback.
 - When 2 MEs were selected when registering

The settings for the relevant ME when it was registered are played back for those MEs that were selected when registering.

For those MEs that were not selected when registering, the ME settings registered with the youngest numbers are played back.
- Playback of [DSK], [AUX], and [CBGD]

The target selected by both operations at registration and the start of playback is played back.

■ Playback target (when playing back with the menu panel)

- Playback of [ME1] and [ME2]

The target selected at the start of playback is always played back.

 - When the target selected at registration is either one of [ME1] or [ME2]

The target selected at registration is played back even when either [ME1] or [ME2] is selected at the start of playback.
 - When there is no target selected at registration

[ME1] recorded at registration is played back even when either [ME1] or [ME2] is selected at the start of playback.
 - When 2 MEs were selected when registering

The settings for the relevant ME when it was registered are played back for those MEs that were selected when registering.

For those MEs that were not selected when registering, the ME settings registered with the youngest numbers are played back.
- Playback of [DSK], [AUX], and [CBGD]

The target selected at the start of playback is always played back.

For the target which is not selected at registration, playback is performed with the setting at registration.

Editing register memories of the shot memory

Delete a registered register memory or change file names.

1 Select the <MEM> button → [SHOT MEMORY] → [Register] tab.

2 Select [Misc] in the [Register] column.

- The [Misc] screen is displayed.

[Page]	Switches pages. [ALL]: All registered memories are displayed. [1-X] - [9-X]: The registered memories on each page are displayed.
[Sort]	The registered memory display is sorted by memory name ([Name+]/[Name-]), date ([Date+]/[Date-]), or memory number ([No+]/[No-]), in either ascending order (+) or descending order (-).
[View]	Select the display mode. [List]: Registered memories are displayed in a list. [Icon]: Registered memories are displayed as icons.
[Delete]	When a registered memory is selected and you select [Delete], a confirmation message is displayed. • The currently selected registered memory is deleted when you select [OK]. • When you select [Cancel], the registered memory is not deleted and the confirmation screen is closed.
[Rename SMEM]	When a registered memory is selected and you select [Rename SMEM], a keyboard screen is displayed and you can change the name of the registered memory. • When you select [OK], the registered memory's name is changed and the keyboard screen is closed. • When you select [Cancel], the registered memory's name is not changed, and the keyboard screen is closed.
[Close]	Closes the [Misc] screen.

Setting effect dissolve

Switching from the current image settings to the image settings stored in the shot memory can be performed smoothly.

1 Select the <MEM> button → [SHOT MEMORY] → [Register] tab.

2 Select an item in [Effect Dissolve] in the [Mode] column.

- Set the effect when switching images.

[ON]	Switches the images using the dissolve effect.
[OFF]	Switches the images using the cut effect.

3 Set the time for dissolve effect in [Dissolve Time] in the [Mode] column.

4 Select an item in [Hue Path] in the [Mode] column.

- Select the effect when switching colors. The following Hue becomes the target.
 - Colors of the color background
 - Colors of the borders
 - Colors of the edges
 - Colors of the fill matte

[Short]	Changes the colors in the direction where the variation of Hue is small on the vectorscope.
[Long]	Changes the colors in the direction where the variation of Hue is large on the vectorscope.
[CW]	Changes the Hue clockwise on the vectorscope.
[CCW]	Changes the Hue counterclockwise on the vectorscope.
[Step]	Changes with the cut effect.

NOTE


- When [Effect Dissolve] in the [Mode] column is changed from [ON] to [OFF] during effect dissolve playback, the dissolve effect is cancelled and the images are instantaneously switched to the images of the selected shot memory.


Setting the details of the shot memory

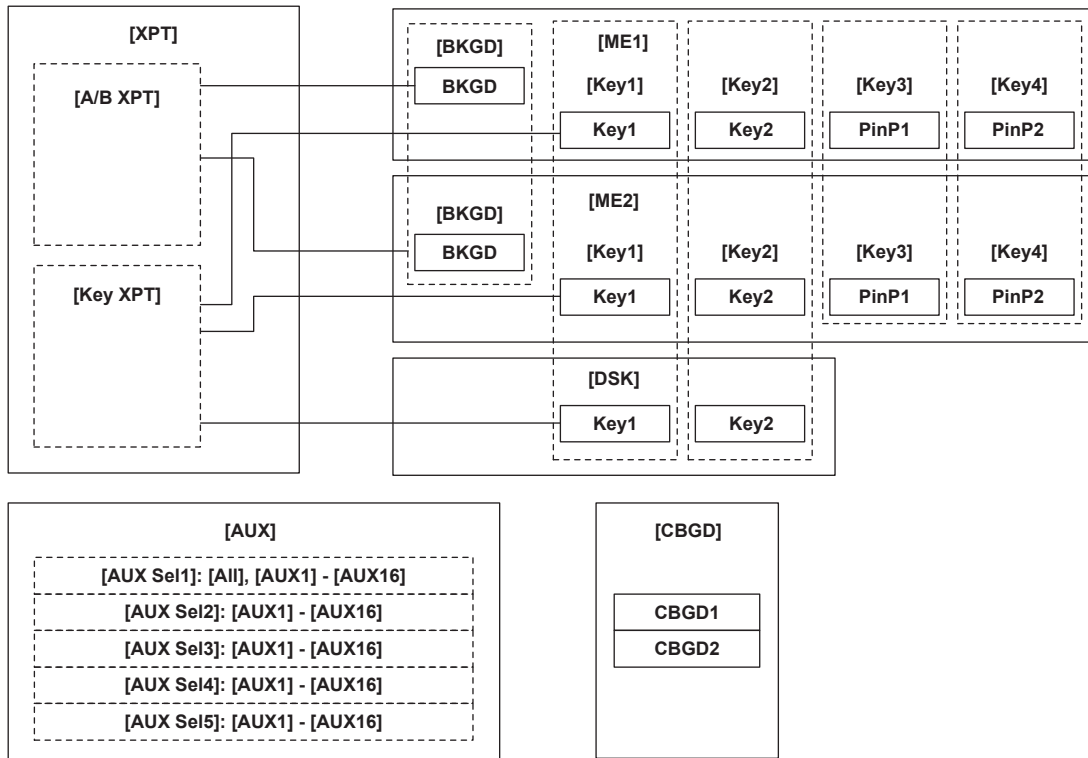
You can specify the register memory target to recall more precisely.

The following figure shows the relationship between the setting target of [Register] and the setting target of [Detail Select].

- In the following figure, two types of lines show the types of items.

 indicates an item to be selected in [Store]/[Recall] in the [Register] column.

 indicates an item to be set in the [Detail Select] tab.



1 Select the <MEM> button → [SHOT MEMORY] → [Detail Select] tab.

2 Select an item in [BKGD]/[Key1]/[Key2] in the [Detail ME] column.

[ON]	Made the target for recalling.
[OFF]	Not made the target for recalling.

3 Select an item in [A/B XPT]/[Key XPT] in the [Detail XPT] column.

[ON]	Made the target for recalling.
[OFF]	Not made the target for recalling.

4 Select an item in [AUX Sel1] to [AUX Sel5] in the [Detail AUX] column.

- Select an item from [AUX1] to [AUX16].
To select all AUX buses, select [All] in [AUX Sel1].

Setting the target of registering and playing back when operating on the multi-selection panel

Press the <SHOT MEM> button on the multi-selection panel, then set the target of registering and playing back when [ME ALL] is selected in the [TARGET SELECT] menu.

1 Select the <MEM> button → [SHOT MEMORY] → [Multi Select] tab.

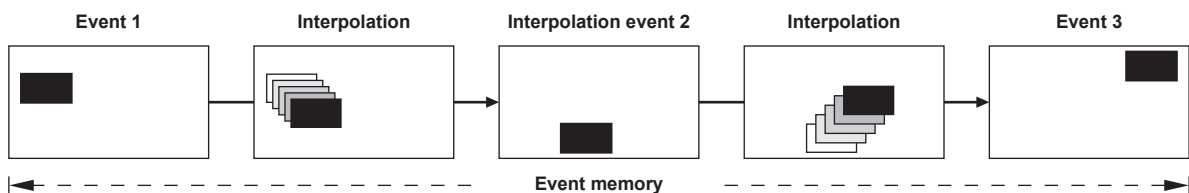
2 Select an item in [ME1]/[ME2]/[DSK]/[AUX] in the [Select ME All] column.

[ON]	Made the target of registering and playing back.
[OFF]	Not made the target for registering and playing back.

Event memory

Register multiple image effects that can be registered in the shot memory as events. Smooth transitions can be achieved by playing back images continuously while interpolating between events. A group of these events are referred to as an event memory.

Maximum 64 events can be registered in one event memory.



NOTE

- Use the Menu Panel to register and edit events in the work memory, and save the created event memory in a register memory.

- Use the multi-selection panel area of each ME or the EMEM LINK function to load event memories saved in the register memories and play them back. The number of register memories that can be registered is 81 (9 pages × 9).
For details on operating the multi-selection panel, refer to “Event memory menu”.
- When operations such as playback of an event memory are performed in a system format different from the system format used when the event memory was registered, the operations will not be performed correctly.

■ Resource conflicts

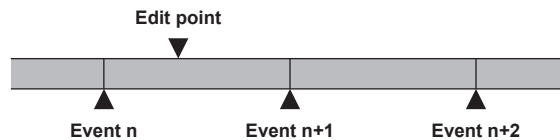
- The following is performed when a new register memory is played during shot memory effect dissolve playback or event memory playback.
 - When the target to recall does not overlap the register memory that is currently playing and the register memory to be newly played, both memories are played independently.
 - When the target to recall overlaps the register memory that is currently playing and the register memory to be newly played, playback of originally playing memory stops and playback of the new memory starts.
- The following is performed when the event memory playback is performed simultaneously with the transition operation by the fader, <AUTO> button, and <CUT> button.
 - When the register memory to be played and the transition target do not overlap, register memory playback and transition each works independently.
 - When the register memory to be played and the transition target overlap, register memory playback is prioritized.

■ Timeline

A timeline is a group of events which have been placed on the time axis.

■ Event points and edit points

On a timeline, the position where an event has been registered is called the event point, and the event currently being edited is called the current event. When the edit point is positioned between two event points, the event point before the edit point serves as the current event. (Event n in the figure)

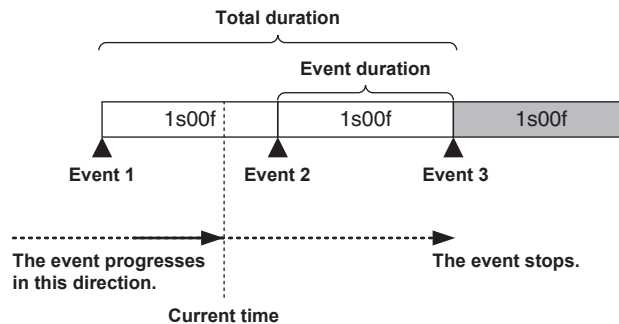


■ Event duration and total duration

The length of time up to the next event is called the event duration.

The total of all the event durations is called the total duration.

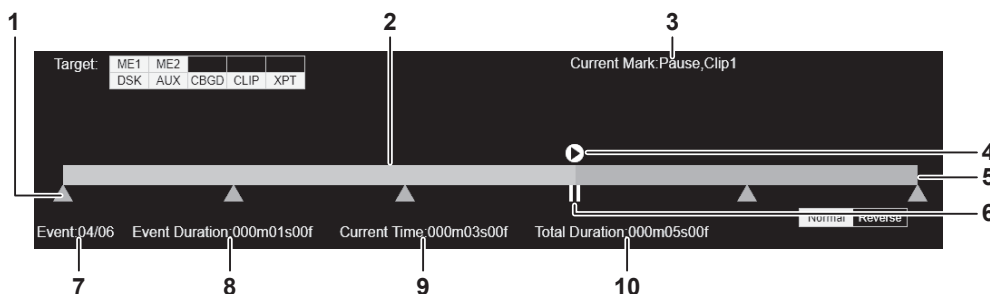
The present point in time on the timeline is called the current time.



Displaying the timeline

1 Select the <MEM> button → [EVENT MEMORY] → [Edit] tab.

- The event memory timeline in the work memory is displayed on the upper area of the [Edit] tab.



- 1 Event point
- 2 Executed bar
- 3 Displays the current event mark setting.
Pause, Clip (omitted when [Off])
- 4 Clip mark
- 5 Execution scheduled bar
- 6 Pause point (displayed instead of the event point)
- 7 Current event number/Total number of events

8 Time to transition from the current event to the next event

9 Time elapsed up to the edit point

10 Total time of the event memory

Newly registering in the work memory

Newly register a timeline in the work memory.

1 Select the <MEM> button → [EVENT MEMORY] → [Prepare] tab.

2 Select each item in the [Target Select] column.

- Set whether to select each item of [ME1], [ME2], [DSK], [AUX], [CBGD], [CLIP], and [XPT] as registration target.

[ON]	Select as registration target.
[OFF]	Does not select as registration target.

3 Set [Edit] to [ON] to enter the edit mode.

- When a resource conflict occurs while shot memory effect dissolve playback or event memory playback is performed, memory which is originally played back is stopped.
- When [Edit] is [ON] and shot memory or event memory playback is performed, [Edit] automatically turns [OFF], if a resource conflict occurs.

4 Select [New] to initialize the work memory.

- When this operation is performed, the timeline currently in the work memory is deleted. If it is required, register the timeline in a register memory of the event memory.

5 Select the [Edit] tab.

6 Select an item in the [Mark Setting] column.

- Set the marks used when linking the following functions in events.

[Pause]	When [ON] is selected and the mark is registered in the event point, playback is paused at the mark position during event playback. The [I] mark appears on the timeline.
[Clip]	When [Clip1], [Clip2] are selected and the mark is registered in the event point, the clip is played back at the mark position during event playback. The Clip mark appears on the timeline.

7 Select [Event Duration] in the R menu, and set the duration of the transition with [Event Duration] in the encoder menu.

[Event Duration]	Sets the time between events.
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8 Set an item in [Trans Path] in the [Path Setting] column.

- Set the method to transition to the next event. The targets of transition are as follows.
 - Width of the borders
 - Soft effect of the borders
 - Positions of the images
 - Trimming values

[Linear]	Interpolates the switching from one image to another linearly.
[Spline]	Interpolates the switching from one image to another over a smooth curve (a cubic function curve).
[Step]	Updates the parameters when the events are passed through.

9 Select an item in [Hue Path] in the [Path Setting] column.

- Select the effect when switching colors. The target Hue is as follows.
 - Colors of the color background
 - Colors of the borders
 - Colors of the edges
 - Colors of the fill matte

[Short]	Changes the colors in the direction where the variation of Hue is small on the vectorscope.
[Long]	Changes the colors in the direction where the variation of Hue is large on the vectorscope.
[CW]	Changes the Hue clockwise on the vectorscope.
[CCW]	Changes the Hue counterclockwise on the vectorscope.
[Step]	Updates the color changes when an event is passed through.

10 Set an item in [A/B XPT]/[Key XPT] in the [Path Setting] column.

- Set the bus to switch crosspoints at events.

[ON]	Registers all crosspoint switching on the A bus/B bus or KEY bus whose [Register]/[Detail Select] are enabled.
[OFF]	Does not register crosspoint switching.

11 Select an item in [Insert] to register an event.

- When [Modify] is selected, the current event setting is modified without inserting an event.

12 Repeat the steps from 6 to 11 to register the series of operations.**13 When the registration is complete, set [Edit] in the [Prepare] tab to [OFF].**

- The edit mode ends.
- Event memory data that is registered in the work memory is deleted when the power of the unit is turned off. Make sure to save the event memory data stored in the work memory to the register memory.
For details, refer to “Registering to the register memory”.
- For details on checking or modifying the registered memories, refer to “Editing the work memory”.

Editing the work memory

Edit the timeline in the work memory newly registered or loaded from the register memory.

1 Select the <MEM> button → [EVENT MEMORY] → [Prepare] tab.**2 Select each item in the [Target Select] column.**

- Set whether to select each item of [ME1], [ME2], [DSK], [AUX], [CBGD], [CLIP], and [XPT] as edit target.

[ON]	Select as edit target.
[OFF]	Does not select as edit target.

3 Set [Edit] to [ON] to enter the edit mode.

- When a resource conflict occurs while shot memory effect dissolve playback or event memory playback is performed, memory which is originally played back is stopped.
- When [Edit] is [ON] and shot memory or event memory playback is performed, [Edit] automatically turns [OFF], if a resource conflict occurs.

4 Select the [Edit] tab.**5 Select the item to move to the point for editing.**

[<<Lead]	Moves to the first event point.
[<Step]	Moves to the previous event point.
[>Step]	Moves to the next event point.
[>>Last]	Moves to the last event point.

6 Play a timeline in [Play] or [Pause].

- The item is displayed as [Pause] when the event memory is being played back or [Play] when the event memory is paused.

[Play]	Plays back an event memory.
[Pause]	Stops the event memory.

7 Select the item to add or edit events.

[Insert]	Inserts events. If the edit point is an event point, the event is inserted after the event point. If the edit point is at any midway position in an event, the event is inserted at the edit point.
[Delete]	Deletes events.
[Modify]	Modifies events. This key cannot be operated if the edit point is not over the event point.
[Copy]	Copies an event. The event is not copied if the edit point is not over the event.
[Paste]	Pastes the copied event. If the edit point is an event point, the copied event is inserted after the event point. If the edit point is at any midway position in an event, the event is inserted at the edit point.
[Undo]	Undoes the editing operation of the event. The operation immediately preceding is undone if you select [Undo].

8 Repeat steps 5 to 7 to edit a series of operations.**9 Select [Total Duration] in the R menu, and set [Total Duration] in the encoder menu.**

- Sets the total duration.
- If you change the total duration, the duration of each event included in the event memory is updated by computing the ratio of event duration before the change. The total duration may not match the set value since all updated event duration values are summed up and the total duration is recalculated. Also, each event duration will not be shorter than one frame.

10 Select [Set Total Dur.].

- The value set with [Total Duration] in the R menu is updated on the time line.

11 When the editing is complete, set [Edit] in the [Prepare] tab to [OFF].

- The edit mode ends.
- Event memory data that is registered in the work memory is deleted when the power of the unit is turned off. Make sure to save the event memory data stored in the work memory to the register memory.

For details, refer to “Registering to the register memory”.

Playing back the work memory to check

Play back the timeline in the work memory newly registered or edited to check.

1 Select the <MEM> button → [EVENT MEMORY] → [Prepare] tab.

2 Set [Edit] to [ON] to enter the edit mode.

- When [OFF] is selected, the timeline in the work memory cannot be played back.
- The items where [ME1], [ME2], [DSK], [AUX], [CBGD], [CLIP], and [XPT] in the [Target Select] column are set to [ON] can be played back.

3 Select the [Edit] tab.

4 Select the item to move the point for editing.

[<<Lead]	Moves to the first event point.
[<Step]	Moves to the previous event point.
[>Step]	Moves to the next event point.
[>>Last]	Moves to the last event point.

5 Select the [Prepare] tab.

6 Select an item in [Loop] in the [Play Setting] column.

[OFF]	Stops at the last event.
[ON]	Transitions from the last event to the first event.

7 Set an item in [Play Mode] in the [Play Setting] column.

[Normal]	Playback is performed in the positive direction (event numbers in ascending order).
[Reverse]	Playback is performed in the negative direction (event numbers in descending order).

8 Select an item in [Link] in the [Fader Play] column.

- Playback of event memories can be linked with the fader lever operation.

[Off]	Does not play back an event memory according to the fader lever operation.
[ME1]*	Plays back an event memory according to the operation of the [ME1] fader lever.
[ME2]*	Plays back an event memory according to the operation of the [ME2] fader lever.

* ME selected as playback target in the [Target Select] column is assumed by the event memory playback, so the button operation or fader operation will be disabled when set to anything other than [Off].

9 Select an item in [Mode] in the [Fader Play] column.

- Set the mode for fader link.

[Total]	Assigns 0% to 100% of the fader lever operation to the total time of the event memory.
[Paddle]	Assigns 0% to 100% of the fader lever operation to one event in the event memory.

10 Select the [Edit] tab.

11 Play a timeline in [Play] or [Pause].

- The operation is disabled when anything other than [Off] is selected in Step 8.

[Play]	Plays back an event memory.
[Pause]	Stops event memory playback.

Registering to the register memory

Register the event memory created on the work memory in the register memory.

1 Select the <MEM> button → [EVENT MEMORY] → [Register] tab.

2 Select [Store] in the [Register] column.

- The [Store] screen is displayed.

[Page]	Switches pages. [ALL]: All registered memories are displayed. [1-X] - [9-X]: The registered memories on each page are displayed.
[Sort]	The registered memory display is sorted by memory name ([Name+]/[Name-]), date ([Date+]/[Date-]), or memory number ([No+]/[No-]), in either ascending order (+) or descending order (-).
[View]	Select the display mode. [List]: Registered memories are displayed in a list. [Icon]: Registered memories are displayed as icons.
[Store]	When [Store] is selected while a registered memory that is to be a registration target is selected, the event memory of the work memory is registered.
[Cancel]	Closes the [Store] screen without registering the target.

NOTE

- A registered register memory can be overwritten.
- The items selected as the targets for registration are the ones for which [ON] is selected when you select top menu <MEM> button → [EVENT MEMORY] → [Prepare] tab → [Target Select] column.

Recalling the register memory (playback)

Recall an event memory to the work memory from a registered register memory.

1 Select the <MEM> button → [EVENT MEMORY] → [Register] tab.

2 Select [Recall] in the [Register] column.

- The [Recall] screen is displayed.

[Page]	Switches pages. [ALL]: All registered memories are displayed. [1-X] - [9-X]: The registered memories on each page are displayed.
[Sort]	The registered memory display is sorted by memory name ([Name+]/[Name-]), date ([Date+]/[Date-]), or memory number ([No+]/[No-]), in either ascending order (+) or descending order (-).
[View]	Select the display mode. [List]: Registered memories are displayed in a list. [Icon]: Registered memories are displayed as icons.
[Recall]	When [Recall] is selected while a registered memory that is to be a recall source is selected, the event memory is recalled to the work memory.
[Cancel]	Closes the [Recall] screen without recalling the target.

■ Playback target (when playing back with the multi-selection panel)

- Playback of [ME1] and [ME2]
The target selected at the start of playback is always played back.
 - When the target selected at registration is either one of [ME1] or [ME2]
The target selected at registration is played back even when either [ME1] or [ME2] is selected at the start of playback.
 - When there is no target selected at registration
[ME1] recorded at registration is played back even when either [ME1] or [ME2] is selected at the start of playback.
 - When 2 MEs were selected when registering
The settings for the relevant ME when it was registered are played back for those MEs that were selected when registering.
For those MEs that were not selected when registering, the ME settings registered with the youngest numbers are played back.
- Playback of [DSK], [CLIP], [AUX], and [CBGD]
The target selected by both operations at registration and the start of playback is played back.

■ Playback target (when playing back with the menu panel)

- Playback of [ME1] and [ME2]
The target selected at the start of playback is always played back in the work memory.
 - When the target selected at registration is either one of [ME1] or [ME2]
The target selected at registration is played back in the work memory even when either [ME1] or [ME2] is selected at the start of playback.
 - When there is no target selected at registration
[ME1] recorded at registration is played back in the work memory even when either [ME1] or [ME2] is selected at the start of playback.
 - When 2 MEs were selected when registering
The settings for the relevant ME when it was registered are played back in the work memory for those MEs that were selected when registering.
For those MEs that were not selected when registering, the ME settings registered with the youngest numbers are played back in the work memory.
- Playback of [DSK], [CLIP], [AUX], and [CBGD]
The target selected at the start of playback is always played back in the work memory.
For the target which is not selected at registration, playback is performed with the setting at registration.

Editing register memories

Delete a registered register memory or change file names.

1 Select the <MEM> button → [EVENT MEMORY] → [Register] tab.

2 Select [Misc] in the [Register] column.

- The [Misc] screen is displayed.

[Page]	Switches pages. [ALL]: All registered memories are displayed. [1-X] - [9-X]: The registered memories on each page are displayed.
[Sort]	The registered memory display is sorted by memory name ([Name+]/[Name-]), date ([Date+]/[Date-]), or memory number ([No+]/[No-]), in either ascending order (+) or descending order (-).
[View]	Select the display mode. [List]: Registered memories are displayed in a list. [Icon]: Registered memories are displayed as icons.
[Delete]	When a registered memory is selected and you select [Delete], a confirmation message is displayed. • The currently selected registered memory is deleted when you select [OK]. • When you select [Cancel], the registered memory is not deleted and the confirmation screen is closed.
[Rename EMEM]	When a registered memory is selected and you select [Rename EMEM], a keyboard screen is displayed and you can change the name of the registered memory. • When you select [OK], the registered memory's name is changed and the keyboard screen is closed. • When you select [Cancel], the registered memory's name is not changed, and the keyboard screen is closed.
[Close]	Closes the [Misc] screen.

Setting the operation of the multi-selection panel area

Specify the operation when a register memory is selected with the <EVT MEM> button in the multi-selection panel area.

1 Select the <MEM> button → [EVENT MEMORY] → [Register] tab.

2 Select an item in [Direct/Next] in the [Play Setting] column.

[Direct]	Plays back the image when the register memory is selected.
[Next]	Plays back the image when the [PLAY]] is selected after the register memory is selected.

Setting details of event memory

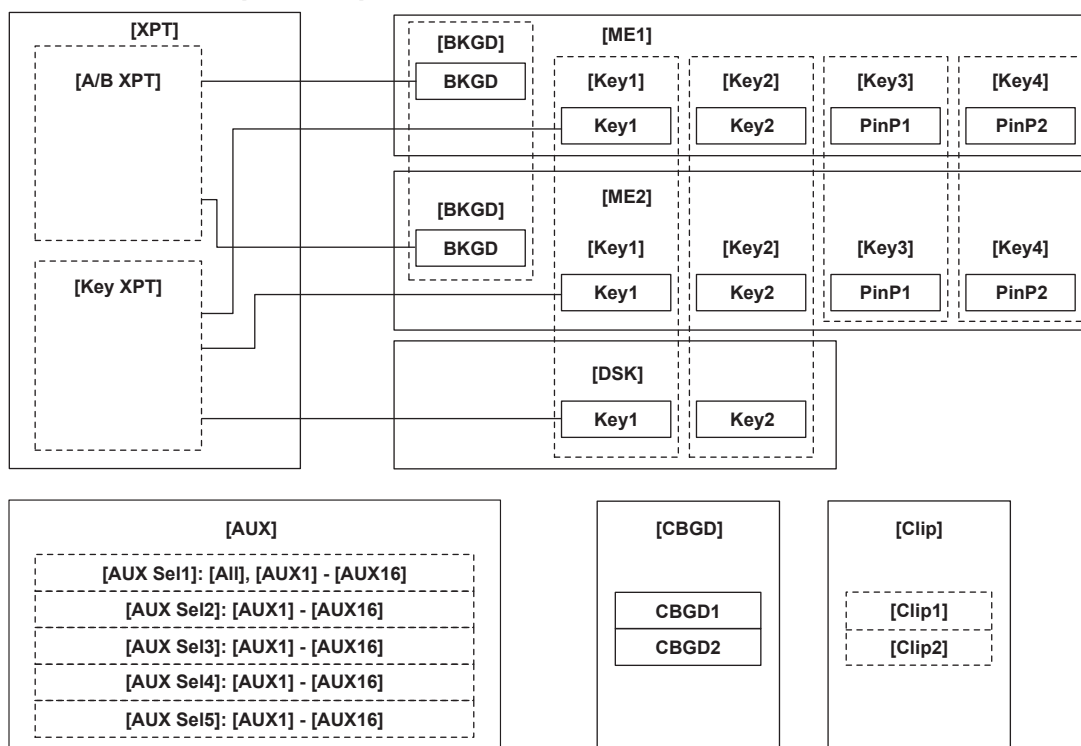
You can specify the register memory target to recall more precisely.

The following figure shows the relationship between the setting target of [Register] and the setting target of [Detail Select].

• In the following figure, two types of lines show the types of items.

 indicates an item to be selected in [Store]/[Recall] in the [Register] column.

 indicates an item to be set in the [Detail Select] tab.



1 Select the <MEM> button → [EVENT MEMORY] → [Detail Select] tab.

2 Select an item in [BKGD]/[Key1]/[Key2] in the [Detail ME] column.

[ON]	Made the target for recalling.
[OFF]	Not made the target for recalling.

3 Select an item in [A/B XPT]/[Key XPT] in the [Detail XPT] column.

[ON]	Made the target for recalling.
[OFF]	Not made the target for recalling.

4 Select an item in [Clip1], [Clip2] in the [Detail Clip] column.

[ON]	Made the target for recalling.
[OFF]	Not made the target for recalling.

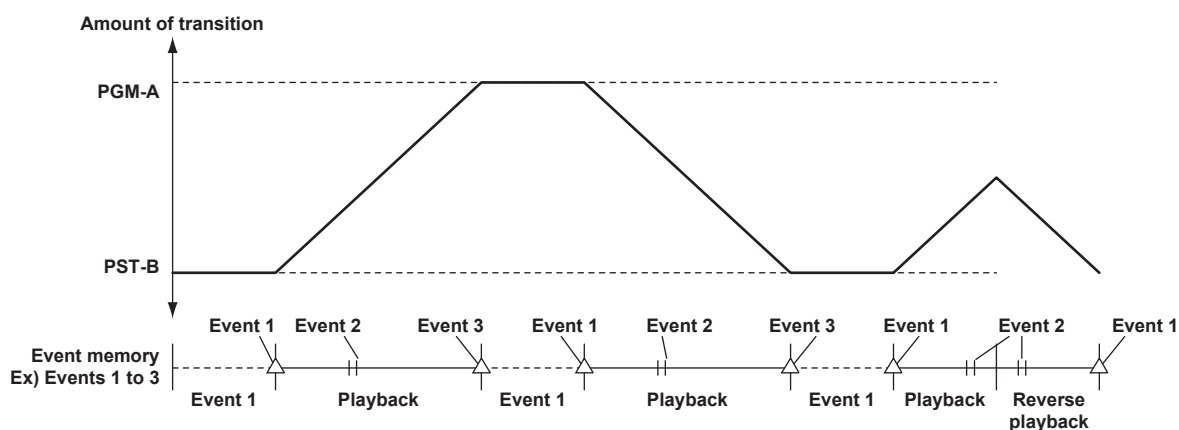
5 Select an item in [AUX Sel1] to [AUX Sel5] in the [Detail AUX] column.

- Select items from [AUX1] to [AUX16].
To select all AUX buses, select [All] in [AUX Sel1].

EMEM LINK function

Select the <EMEM LINK> button in the transition area to execute a transition according to the pattern registered in the event memory. The next transition operation by the fader lever or the <AUTO>/<CUT> buttons becomes the operation of the event memory.

- Pause set using the mark is disabled.



NOTE

- The target to be played back by EMEM LINK is the background transition for ME (ME1, ME2) which is controlled by the ME line to which the corresponding <EMEM LINK> button belongs. KEY is not played back.
- DSK, AUX, Clip, CBGD, and XPT are not played back with the EMEM LINK operation.
- The register memory last played back for ME (ME1, ME2) of the EMEM LINK target is played back with the fader lever.
The register memory can be changed in the multi-selection panel area before the fader lever operation. The register memory to be played back with EMEM LINK lights in red in the multi-selection panel area.
- When the register memory is ready for playback by the fader lever, the <EMEM LINK> button lights in the High tally color.
- If the register memory cannot be played back by the fader lever, such as when the register memory to be played back is not selected, the <EMEM LINK> button lights in the Low tally color.

Macro memory

The macro memory is a function to record and play back a series of operations performed on the Control Panel and Menu Panel.

It enables recording and playback of a more detailed range including functions which are not covered by the shot memory and the event memory (such as input setting and output setting).

Recorded macros can be played by pressing the macro bus crosspoint buttons or a specific button where macro is attached.

NOTE

- Recorded macros can be registered in 81 register memories (9 pages×9 memories).
- Each register memory of a macro has the capacity of 127 KB, and can store approximately 3000 steps of operations depending on the operation.
- When an operation that takes time to process is recorded, next operation may not playback correctly. Insert a delay between the two operations as necessary. For the procedure to insert a delay, refer to "Recording to the work memory".

Status displays

The [MACRO] indicator at the top of the menu panel turns red when a macro is being recorded and turns green when a macro is being played back.

1 Select the <MEM> button → [MACRO] → [Macro] tab.

2 Check the [Status] column display.

[Rec]	[Rec] is displayed during macro recording. This has a blank display except during macro recording.
[Play]	The name of the macro currently playing is displayed during macro playback. This has a blank display except during macro playback.
[Pause]	The name of paused macro is displayed when the macro playback is paused. The display other than when the macro playback is paused will be blank.

3 Check the [Work Status] column display.

[Current Event]	Displays the number of current events in the work memory.
[Total Event]	Displays the total number of events recorded in the work memory.
[Used]	Displays the usage of the work memory. (Unit: Byte)
[Remain]	Displays the remaining capacity of the work memory. (Unit: Byte)

Recording to the work memory

Record macros in the work memory.

1 Select the <MEM> button → [MACRO] → [Macro] tab.**2 Select [New] in the [Edit] column to initialize the work memory.**

- When this operation is performed, the macro that is currently in the work memory is deleted. If necessary, perform register memory registration.

3 Select [Rec] in the [Rec] column to enter the recording mode.

- When the operations you want to record are performed, they are recorded sequentially in the work memory. Each time an operation is recorded, the number displayed in [Total Event] increases.
- When a series of operations are performed with the fader lever or positioner, the last setting value is stored.
- When [Back Delete] is selected in the [Rec] column, the latest event being recorded is deleted, reducing the number shown in [Total Event] by one.

4 Select [Insert Delay] in the [Edit] column.

- The time set in [Delay Time] in the [Edit] column is recorded as non-operation period.

5 Select [Insert Pause] in the [Edit] column.

- The pause status is recorded.

6 When the registration is complete, select [Stop] in the [Rec] column.

- This ends the recording mode.
- Data registered in the work memory is deleted when the power of the unit is turned off. Make sure to save data in the register memory.

Playing macros recorded to the work memory

You can play and confirm recorded macros in the work memory.

1 Select the <MEM> button → [MACRO] → [Macro] tab.**2 Select [Play] in the [Play] column.**

- This plays the macro in the work memory.

3 Select [Play Cancel] in the [Status] column.

- This suspends macro playback.

4 Select [Play Resume] in the [Status] column.

- The macro playback is paused if [Insert Pause] event is included in the recorded macro. Macro playback will resume when [Play Resume] is pressed while paused.

**NOTE**

- After macro playback is suspended, the mode changes to the macro recording mode if [Rec] is selected in the [Rec] column. A new operation performed after this is added after the last event currently recorded. A new event cannot be inserted in the middle of a series of recorded operations.

Registering the macro register memory

Register macros recorded in the work memory in the register memory.

1 Select the <MEM> button → [MACRO] → [Register] tab.**2 Select [Store] in the [Register] column.**

- The [Store] screen is displayed.

[DSK], [AUX], [MENU], [XPT], [Other]	Select the target.
[Page]	Switches pages. [ALL]: All registered memories are displayed. [1-X] - [9-X]: The registered memories on each page are displayed.
[Sort]	The registered memory display is sorted by memory name ([Name+]/[Name-]), date ([Date+]/[Date-]), or memory number ([No+]/[No-]), in either ascending order (+) or descending order (-).
[View]	Select the display mode. [List]: Registered memories are displayed in a list. [Icon]: Registered memories are displayed as icons.
[Store]	When [Store] is selected while a registered memory that is to be a registration target is selected, the event memory of the work memory is registered.
[Cancel]	Closes the [Store] screen without registering the target.

 **NOTE**

- When target selection is performed, you can limit the target of the operation to be played during macro bus playback and macro attach playback (all operations in the work memory are registered in the register memory).
 - [ME1], [ME2], [DSK], [AUX]:
This targets operations in the ME1 line, ME2 line, DSK, and AUX.
 - [MENU]:
This targets operations on the Menu Panel and in the multi-selection panel area.
 - [XPT]:
This targets XPT selected operations.
 - [Other]:
This targets operations in the VMEM F/S bus and DISP bus.
- A registered register memory can be overwritten.

Recalling the macro register memory (playback)

Recall macros in the work memory from the registered register memory.

1 Select the <MEM> button → [MACRO] → [Register] tab.

2 Select [Recall] in the [Register] column.

- The [Recall] screen is displayed.
- When [Recall] is selected, playback target items cannot be selected.
- All registered operations are recalled to the work memory regardless of the registered target item selected during macro register memory registration.

[Page]	Switches pages. [ALL]: All registered memories are displayed. [1-X] - [9-X]: The registered memories on each page are displayed.
[Sort]	The registered memory display is sorted by memory name ([Name+]/[Name-]), date ([Date+]/[Date-]), or memory number ([No+]/[No-]), in either ascending order (+) or descending order (-).
[View]	Select the display mode. [List]: Registered memories are displayed in a list. [Icon]: Registered memories are displayed as icons.
[Recall]	When [Recall] is selected while a registered memory that is to be a recall source is selected, the event memory is recalled to the work memory.
[Cancel]	Closes the [Recall] screen without recalling the target.

Editing macro register memories

Delete a registered register memory or change file names.

1 Select the <MEM> button → [MACRO] → [Register] tab.

2 Select [Misc] in the [Register] column.

- The [Misc] screen is displayed.

[Page]	Switches pages. [ALL]: All registered memories are displayed. [1-X] - [9-X]: The registered memories on each page are displayed.
[Sort]	The registered memory display is sorted by memory name ([Name+]/[Name-]), date ([Date+]/[Date-]), or memory number ([No+]/[No-]), in either ascending order (+) or descending order (-).
[View]	Select the display mode. [List]: Registered memories are displayed in a list. [Icon]: Registered memories are displayed as icons.
[Delete]	When a registered memory is selected and you select [Delete], a confirmation message is displayed. <ul style="list-style-type: none"> The currently selected registered memory is deleted when you select [OK]. When you select [Cancel], the registered memory is not deleted and the confirmation screen is closed.
[Rename MACRO]	When a registered memory is selected and you select [Rename MACRO], a keyboard screen is displayed and you can change the name of the registered memory. <ul style="list-style-type: none"> When you select [OK], the registered memory's name is changed and the keyboard screen is closed. When you select [Cancel], the registered memory's name is not changed, and the keyboard screen is closed.
[Close]	Closes the [Misc] screen.

Playing back a macro bus on the Control Panel

The playback trigger of a macro can be assigned to the crosspoint buttons.

Assign the register memory of the macro to the crosspoint buttons (1 - 20/1 - 28/1 - 36) of the macro bus.

The assignment is shared between the macro busses of the ME1, ME2 within single Control Panel.

1 Select the <MEM> button → [MACRO] → [XPT Panel1]/[XPT Panel2]/[XPT Panel3] tab.

- The macro register memories in the right column are assigned to the crosspoints in the left column.

[Page Select]	Switches the page of the macro bus.
[Button Group]	[1-X] - [9-X]: Select the page of the macro memory to be allocated. [Other]: Select the following items. <ul style="list-style-type: none"> • [Play Cancel]: Macro playback is canceled • [Play Resume]: Macro playback that was paused resumes • [No Assign]: The assignment to a crosspoint button is canceled
[Assign]	The macro registered memory selected in the right column is assigned to the crosspoint button selected in the left column.

NOTE

- Select the button to which a MACRO is assigned from the bus assign buttons on the crosspoint section of the control panel to play back the registered memory of the macro memory assigned to the crosspoint button.
When you press and hold a bus assign button used to assign a MACRO to a KEY bus crosspoint button, the name of the assigned macro is displayed in the middle of the source name display panel.

Playing back using macro attach on the Control Panel

A trigger to play back each register memory of the macro memory can be assigned to the following buttons.

Crosspoint buttons of ME1/ME2 (PGM/A bus, PST/B bus, KEY1/KEY2 buses, AUX1 to AUX8 buses), and the <AUTO>, <CUT>, <KEY1 TRNS>/<KEY2 TRNS> buttons of ME1/ME2

1 Select the <MEM> button → [MACRO] → [Macro Attach] tab.

- The playback trigger buttons in the right column are assigned to the macro register memories in the left column.

[Clear]	The information for a button to which a macro was attached is cleared.
[Insert]	Inserts the copy of the macro same as that of the line selected in the left column in the next line. The number of buttons to which a macro can be attached is a maximum four per register memory.
[Delete]	Deletes the line copied and inserted using [Insert] selected in the left column. The line cannot be deleted if there is only one register memory.
[Page]	[1-X] - [9-X]: Select the macro memory page.
[Assign]	Assigns the playback trigger buttons in the right column to the macro register memories in the left column.
[Panel-ID]	Select the target Control Panel from the [Panel1], [Panel2], or [Panel3].
[Block]	Select the blocks to have attach settings from [ME1], [ME2], [AUX1] to [AUX8].
[Bus]	Specifies the bus to have attach settings from [Key1], [Key2], [A], [B], [PinP1], [PinP2]. The selection here is disabled when [CUT], [AUTO], [KEY1TRNS], [KEY2TRNS] is selected in the right column.
[Timing]	Specifies the macro playback timing when the macro attached button is pressed. [Pre]: Operates the button function after completing the playback of the macro register memory. [Post]: Plays back the macro register memory after operating the button function. [Replace]: Plays back the macro register memory without operating the button function.
[Button Group]	[XPT-Page1] - [XPT-Page4]: Select when attaching to an XPT button. This filters the XPT buttons shown in the right hand column. [Special]: Select when attaching to [CUT], [AUTO], [KEY1TRNS], or [KEY2TRNS].

NOTE

- The <MCRO ATCH> button in the transition area on the Control Panel switches the enabled/disabled status of the macro attach function assigned to the relevant buttons in the ME.
 - When it is turned on, the macro attach function is enabled.
 - The button to which the macro attach function is assigned is illuminated in a specific color while it is on. The light color setting can be made from the <PANEL> button on the top menu → [BUTTON COLOR] → [Settings] tab → [Macro Attach] in the [No Sel Other] column.
 - The macro attach function assigned to the AUX1 to AUX8 bus crosspoint buttons is enabled and disabled with the <MCRO ATCH> button found in the ME1 column.

Resuming the macro playback

The macro playback is paused if [Insert Pause] is included in the recorded macro. Perform the following operation to resume to the paused macro playback.

1 Select the <MEM> button → [MACRO] → [Macro] tab.

2 Select the [Play Resume] in the [Status] column.

- The paused playback will resume.

Key preset

It is a preset memory to store various settings for keys.

Operate in the KEY/DSK operation area in the Control Panel.

Operating in the KEY/DSK operation area on the Control Panel

Call/register/delete the key preset memory with the KEY/DSK preset memory (<1>/<2>) buttons.

■ Button operation

Short press: Recalls the data saved on the relevant button. (Recall)

Press and hold: It will perform the following operations depending on the setting of the <MEM> button → [KEY PRESET] → [Register] tab → [Long Push] column.

- [Store]: The current key setting is registered to the applicable button. (Store)
- [Delete]: The setting of the key registered to the applicable button is deleted. (Delete)
- [Disable]: No operation is performed even with a long push.

■ Button display

Low tally: The button recalled last time or registered last time

Preset tally: Button to which a key setting is registered

Key preset playback target settings

Details of the playback target (XPT, Effect, Trans) can be selected. This setting is common to all keys.

1 Select the <MEM> button → [KEY PRESET] → [Register] tab.

2 Select [ON]/[OFF] in [XPT]/[Key Effect]/[Key Trans] in the [Recall Sel] column.

The items played when all settings are [ON] are as follows:

[XPT]	Plays the source selection status in the key fill bus and key source bus when [ON] is set.
[Key Effect]	Plays the following key decoration settings when [ON] is set. <ul style="list-style-type: none"> • All settings of the <ME1>/<ME2> button on the top menu → [KEY1], [KEY2] → [Key Setting]/[Resizer] tab • All settings of the <DSK> button on the top menu → [DSK1], [DSK2] → [Setting] tab • Settings of the <ME1>/<ME2> button on the top menu → [KEY1], [KEY2] → [Chroma] tab → [Adjust] column, [Phase Adjust] setting in the R menu • Settings that disable the chroma key
[Key Trans]	Plays key transition settings when [ON] is set. <ul style="list-style-type: none"> • All settings of the <ME1>/<ME2> button on the top menu → [KEY1], [KEY2] → [Transition]/[Modify] tab • All settings of the <DSK> button on the top menu → [DSK1], [DSK2] → [Transition] tab

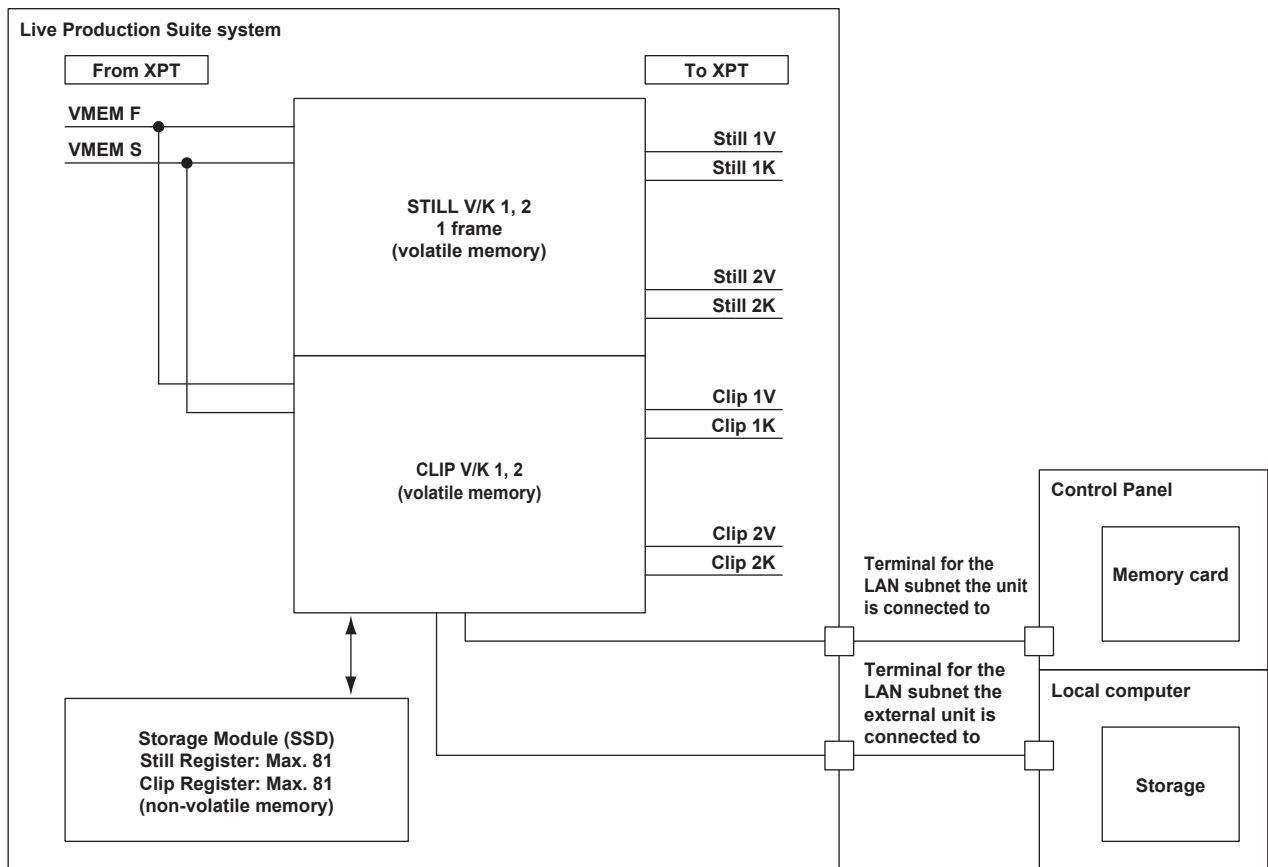
Video memory

The unit can store and use the still image memory (Still) and the moving image memory (Clip), each in 2 channels.

- Images with key signals can be saved in the video memory (still images and moving images).
- The number of seconds which can be saved in the moving image memory varies depending on the system format.
- Number of frames that can be saved in 1 channel

Recording mode ([Quality])	System format					
	2160/59.94p	2160/50p	1080/59.94p	1080/50p	1080/59.94i	1080/50i
[High]	Up to 450 frames (Approx. 7.5 seconds)	Up to 450 frames (Approx. 9 seconds)	Up to 1800 frames (Approx. 30 seconds)	Up to 1800 frames (Approx. 36 seconds)	Up to 1800 frames (Approx. 60 seconds)	Up to 1800 frames (Approx. 72 seconds)
[Standard]	Up to 900 frames (Approx. 15 seconds)	Up to 900 frames (Approx. 18 seconds)	Up to 3600 frames (Approx. 60 seconds)	Up to 3600 frames (Approx. 72 seconds)	Up to 3600 frames (Approx. 120 seconds)	Up to 3600 frames (Approx. 144 seconds)

- Audio data cannot be saved in the video memory.
- If the power is turned off or if the video format is changed, the data in the video memory will be deleted.
- Video memory data can be saved to or loaded from the storage modules fitted to the System Manager Unit, memory cards in the control panel connected to the LAN subnet the unit is connected to, or a computer connected to the LAN subnet the external device is connected to.



Recording still images (Still)

Input images selected on the VMEM F/S buses can be recorded.

- Image data created using a computer can be loaded.
For details, refer to "Operating the register memory".
- This operation can be also performed in the multi-selection panel area.
For details, refer to "Video memory menu".

1 Select the <MEM> button → [STILL] → [Still] tab.

2 Select the channel from either [STILL1] or [STILL2] and then select [Capture].

- When [Capture] is selected, the source selected on the VMEM bus is recorded as still images for the selected channel.
- When the recording of the still images is completed, thumbnails of the still images are displayed on the thumbnail screen.

Various settings when recording still images (Still)

1 Select the <MEM> button → [STILL] → [Still] tab.

2 Select an item in [Key Enable].

- Set whether to record key signals at the same time.

[OFF]	Does not record the key signals.
[ON]	Records the key signals.

3 Select an item in [Input Disp].

- Set the output image of the relevant channel.

[Input Disp]	[STILL] output
[OFF]	The image recorded in the video memory is output.
[ON]	The corresponding channel output becomes the selected image in the VMEM bus if [Input Disp] is set to [ON]. If [Capture] is pressed or if the channel is changed in [STILL1], [STILL2], this automatically turns [OFF].

Recording moving images (Clip)

Input images selected on the VMEM F/S bus can be recorded.

- Image data created using a computer can be loaded.
For details, refer to “Operating the register memory”.
- This operation can be also performed in the multi-selection panel area.
For details, refer to “Video memory menu”.

1 Select the <MEM> button → [CLIP] → [Rec Clip] tab.

2 Select the channel from either [CLIP1] or [CLIP2] and then select [Rec].

- When [Rec] is selected, the source selected on the VMEM bus is recorded as moving images for the selected channel. Recording completes when [Stop] is selected, or the time set using [Limit Time] in the R menu has passed.
When the recording of the moving images is completed, thumbnails of the moving images are displayed on the thumbnail screen.

Various settings when recording moving images (Clip)

1 Select the <MEM> button → [CLIP] → [Rec Clip] tab.

2 Select an item in [Key Enable] in the [Rec Mode] column.

- Set whether to record key signals at the same time.

[ON]	Records the key signals.
[OFF]	Does not record the key signals.

3 Select an item in [Input Disp].

- Switch the display mode of the output image of the corresponding channel.

[Input Disp]	[CLIP] output
[OFF]	The image recorded in the video memory is output.
[ON]	The corresponding channel output becomes the selected image in the VMEM bus if [Input Disp] is set to [ON]. If [Rec] is pressed or if the channel is changed in [CLIP1], [CLIP2], this automatically turns [OFF].

4 Select an item in [Loop] in the [Rec Mode] column.

- Set repeat of recording.

[OFF]	Records moving images for the maximum recording time, and then stops the recording automatically. Set the maximum recording time using [Limit Time] in the R menu.
[ON]	Continues recording moving images until the stop operation is performed. If either of the following operations is performed while recording is in progress, the moving images are recorded up to the last frame, after which recording stops. <ul style="list-style-type: none"> Set [Loop] to [OFF]. Select [Stop].

5 Select an item in [Quality] in the [Rec Mode] column.

- Set the image quality of moving images to be recorded.

[High]	High image quality
[Standard]	Standard image quality

6 Select [Limit Time] in the R menu, and set the recording time with [Limit Time] in the encoder menu.

- Set the maximum recording time.

NOTE

- A discontinued sound is recorded when there is a fluctuation in the audio data in front and rear of the point the VMEM F bus signal is switched or the point where recording to moving image memory has stopped.
- If the signal selected in the VMEM F bus has the duration that the embedded data is not contained while recording a video, it is recorded as the data without audio.

Operating the register memory

Operate a register memory for the channel selected in [STILL1]/[STILL2]/[CLIP1]/[CLIP2] from the <MEM> button on the top menu → [STILL], [CLIP] → [Register] tab.

- 81 still images and 81 moving images can be saved ([Store]) and loaded ([Recall]) in the register memory area. Data saved is retained even if the power is turned off.
- This operation can be also performed in the multi-selection panel area.
For details, refer to “Video memory menu”.
- Video memory can be saved and loaded in/from a memory card inserted in the memory card slot of the Control Panel AV-HS60C2/AV-HS60C4.
- Video memories can be saved and loaded in/from the internal storage of the local computer connected to the <LAN> terminal of the Live Production Suite system.

Loading image files

1 Select the <MEM> button → [STILL], [CLIP] → [Register]/[SD/PC] tab.

2 Select [Recall].

- When the [SD/PC] tab was selected in Step 1, select [Recall] in the [SD/PC] column.
- The [Recall] screen is displayed.

3 Change the screen display as necessary.

[ALL], [1-X] to [9-X]	<ul style="list-style-type: none"> • The registered memory page is changed. <ul style="list-style-type: none"> - [ALL]: All image files are displayed. - [1-X] - [9-X]: The image files on each page are displayed. • These are displayed only when loading image files from registered memories.
[File Type]	<ul style="list-style-type: none"> • Select the extension to display. <ul style="list-style-type: none"> - For [STILL]: bmp, png, jpg (jpeg), tga, tiff (tif), gif - For [CLIP]: clp • These are displayed only when loading image files from memory cards.
[Sort]	The registered memory display is sorted by memory name ([Name+]/[Name-]), date ([Date+]/[Date-]), or memory number ([No+]/[No-]), in either ascending order (+) or descending order (-).
[View]	Select the display mode. [List]: Registered memories are displayed in a list. [Icon]: Registered memories are displayed as icons.

4 Select [Recall].

- When [Recall] is selected after selecting a file from the registered file icons, the image data is loaded in the relevant channel.
- When you select [Cancel], the image data is not loaded and the screen is closed.



NOTE

- Operations with a local computer connected to the <LAN> terminal of the Live Production Suite system are as follows:
 - When you select top menu <MEM> button → [STILL] or [CLIP] → [SD/PC] tab → [PC] column [Recall], the file operations screen opens on the computer and you can perform the load operations.
 - The communication between the Live Production Suite system and the local computer may be disconnected when the file operation screen is left opened, and an error may be displayed in the browser. Perform the screen update in the browser if this occurs.
 - [SD] column operation cannot be performed. Loadable image type is png only.
- When loading image files, select top menu <MEM> button → [STILL] or [CLIP] → [Still]/[Rec Clip] tab, and set [Input Disp] to [OFF]. If this is [ON], a thumbnail image may not display correctly on the current icon after the images load.

Saving image files

1 Select the <MEM> button → [STILL], [CLIP] → [Register]/[SD/PC] tab.

2 Select [Store].

- When the [SD/PC] tab was selected in Step 1, select [Store] in the [SD/PC] column.
- The [Store] screen is displayed.

3 Change the screen display as necessary.

[ALL], [1-X] to [9-X]	<ul style="list-style-type: none"> • The registered memory page is changed. <ul style="list-style-type: none"> - [ALL]: All image files are displayed. - [1-X] - [9-X]: The image files on each page are displayed. • These are displayed only when saving image files to registered memories.
[File Type]	<ul style="list-style-type: none"> • Select the extension to display. <ul style="list-style-type: none"> - For [STILL]: bmp, png, jpg (jpeg), tga, tiff (tif), gif - For [CLIP]: clp • These are displayed only when saving image files to memory cards.
[Sort]	The registered memory display is sorted by memory name ([Name+]/[Name-]), date ([Date+]/[Date-]), or memory number ([No+]/[No-]), in either ascending order (+) or descending order (-).
[View]	Select the display mode. [List]: Registered memories are displayed in a list. [Icon]: Registered memories are displayed as icons.

4 Select the icon for the register memory in which the image file will be saved.**5 Select [Store].**

- The image data of the relevant channel is saved in a free register memory positioned after the selected file.
- A registered register memory cannot be overwritten. Delete the data on the [Misc] screen before registration.

NOTE

- Operations with a local computer connected to the <LAN> terminal of the Live Production Suite system are as follows:
 - If [Store] is selected in the [SD/PC] column, image files are saved in an internal storage of the computer.

Editing image files

Delete a register memory, or change file names.

1 Select the <MEM> button → [STILL], [CLIP] → [Register]/[SD/PC] tab.**2 Select [Misc].**

- When the [SD/PC] tab was selected in Step 1, select [Misc] in the [SD/PC] column.
- The [Misc] screen is displayed.

3 Change the screen display as necessary.

[ALL], [1-X] to [9-X]	<ul style="list-style-type: none"> • The registered memory page is changed. <ul style="list-style-type: none"> - [ALL]: All image files are displayed. - [1-X] - [9-X]: The image files on each page are displayed. • These are displayed only when editing image files in registered memories.
[File Type]	<ul style="list-style-type: none"> • Select the extension to display. <ul style="list-style-type: none"> - For [STILL]: bmp, png, jpg (jpeg), tga, tiff (tif), gif - For [CLIP]: clp • These are displayed only when editing image files on memory cards.
[Sort]	The registered memory display is sorted by memory name ([Name+]/[Name-]), date ([Date+]/[Date-]), or memory number ([No+]/[No-]), in either ascending order (+) or descending order (-).
[View]	Select the display mode. [List]: Registered memories are displayed in a list. [Icon]: Registered memories are displayed as icons.

4 Select [Protect] to protect a file.

- When you select a file icon and then select [Protect], the protection for the file switches between on and off. When protection for a file is on, it cannot be deleted or have its name changed.
- This is valid only when editing the image files in registered memories.

5 Select [Delete] to delete a file.

- When you select a file icon and then select [Delete], the file is deleted.

6 Select [Rename Still]/[Rename Clip] to rename a file.

- When you select a file icon and then select [Rename Still]/[Rename Clip], a keyboard screen is displayed and you can change the name of the file.

Using image files created on a computer**Appropriate image size**

- Check the following appropriate sizes when creating a file.
 - HD/1080i: 1920×1080, HD/1080PsF: 1920×1080, HD/720p: 1280×720, SD/NTSC: 720×487, SD/PAL: 720×576
 - 3G/1080p: 1920×1080, 12G/2160p: 3480×2160
- Images that do not match an appropriate image size will be centered for output without changing the size. If the size is too large, then the image is displayed with the portion which does not fit the size cut out.
If the size is too small, then the margin around the image is displayed with a black image.
A file of the size which exceeds 3840×2160 pixels cannot be loaded.
- The pixels of images in SD format are not square, so the aspect ratio will be different when the images are displayed on the computer and when they are imported into the video memory. (The images will be vertically long in the NTSC system.)
To keep the images true to their actual proportions, create the original image in 720×540 pixels, and for the NTSC system, use an image reduced to 720×487 pixels. For the PAL system, use images enlarged to 720×576 pixels.

Compatible file formats for still image data

The compatible file formats are as follows.

Bitmap (bmp), JPEG (jpg), TARGA (tga), TIFF (tif), GIF (gif), PNG (png)

Compatible file formats for moving image data

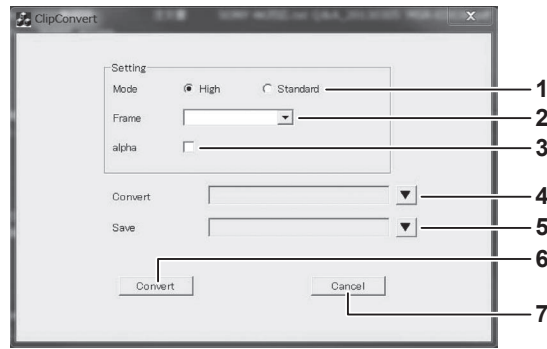
Moving image data handled by the unit is in the original format. "clp" is added to the extension of the file (clip file) for exchanging data using a memory card or a computer.

The sequential numbered still image files (TARGA format (tga)) can be converted to a clip file using a computer that has the ClipConvert software installed. Also, it can be made into a clip file with audio data when an audio file (WAV format (extension .wav)) is loaded at the time of conversion.

For the ClipConvert software, visit the following website.

<https://pro-av.panasonic.net/> (English only)

■ Operation screen of the ClipConvert software



1 “High”/“Standard”

Select the image quality of the clip file to be generated.

High: Approximately 200 Mbps, Standard: Approximately 100 Mbps (other than following format)

High: Approximately 400 Mbps, Standard: Approximately 200 Mbps (1080/59.94p, 1080/50p)

High: Approximately 1600 Mbps, Standard: Approximately 800 Mbps (2160/59.94p, 2160/50p)

2 “Frame”

Select the frame rate of the clip file to be generated.

The clip file with different frame rate from the Live Production Suite system format cannot be loaded by Live Production Suite.

In the interlace mode and PsF mode, one file is expanded into two fields; and in the progressive mode, one file is equivalent to one frame.

3 “alpha”

Select this check box when converting images with key signals.

4 “Convert”

Select a TARGA file.

- The TARGA files will be grouped when the TARGA files are in sequential number, and the name in front of the number will be displayed as the file name. To recognize as TARGA files in sequential number, add four digit numbers starting with 0001 in sequence after the file name excluding the file extension in advance.
- To generate a clip file with audio data, save the audio file (extension .wav) in the same folder as the folder where the TARGA files are saved. At this time, set the name of the audio file (part excluding the extension .wav) same as the name of the TARGA files (excluding the sequential number and extension .tga). The audio file with different name from the TARGA files is not loaded, and audio data will not be embedded in the clip file.
- Example) A clip file with audio data can be created by preparing following files and saving in the same folder.
 - picture0001.tga - picture0011.tga
 - picture.wav

5 “Save”

Specifies the destination and file name of the clip file to be generated.

The file name omitted in the display at the time the clip file is loaded to Live Production Suite when a file name exceeding 8 characters (excluding file extension). It is recommended to specify the file name with 8 characters or less.

6 “Convert”

Executes the conversion. The clip file is generated when executed.

7 “Cancel”

Cancels the program.



NOTE

- TARGA files compressed in the RLE format cannot be used.
- Only the TARGA file in full color format can be used.
- To use in the 1080p format, prepare even number of TARGA files. The clip file with even number of frames by copying the last frame is generated when odd number of TARGA files are loaded.

■ Header formats of supported TARGA files

- Numbers with H are in hexadecimal notation.

Offset (bytes)	Length (bytes)	Header	Description of setting	Setting
0	1	ID field length	—	0H
1	1	Color map type	No color map	0H
2	1	Image type	Full color	2H
3	2	Color map origin	No restrictions	—
5	2	Color map length	No restrictions	—
7	1	Color map entry size	No restrictions	—
8	2	X coordinate of image	No restrictions	—
10	2	Y coordinate of image	No restrictions	—
12	2	Width of image	Varies depending on the image size.	—
14	2	Height of image	Varies depending on the image size.	—
16	1	Color depth	24 bits	18H
			32 bits	20H
17	1	Image descriptor	No restrictions	—

■ Specification of audio file

- Only the audio file that matches following specification can be used.
 - Sampling frequency: 48 kHz
 - Quantized: Linear PCM, 16 bits
 - Number of channels: 2 channels
 - WAV format (extension .wav)
- An audio data with silent data added to the end will be embedded to the clip file when the length of the audio data contained in the audio file is shorter than the length of the image data.
- An audio data with end deleted will be embedded to the clip file when the length of the audio data contained in the audio file is longer than the length of the image data.

Playing back moving images (Clip)

- This operation can be also performed in the multi-selection panel area.
For details, refer to “Video memory menu”.

Playing back moving images

- 1 Select the <MEM> button → [CLIP] → [Play Clip] tab.
- 2 Select the channel to be operated from either [CLIP1] or [CLIP2].
- 3 Select [Play].
 - Playback of the moving images starts.
 - [Current] displays the current playback position (time).
 - When [Pause] is selected, playback of moving images is suspended. To resume playback, select [Play].

Moving to the first frame or last frame

- 1 Select the <MEM> button → [CLIP] → [Play Clip] tab.
- 2 Select the channel to be operated from either [CLIP1] or [CLIP2].
- 3 Select [<<Lead]/[>>Last].

[<<Lead]	Moves to the first frame.
[>>Last]	Moves to the last frame.

Setting the playback mode

- 1 Select the <MEM> button → [CLIP] → [Play Clip] tab.
- 2 Select [Setting Clip1] in the R menu, and display the encoder menu.
 - [Setting Clip1] settings are used as examples here for explanation purposes.
[Setting Clip2] settings are performed in the same way.
 - You can switch the encoder menu display by selecting [Shift] in the encoder menu.
- 3 Select an item in [Link Target] in the encoder menu.
 - Set the link playback of Clip.

[Off]	Does not perform link playback.
[AUTO]	Starts playback with the <AUTO> button in the transition area of ME set in [Link ME].
[KEY1], [KEY2]	Starts playback with the <KEY1 ON>, <KEY2 ON> buttons, and <KEY1 TRNS>, <KEY2 TRNS> buttons of the ME set in [Link ME]. Starts playback only when the key corresponding to each button is off.
[Rec]	Playback starts if [Rec] is selected from the <MEM> button on the top menu → [CLIP] → [Rec Clip] tab. Image data recorded in a different channel can be copied.
[Fader]	Links to the fader lever operation in the transition area of ME set in [Link ME], as well as the operation of the <AUTO> button. In this case, the playback speed of Clip changes according to the fader lever operation or the transition period from the operation of the <AUTO> button.
[PinP1], [PinP2]	Playback starts with the operations set with [Link ME] for the <KEY3 ON> button, <KEY4 ON> button, and the <KEY3 TRNS> button, <KEY4 TRNS> button on the ME. Playback starts only when the keys for each of the corresponding buttons are off.

- 4 Select an item in [Link ME] in the encoder menu.
 - Select the ME where link playback of Clip is performed. Transitions can be executed using the fader lever or the <AUTO> button.

[ME1]	Links with ME1 transition operation.
[ME2]	Links with ME2 transition operation.

- 5 Select an item in [Mode] in the encoder menu.
 - Select the playback mode.

- Select the playback direction.

[Off]	Plays back moving images in the forward direction.
[On]	Plays back moving images in the reverse direction.

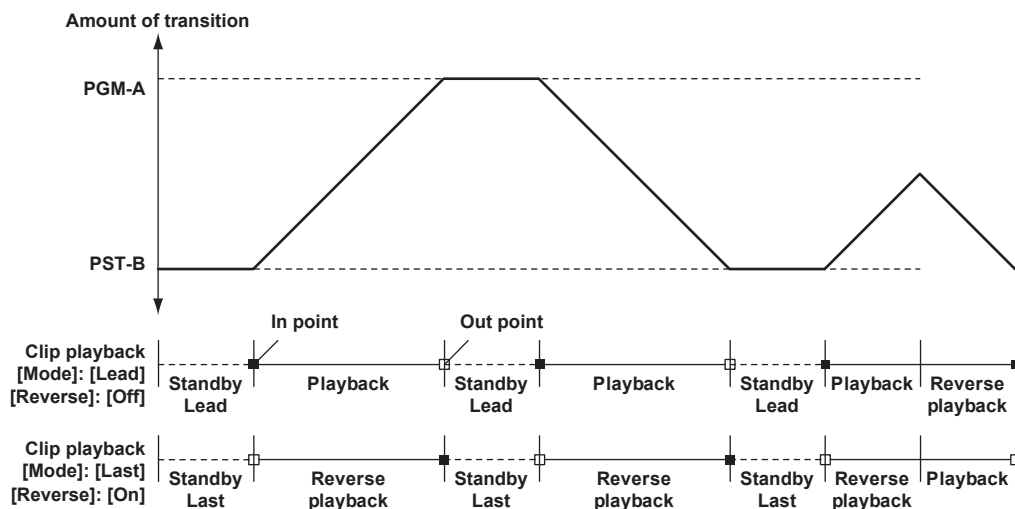
- Select the speed for variable speed playback. The available speeds are as follows.

$[\times 1], [\times 2], [\times 4], [\times 8], [\times 1/2], [\times 1/4], [\times 1/8]$

- When [Fader] is selected in [Link Target] in the encoder menu, the following settings in the [Play Clip] tab are disabled.

[Play], [Pause], [Stop], [Variable], [<Step], [>Step]

- When [Mode] in the encoder menu is set to [Loop], the behavior will be as for [Lead].



Set the position where the playback of the moving images is to start (IN point) and the position when it is to end (OUT point). Moving images that have been trimmed are played back from the IN point to the OUT point.

2 Select an item.

- When [Pause] in the [Play Clip] tab is selected after playback, moving images can be stopped at any frame.

[Trim In]	Sets the current frame as the IN point of trimming.
[Trim Out]	Sets the current frame as the OUT point of trimming.
[Trim In CLR]	Releases the trimming settings of the IN point.
[Trim Out CLR]	Releases the trimming settings of the OUT point.

- When a moving image is saved to a memory card or a local computer, and when a moving image is saved to a project file, only the trimmed portion is saved.
- When a moving image is saved in the register memory, the video before trimming and the trimming position are recorded.
- The same position cannot be specified for the IN point and the OUT point. The minimum unit for trimming is two frames.

Current icons

The following icons are displayed across the top of the pages in the tabs shown when you select top menu <MEM> button → [STILL]. The icon is used for channel selection.



1 Channel name

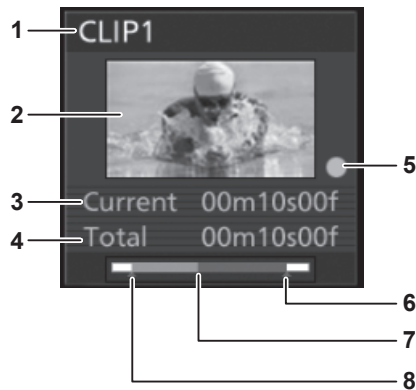
Displays channels from [Still1], [Still2].

2 Source with key mark

Indicates a source with key. This mark is displayed only for sources with key.

■ Current icon of moving image

The following icons are displayed across the top of the pages in the tabs shown when you select top menu <MEM> button → [CLIP]. This icon is used for playback status display and channel selection.



1 Channel name

Displays channels from [Clip1], [Clip2].

2 Thumbnail image

- The first frame image becomes the thumbnail image right after the image is recorded through the operation of the <MEM> button on the top menu → [CLIP] → [Rec Clip] tab.
- The first frame image becomes the thumbnail image when the image file is loaded from the <MEM> button on the top menu → [CLIP] → [Register]/[SD/PC] tab.
- The frame which is currently playing is updated as the thumbnail image when [Get Thumbnail] is selected from the <MEM> button on the top menu → [CLIP] → [Edit] tab.

3 Current frame

4 Recording time

Displays the recording time. If the clip has been trimmed, then the time from the IN point to the OUT point is displayed.

5 Source with key mark

Indicates a source with key. This mark is displayed only for sources with key.

6 OUT point

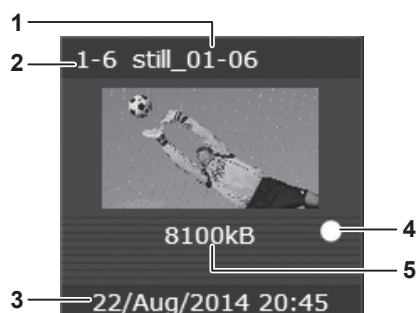
7 Current playback position

8 IN point

Register icons

■ Icon of a still image file

Select the <MEM> button on the top menu → [STILL] → [Register] tab, and then the following file icon is displayed on the file selection screen.



1 Still image file name

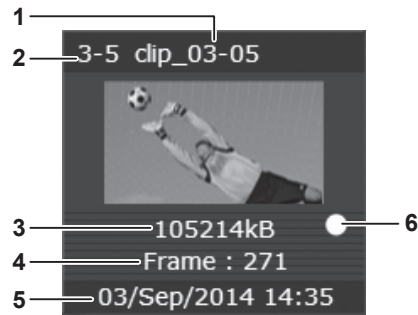
2 Register memory number

3 Time stamp when saved**4 Source with key mark**

Indicates a source with key. This mark is displayed only for sources with key.

5 Image file size**■ Icon of a moving image file**

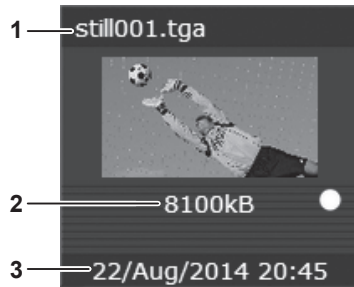
Select the <MEM> button on the top menu → [CLIP] → [Register] tab, and then the following file icon is displayed on the file selection screen.

**1 Moving image file name****2 Register memory number****3 Image file size****4 Number of frames in the moving image file****5 Time stamp when saved****6 Source with key mark**

Indicates a source with key. This mark is displayed only for sources with key.

■ File icon for memory cards

Select the <MEM> button on the top menu → [CLIP]/[STILL] → [SD/PC] tab, and then the following file icon is displayed on the file selection screen.

**1 File name and extension****2 Image file size****3 Time stamp when saved in the memory card**

Operating in the multi-selection panel area

Record or play back the moving image memories (Clip) and still image memories (Still), and save or recall register memories.

For details, refer to “Video memory menu”.

Project management

The settings of the unit can be saved or loaded in/from three types of storage.

- Memory cards (optional) inserted in the memory card slots of control panels AV-HS60C2/AV-HS60C4
- Storage Module which can be mounted inside the System Manager Unit
- Internal storage of the local computer connected to the <LAN> terminal of the Live Production Suite system



NOTE

- To use a memory card in the unit, make sure to initialize the memory card using the unit. When the unit initializes the memory card, it formats the memory card and creates a dedicated directory. (All files saved on the memory card will be erased.)
For details, refer to “Initializing a memory card”.

Saving data on a memory card or storage module

Save a project file in a memory card or the Storage Module.

1 Select the <PRJ> button → [PROJECT] → [Storage] tab.

2 Select [Save] in the [SD]/[PC] column.

- The [Save] screen is displayed.

3 Change the screen display as necessary.

[New]	A new folder is created. • The keyboard screen is displayed when you select [New]. Enter the folder name and select [OK].
[Sort]	Project files can be sorted for display by file name ([Name+]/[Name-]), date ([Time+]/[Time-]), or file size ([Size+]/[Size-]), in either ascending order (+) or descending order (-).
[View]	Select the display mode. [List]: Project files are displayed in a list. [Icon]: Project files are displayed as icons.
[Cancel]	Closes the [Save] screen.

4 Select [Save].

- Enter any name with the keyboard screen.
- When there is a file that has already been saved and a file to be saved is selected, that saved file is overwritten when you select [Save].

5 Select [OK] in the keyboard screen.

- The screen for setting the items to be stored is displayed.

6 Select the item to be stored.

[Setup]	<ul style="list-style-type: none"> • Current setting data • Key source preset, background wipe preset
[Shot]	<ul style="list-style-type: none"> • Register memory of shot memory (Max. 81) • Key preset memory
[Event]	Register memory of event memory (Max. 81)
[Macro]	Register memory of macro memory (Max. 81)
[Still]	2 channels of current frame memory
[Still Reg]	81 still images saved in the register memory area
[Clip]	2 channels of current frame memory

7 Select [OK].

- The project file is saved in a memory card and the Storage Module.
- The file name can be changed even after saving. Do this from the [Misc] screen.
- Up to 100 project files can be saved in the Storage Module. The number of files that can be saved becomes less depending on the item to be stored in memory. If a file cannot be saved, perform registration after deleting the file in the [Misc] screen.

Loading from a memory card or storage module

Load a project file saved in a memory card or the Storage Module.

1 Select the <PRJ> button → [PROJECT] → [Storage] tab.

2 Select [Load] in the [SD] column.

- The [Load] screen is displayed.

3 Change the screen display as necessary.

[Sort]	Project files can be sorted for display by file name ([Name+]/[Name-]), date ([Time+]/[Time-]), or file size ([Size+]/[Size-]), in either ascending order (+) or descending order (-).
[View]	Select the display mode. [List]: Project files are displayed in a list. [Icon]: Project files are displayed as icons.
[Cancel]	Closes the [Load] screen.

4 Select the item to load.

- Items not saved in the project file are displayed gray.

[Setup]*	<ul style="list-style-type: none"> • Current setting data • Key source preset, background wipe preset
[Shot]	<ul style="list-style-type: none"> • Register memory of shot memory (Max. 81) • Key preset memory
[Event]	Register memory of event memory (Max. 81)
[Macro]	Register memory of macro memory (Max. 81)
[Still]	2 channels of current frame memory
[Still Reg]	81 still images saved in the register memory area
[Clip]	2 channels of current frame memory
[Txtr]	Current texture data
[Txtr Reg]	81 pieces of texture data saved in the registered memory area

* To load a project file saved in the video format different from the current video format, always select [Setup].

5 Select [Load].

- The project file is loaded.

**NOTE**

- The project file cannot be loaded when [Clip] is selected as an item to load while playing back a moving image (Clip).

Editing data on a memory card or storage module

Delete data saved in a memory card or the Storage Module, or change file names.

1 Select the <PRJ> button → [PROJECT] → [Storage] tab.**2 Select [Misc] in the [SD] column.**

- The [Misc] screen is displayed.

[Sort]	Project files can be sorted for display by file name ([Name+]/[Name-]), date ([Time+]/[Time-]), or file size ([Size+]/[Size-]), in either ascending order (+) or descending order (-).
[Protect]	Select [Protect] after selecting a file icon to switch on/off of the corresponding project file. Deleting or changing the file name cannot be performed for the protected project file.
[Move]	When you select a file icon and then select [Move], you can specify the destination folder and move the project file.
[Delete]	Select [Delete] after selecting a file icon to delete the project file.
[Rename Project]	Select [Rename Project] after selecting a file icon to change the file name using the on-screen keyboard.
[Rename Folder]	Select [Rename Folder] after selecting a folder icon to change the folder name using the on-screen keyboard.
[View]	Select the display mode. [List]: Project files are displayed in a list. [Icon]: Project files are displayed as icons.
[Close]	Closes the [Misc] screen.

Saving and loading data in/from the local computer

Project files can be saved and loaded in/from the internal storage of the local computer connected to the <LAN> terminal of the Live Production Suite system.

Saving data in the local computer

1 Select the <PRJ> button → [PROJECT] → [Storage] tab.**2 Select [Save] in the [PC] column.****3 Select the items to be stored.**

[Setup]	<ul style="list-style-type: none"> • Current setting data • Key source preset, background wipe preset
[Shot]	<ul style="list-style-type: none"> • Register memory of shot memory (Max. 81) • Key preset memory
[Event]	Register memory of event memory (Max. 81)
[Macro]	Register memory of macro memory (Max. 81)
[Still]	Eight channels of current frame memory
[Still Reg]	81 still images saved in the register memory area
[Clip]	Eight channels of current frame memory

4 Select [OK].

- The project file (extension: prj) is saved in an internal storage of the computer.

Loading data from the local computer

1 Select the <PRJ> button → [PROJECT] → [Storage] tab.

2 Select [Load] in the [PC] column.

- The file operation screen of the computer opens, and the project file can be loaded from the internal storage of the computer.
- The communication between the Live Production Suite system and the local computer may be disconnected when the file operation screen is left opened, and an error may be displayed in the browser. Perform the screen update in the browser if this occurs.

Storage

The settings of the unit can be saved or loaded in/from three types of storage.

- Memory cards (optional) inserted in the memory card slots of control panels AV-HS60C2/AV-HS60C4
- Storage Module which can be mounted inside the System Manager Unit
- Internal storage of the local computer connected to the <LAN> terminal of the Live Production Suite system

■ Table of savable and loadable files

- The meanings of the symbols indicating save and load targets are as follows.
 - 1: Memory card (optional)
 - 2: Storage Module
 - 3: Local computer
 - R: Loadable
 - W: Savable
 - —: No save, no load

File	Save and load targets			Operation menu
	1	2	3	
Project file*	R/W	R/W	R/W	The <PRJ> button on the top menu → [PROJECT] → [Storage] tab
Video memory (Still file)	R/W	R/W	R/W	The <MEM> button on the top menu → [STILL] → [Register]/[SD/PC] tab
Video memory (Clip file)	R/W	R/W	R/W	The <MEM> button on the top menu → [CLIP] → [Register]/[SD/PC] tab
Plug-in software	R	—	R	The <PLG IN> button on the top menu → [PLUGIN Maint] → [Load] tab
Update file	—	—	R	Executed from the local computer The extension for the update file is upd
Log file	W	—	W	The <SYS> button on the top menu → [MAINTENANCE] → [Alarm] tab

* The project files saved to memory cards and the project files saved to the local computer have different extensions.

Memory card

Data can be saved and loaded in/from a memory card inserted in the memory card slot of the Control Panel AV-HS60C2/AV-HS60C4.

- It may take up to 10 minutes to load moving images of a long recording time from a memory card or save them to a memory card.
- While loading images from a memory card or saving them to a memory card, operations other than switching crosspoints may be affected.

■ Data folder configuration

Data is saved in the following folders on the memory card.

When data is to be loaded, first save the data in the respective folders, and then load the files.

- The number of files that can be saved in each folder is limited to a maximum 100 files.

File	Extension	Storage folder
Project file*	001, 002, ...	HS\COMM\PROJECT
Video memory (Still file)	bmp, png, jpg (jpeg), tga, tiff (tif), gif	HS\COMM\IMAGE
Thumbnail image of the video memory (Still file)	tbn, tpn, tjp, ttg, ttif, tgi	HS\COMM\IMAGE_THUMBNAIL
Video memory (Clip file)	clp	HS\COMM\CLIP
Thumbnail image of the video memory (Clip file)	png	HS\COMM\CLIP_THUMBNAIL
Plug-in software	plg	HS\COMM\PLUGIN
Log file	log	HS\HS6000\LOG

* For project files, folders with File Name are created under the HS\COMM\PROJECT folder, and the project files are saved in the created folders.

If the size of the project file to be saved is large, the file is divided and sequential numbers (001, 002, ...) are added to each file.

■ Handling precautions for memory card

- Do not turn off the power of the unit or eject the memory card while the memory card access LED is lighting. The memory card or data in the memory card may be damaged.
- The data saved on memory cards may be lost as a result of misplacing the cards or performing erroneous operations. It is recommended that valuable data be saved on a computer or other device.

Initializing a memory card

To use a memory card in the unit, make sure to initialize the memory card using the unit. When the unit initializes the memory card, it formats the memory card (in compliance with the SD standard) and creates a dedicated directory. (All files saved on the memory card will be erased.)

1 Select the <PRJ> button → [PROJECT] → [SD] tab.

2 Select an item in [Format] in the [SD] column.

- Operate following the confirmation screen.

Saving data on the memory card

Insert the memory card which has been initialized by the unit, into the memory card slot.

Ex) To save a log file

1 Select the <SYS> button → [MAINTENANCE] → [Alarm] tab.

2 Select an item in [Log File] in the [Log] column.

- The [Save] screen is displayed.

[Sort]	Sorts the file icon view in ascending or descending order by file number, file name, or date.
[View]	Fixed to icon display.
[File Type]	Fixed to file type. The name of the folder where a log file is saved becomes the file name of the log file. File names are assigned automatically as follows. hs001.log to hs100.log
[Cancel]	Closes the [Save] screen.

3 Select [OK].

- The file is saved.

NOTE

- For details on the data save destination, refer to “Data folder configuration”.
- For details on saving project files, refer to “Project management”.
- For details on saving image files in the video memory (Still, Clip), refer to “Video memory”.

Loading data from the memory card

Insert the memory card on which the data is saved in a specified folder into the memory card slot.

Data stored in other folders will not be recognized by the unit.

Ex) When loading the update file

1 Select the <SYS> button → [MAINTENANCE] → [Status] tab.**2 Select an item in [Update File] in the [Update] column.**

- The [Load] screen is displayed.

[Sort]	Sorts the file icon view in ascending or descending order by file number, file name, or date.
[View]	Fixed to icon display.
[File Type]	Fixed to file type.
[Cancel]	Closes the [Load] screen.

3 Select a file icon, and select [OK].

- The file is loaded.

NOTE

- For details on the data save destination, refer to “Data folder configuration”.
- A file name can contain a maximum 32 characters.
- The characters that can be used in a file name are single-byte alphanumeric characters and single-byte symbols. The characters that can be used are as follows.
A to Z, a to z, 0 to 9, ! # \$ % & ' () - . @ ^ _ ` { }
- If the name of the file to be loaded consists of more than eight characters, the unit displays a shortened version of the file name.
- For details on loading project files, refer to “Project management”.
- For details on loading image files from the video memory (Still, Clip), refer to “Video memory”.
- For details on loading plug-in software, refer to “Plug-in software”.

Deleting files on the memory card

To delete unnecessary project files and video memory (Still, Clip) files, select [Delete] on the [Misc] screen. To delete unnecessary files of other functions, delete using the computer. (page 96)

Storage Module

You can save and load project files and video memory image files to and from the storage module installed inside the System Manager Unit.

NOTE

- For details on saving and loading project files, refer to “Project management”.
- For details on saving and loading image files of the video memory (Still, Clip), refer to “Video memory”.

■ Initializing the storage module

Initialize data saved in the Storage Module.

For details, refer to “Initializing the setting data”.

Saving and loading data in/from the local computer

Only the menu of the local computer connected to the <LAN> terminal of the Live Production Suite system is displayed.

NOTE

- For details on saving and loading project files, refer to “Project management”.
- For details on saving and loading image files of the video memory (Still, Clip), refer to “Video memory”.

Chapter 6 **Input/Output Signal Settings**

This chapter describes the input/output signal settings.

Setting input signals

The rear of the Gateway Unit is equipped with SDI connectors for input and output.

- Each Gateway Unit can accept input 12G SDI signals from 10 systems.
- To configure the input signal settings, select the <IN OUT> button on the top menu → [SDI IN 1] to [SDI IN 20].
- The frame synchronizer setting and freeze setting can be set for all the terminals on each of the input boards.

Setting the frame synchronizer

The frame synchronizer can be set enabled/disabled for each input.

1 Select the <IN OUT> button → [SDI IN 1] to [SDI IN 20] → [Frame Buffer] tab.

2 Select an item in [FS] in the [SDI IN 1] to [SDI IN 20] columns.

[On]	Enables the frame synchronizer function.
[Off]	Disables the frame synchronizer function.

- When the output signal phase is set to [0H], [FS] cannot be set to [Off].
For details, refer to “Setting the output phase”.

NOTE

- Line synchronizer function is active while the frame synchronizer function is set to [Off].
- The line synchronizer function automatically adjusts the input video signal phase to the horizontal sync signal phase.
For details, refer to “Setting the output phase”.

Freezing input signals

The input signals can be frozen and used. While signals are frozen, the tally signals of the corresponding input will not be output. When the system format is progressive, the menu is not displayed and settings are not possible.

Setting the freeze mode

1 Select the <IN OUT> button → [SDI IN 1] to [SDI IN 20] → [Frame Buffer] tab.

2 Select an item in [Freeze] in the [SDI IN 1] to [SDI IN 20] columns.

- An item can also be selected while an image is frozen.

[ON]	Freezes the images frame by frame.
[OFF]	There is no freezing.

Setting the source name

The source names displayed on the Control Panel and the MultiView display can be set from the <NAME> button on the top menu → [SDI IN]/[IP IN]/[INTERNAL]/[ME]/[DSK]/[AUX]/[MV] → [Panel Name]/[MV Name] tab.

For details, refer to “Setting the source name”.

Displaying video input signal information

Displaying the SDI input signal information

Display the information concerning the SDI input signal images.

- The information cannot be changed.

1 Select the <IN OUT> button → [SDI IN 1] to [SDI IN 20] → [Status] tab.

2 Check the [SDI IN 1] to [SDI IN 20] columns.

[Format]	Displays the input format. When there is no input signal, [No signal] is displayed. For formats that are not supported, [Undefined] is displayed. If horizontal pixels are the same, false detection may occur.
----------	---

Setting output signals

The rear of the Gateway Unit is equipped with SDI connectors for input and output.

- Each Gateway Unit can output 12G SDI signals to 6 systems.
- The allocation of output signals for each terminal is performed by selecting top menu <IN OUT> button → [OUT ASSIGN] → [Assign] tab.

Assigning output signals

Assign output signals to [SDI OUT 1] through [SDI OUT 12].

1 Select the <IN OUT> button → [OUT ASSIGN] → [Assign] tab.

2 Set the output signals to assign.

- Output signals that can be assigned are as follows.

ME1PGM, ME2PGM, DSKPGM1, DSKPGM2	Outputs an image with the wipe, mix, key, downstream key or other effect to the switcher's main line output.
DSKPVW1, DSKPVW2	Preview output of DSKPGM1 and DSKPGM2. The background image can be selected from ME1PGM or ME1PVW shown above.
AUX1 - AUX16	Outputs the signal selected by the 16 lines of AUX buses ([AUX1] to [AUX16]).
MV1, MV2	Outputs the MultiView display signal. Multiple input and output signals are reduced and output to a single screen. (page 110)
ME1KEYPVW, ME2KEYPVW	Outputs the preview signal exclusively for the key.
ME1PVW, ME2PVW	Outputs the preview signal for BKGD, KEY1, and KEY2 for each ME.
DSKEXT1-1, DSKEXT1-2, DSKEXT2-1, DSKEXT2-2	These output signals can be set by the user.

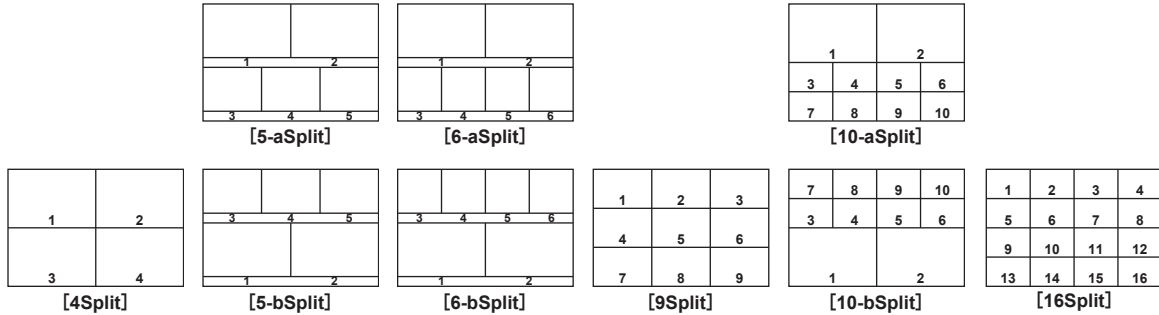
- For details on ME/DSK output signal settings, refer to “Setting the ME output and DSK output”.

Setting MultiView displays

The unit has 4 lines of MultiView display that can be split up to 16 screens.

Setting the screen layout

Select the layout of the split-screen from the following nine in [Split] of the [Pattern] column.



1 Select the <MV> button → [MV1-2] → [MV1], [MV2] tabs.

2 Select an item in [Split] in the [Pattern] column.

- Select the split-screen layout.

3 Select an item in [Size] in the [Pattern] column.

- Set the size mode of the split screens.

[Fit]	The size of the split frame is the same as the split-screen size.
[SQ]	The split-screen size is smaller than the split-frame size, and the source names, level meter, etc. are displayed outside the split screen.

4 Select an item in [Assign] in the [Pattern] column.

- The assign setting screen for the sub-screen is displayed.
- The signals that can be assigned are as follows.

Signal name	Description
SDI IN1 - SDI IN20	SDI input signals 1 to 20
IP IN1 - IP IN8	IP input signals 1 to 8
Still 1V, Still 2V	Video memory (still image) 1, 2 videos
Still 1K, Still 2K	Video memory (still image) 1, 2 keys
Clip 1V, Clip 2V	Video memory (moving image) 1, 2 videos
Clip 1K, Clip 2K	Video memory (moving image) 1, 2 keys
CBAR	Color bar
Black	Black image
CBGD1, CBGD2	Color background 1, 2
ME1PGM, ME2PGM	Program video signal
ME1PVW, ME2PVW	Preview video signal
ME1KEYPVW, ME2KEYPVW	Key preview video signal
ME1CLN, ME2CLN	Clean signal
DSKEXT1-1, DSKEXT1-2, DSKEXT2-1, DSKEXT2-2	DSK extended signals
DSKPGM1, DSKPGM2	DSK program video signal
DSKPVW1, DSKPVW2	DSK preview video signal
MV1, MV2	MultiView display output signal
AUX1 - AUX16	AUX signals
Clock	Clock display

NOTE

- The source name displayed is the one set by selecting top menu <NAME> button → [SDI IN]/[IP IN]/[INTERNAL]/[ME]/[DSK]/[AUX]/[MV] → [Panel Name]/[MV Name] tab.
If the input signal is selected in the AUX bus (AUX1 to AUX16), the first 4 letters of the source name are displayed in [].
- When SDI IN1 (source name: CAM1) is selected in AUX1: AUX1 [CAM1]
- When SDI IN2 (source name: CAMERA2) is selected in AUX2: AUX2 [CAME]
- When MV1, MV2 are displayed on the sub-screen of the MultiView display, the images are looped as if two mirrors were facing each other.

Setting the split frame and characters

Set the frame, character luminance, and background of the split screens to be displayed on the MultiView display.

1 Select the <MV> button → [MV1-2] → [MV1], [MV2] tabs.

2 Select an item in [Frame] in the [MV Frame] column.

- Set the luminance and display of the split frames.
Select from [Off], [LUM 0%], [LUM 25%], [LUM 50%], [LUM 75%], and [LUM 100%].

3 Select an item in [Character] in the [MV Frame] column.

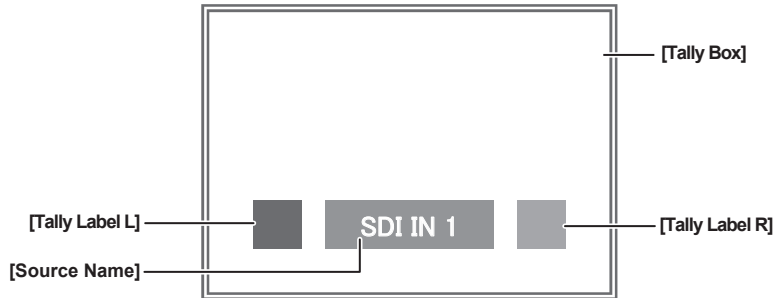
- Set the luminance and display of the characters.
Select from [Off], [LUM 0%], [LUM 25%], [LUM 50%], [LUM 75%], and [LUM 100%]. When [Off] is selected, the character background is not displayed.

4 Select an item in [Label] in the [MV Frame] column.

[ON]	Displays the character background (half-tone).
[OFF]	Does not display the character background (half-tone).

Setting the tally display

Configure the tally display setting to be superimposed onto the split frame of the MultiView display.



1 Select the <MV> button → [MV1-2] → [MV1], [MV2] tabs.

2 Select an item in [Tally Group1] to [Tally Group4] in the [Tally Box]/[Tally Label L]/[Tally Label R] column.

[ON]	Shows the tally displays.
[OFF]	Does not show the tally displays.

NOTE

- If conditions overlap, the following priority order is used:
[Tally Group1] > [Tally Group2] > [Tally Group3] > [Tally Group4]
- To set the tally color, select the <SYS> button on the top menu → [PERIPHERAL] → [Tally] tab → [Tally Group1 (On-Air)]/[Tally Group2]/[Tally Group3]/[Tally Group4] columns → [Color].
- For details on the tally group settings, refer to “Setting a tally”.

Other display settings

Setting the input signal mark

The status of the input signals can be displayed in front of the source names displayed on the split screens.

- [F] mark: Indicates that the input signals are frozen.
- [!] mark: Indicates that there are no input signals or signals with different formats are input. If horizontal pixels are the same, false detection may occur.

1 Select the <MV> button → [MV1-2] → [MV1], [MV2] tabs.

2 Select an item in [Input Status] in the [Display] column.

[On]	Displays the input signal status.
[Off]	Does not display the input signal status.

- When the [F] mark is displayed, the [!] mark is not displayed.

Setting the marker

Safety markers can be displayed for PGM and PVW sources of the MultiView display.

1 Select the <MV> button → [MV1-2] → [MV1], [MV2] tabs.

2 Select an item in [Marker] in the [Display] column.

- Configure the marker display setting.

[Off]	Does not display the markers.
[4:3]	Displays the markers using the 4:3 aspect ratio.
[16:9]	Displays the markers using the 16:9 aspect ratio.

3 Set [Marker Size] in the [Display] column.

- Set the marker size.

Chapter 7 **Configuring Operations**

This chapter describes the configuration of operations.

Disabling button operations

For each button or block, the operation can be disabled.

1 Select the <PANEL> button → [BUTTON INHIBIT] → [Panel1]/[Panel2]/[Panel3] tab.

[Panel1] tab	Assigns the control panel 1.
[Panel2] tab	Assigns the control panel 2 (second Control Panel).
[Panel3] tab	Assigns the control panel 3 (third Control Panel).

2 Select the buttons/blocks to be disabled from the button/block list in the left column.

- Select [Button Group] to filter the button/block list in the left column.

3 Set the range of disabled operations.

- Use [Group Select] and [Bus Select] to set the range of disabled operations.
For details, refer to “Target button/block for [Button Group]/[Group Select]/[Bus Select] operations”.

4 Select an item in [Inhibit].

[Off]	Enables the operation.
[On]	Disables the operation.

5 Select [Set].

■ Target button/block for [Button Group]/[Group Select]/[Bus Select] operations

Item	Description
[Button Group]	Filters the button/block list in the left column. [XPT-Page1]: First page of the crosspoint buttons [XPT-Page2]: Second page of the crosspoint buttons [XPT-Page3]: Third page of the crosspoint buttons [XPT-Page4]: Fourth page of the crosspoint buttons [Other]: <2nd PAGE>/<3rd PAGE> buttons, <AUX 1/2> to <AUX 15/16> buttons [Block]: ME1 block, ME2 block, DSK operation area, positioner area, AUX area
[Group Select]	Sets the group range for disabled operations. ■ When the first to fourth pages of the crosspoint buttons are selected in the left column: [All+AUX]: All buses including the AUX bus [All]: All buses excluding the AUX bus [ME1]: The ME1 bus [ME2]: The ME2 bus ■ When the <IMAG> button, <2nd PAGE>/<3rd PAGE> buttons are selected in the left column: [All+AUX], [All]: All [ME1]: Buttons in the ME1 block [ME2]: Buttons in the ME2 block
[Bus Select]	Sets details of [Group Select] when the first to fourth pages of the crosspoint buttons are selected in the left column. [All]: All in the [Group Select] setting range [A/B]: The A bus, B bus in the [Group Select] setting range [Key]: KEY1, KEY2 in the [Group Select] setting range (DSK is included when [All] is selected with [Group Select])

Assigning signals to buttons

External video input signals and internally generated signals can be assigned to the crosspoint buttons (the PGM/A, PST/B, KEY, and AUX bus crosspoint buttons) in the crosspoint area. All buses in a single Control Panel have a common assignment.

If the assignment of the signals selected by the crosspoint buttons is changed, the positions of the lit crosspoint buttons will be changed according to the changed assignment. In this case, the output video is not changed.

1 Select the <PANEL> button → [XPT ASSIGN] → [Panel1]/[Panel2]/[Panel3] tab.

[Panel1] tab	Assigns the control panel 1.
[Panel2] tab	Assigns the control panel 2 (second Control Panel).
[Panel3] tab	Assigns the control panel 3 (third Control Panel).

2 Select the buttons to assign the video sources from the button list in the left column.

- Select [Select] to filter the button list in the left column.

3 Select a signal to be assigned from the signal list in the right column.

- Select [Page Select] to filter the signal list in the right column.
- When [Auto Assign] is selected and set to [On]
 - The signal is allocated to the button selected in step 2. The button selection destination automatically moves back by 1 place.

4 Select [Assign].

- The signal selected in step 3 is assigned to the button selected in step 2.
- When [Insert] is selected
 - The signal selected in step 3 is assigned to the button selected in step 2. The buttons after the button selected in step 2 will be the signal that was originally assigned to the previous button.
 - The setting of the button assigned to [ME1PGM], [ME2PGM] does not change.
- When [Delete] is selected
 - The signal assigned to the button selected in step 2 and the buttons after that will each shift one to forward. The last button will be Blank.

■ Signals that can be selected for the crosspoint buttons:

- “✓” indicates selectable, and “—” indicates non-selectable.

Signal name	Description	ME*1	AUX*2
SDI IN1 - SDI IN20 IP IN1 - IP IN8	SDI input signals 1 to 20 IP input signals 1 to 8	✓	✓
ME1KEYPVW, ME2KEYPVW	Key preview video signal	—	✓
ME1PGM, ME2PGM	Program video signal	✓*3	✓
ME1PVW, ME2PVW	Preview video signal	—	✓
DSKPGM1, DSKPGM2	DSK program video signal	—	✓
DSKPVW1, DSKPVW2	DSK preview video signal	—	✓
DSKEXT1-1, DSKEXT1-2, DSKEXT2-1, DSKEXT2-2	DSK extended signals	—	✓
ME1 CLN, ME2 CLN	Clean video signals	✓*3	✓
Clip 1V, Clip 2V	Video memory (moving image) 1, 2 videos	✓	✓
Clip 1K, Clip 2K	Video memory (moving image) 1, 2 keys	✓	✓
Still 1V, Still 2V	Video memory (still image) 1, 2 videos	✓	✓
Still 1K, Still 2K	Video memory (still image) 1, 2 keys	✓	✓
CBGD1, CBGD2	Color background 1, 2	✓	✓
CBAR	Color bar	✓	✓
Black	Black image	✓	✓
MV1, MV2	MultiView display output signal	—	✓
2nd PAGE, 3rd PAGE	Page switching function	✓*4	✓*4
Blank	Not assigned	—	—

*1 Crosspoint buttons other than the <AUX 1/2> to <AUX 15/16> and <VMEM F/S> buttons.

*2 <AUX 1/2> to <AUX 15/16> and <VMEM F/S> buttons.

*3 ME1PGM, ME1CLN, ME2PGM and ME2CLN have a limitation on selection.

Ex) For each ME, it is not possible to select the PGM/CLN in the same ME. When ME1PGM is selected for ME2, ME2PGM cannot be selected for ME1.

*4 Used with the SHIFT function.

Setting the source name

Setting the source name display panel

Set the display of the source name display panels on the crosspoint area and KEY/DSK operation area.

- 1 Select the <NAME> button → [SDI IN]/[IP IN]/[INTERNAL]/[ME]/[DSK]/[AUX]/[MV] → [Panel Name] tab.
- 2 Select an item in [Type] in the column that displays the source name to be set.

[Default]	Displays the same name as the column name.
[User]	Displays a desired name.

Displaying a desired source name

- 1 Select the <NAME> button → [SDI IN]/[IP IN]/[INTERNAL]/[ME]/[DSK]/[AUX]/[MV] → [Panel Name] tab.
- 2 Select [Name] in the column that displays the source name to be set.
 - Enter a desired name with the on-screen keyboard.

Setting the lighting status when the crosspoint area is off

- 1 Select the <NAME> button → [SDI IN]/[IP IN]/[INTERNAL]/[ME]/[DSK]/[AUX]/[MV] → [Panel Name] tab.
- 2 Select an item in [Color Group] in the column that displays the source name to be set.
 - Select an item from [ColorGroup1] to [ColorGroup8].
For details, refer to “Setting the colors when the buttons are turned off”.

Setting the MultiView display

Set the MultiView display.

- 1 Select the <NAME> button → [SDI IN]/[IP IN]/[INTERNAL]/[ME]/[DSK]/[AUX]/[MV] → [MV Name] tab.
- 2 Select an item in [Type] in the column that displays the source name to be set.

[Default]	Displays the same name as the column name.
[User]	Displays a desired name.
[Same as Panel]	Links to the setting from the <NAME> button on the top menu → [SDI IN]/[IP IN]/[INTERNAL]/[ME]/[DSK]/[AUX]/[MV] → [Panel Name] tab. • When [Picture] is selected in the [Panel Name] tab, this setting links to the [Default] setting.

Displaying a desired source name

- 1 Select the <NAME> button → [SDI IN]/[IP IN]/[INTERNAL]/[ME]/[DSK]/[AUX]/[MV] → [MV Name] tab.
- 2 Select [Name] in the column that displays the source name to be set.
 - Enter a desired name with the on-screen keyboard.

Setting the source link

Setting the key coupling

Linking the key fill signal and key source signal

If you select key fill signal or key source signal using the key bus crosspoint buttons of the control panel, the signals are linked and the other signal is automatically selected.

The unit's linking operation has two modes.

- [Fill to Source]: When the key fill signal (master) is selected, the key source signal (slave) changes automatically.
- [Source to Fill]: When the key source signal (master) is selected, the key fill signal (slave) changes automatically.

1 Select the <OPR> button → [SOURCE LINK] → [Key Assign] tab.

2 Select an item in [Master/Slave].

[Fill to Source]	Links the key fill signal (master) to the key source signal (slave).
[Source to Fill]	Links the key source signal (master) to the key fill signal (slave).

3 Select the item to be set as the master from the left column.

- Select [Master Filter] to filter the master list in the left column.

4 Select the item to be set as the slave from the right column.

- Select [Slave Filter] to filter the slave list in the right column.

5 Select [Assign].

- Make the coupling setting for the source selected as the master and the source selected as the slave.
- If [Self] is set to [On] and [Assign] is selected, the same source selected for the master is coupled, regardless of the selection status of the slave.

NOTE

- When the [Master/Slave] settings are changed, the coupling setting is initialized.

Linking the AUX bus

Two AUX buses can be linked by the setting in "Setting the key coupling".

- The coupling combinations are the odd AUX signals and the subsequent even AUX signals, such as AUX1 and AUX2 or AUX3 and AUX4.

Linking the odd AUX signals and even AUX signals

1 Select an item in [AUX1/2 Link] to [AUX15/16 Link] in the [Link] column.

[OFF]	Disables the coupling setting.
[ON]	Enables the coupling setting.

NOTE

- When the [Master/Slave] settings are changed, the coupling setting is initialized.

Setting the operation mode

Setting the operation mode for the crosspoint buttons

Selecting a bus using the SHIFT function

The SHIFT function is used to assign four sources to one crosspoint button (the KEY, PGM/A, or PST/B bus crosspoint button) and change pages using the <2nd PAGE>/<3rd PAGE> buttons on the right of the source name display panel.

There are two operation methods for the SHIFT function:

All SHIFT	Use the <2nd PAGE>/<3rd PAGE> buttons to change all source pages for the crosspoint buttons included in the corresponding ME at once.
Single SHIFT	Operate by assigning the <2nd PAGE>/<3rd PAGE> button to the crosspoint buttons with the menu. Use the assigned button to change the source page of the crosspoint buttons included in the corresponding ME on a bus basis. In this case, the <2nd PAGE>/<3rd PAGE> buttons on the right of the source name display panel can be used to switch the source name displays.

The <2nd PAGE>/<3rd PAGE> buttons can be used in two modes.

- 1 Select the <OPR> button → [OTHER SETTINGS] → [Page Mode] tab.
- 2 Set an item in [2nd Page Button] and [3rd Page Button] in the [Page Mode] column.

[Normal]	Enabled only while the button is pressed.
[Page Lock]	Enabled and disabled every time the button is pressed.

Assign the SHIFT function to the crosspoint buttons

- 1 Select the <PANEL> button → [XPT ASSIGN] → [Panel1]/[Panel2]/[Panel3] tab.

[Panel1] tab	Assigns the control panel 1.
[Panel2] tab	Assigns the control panel 2 (second Control Panel).
[Panel3] tab	Assigns the control panel 3 (third Control Panel).

- 2 Select the buttons to assign the SHIFT function from the button list in the left column.
 - For details on the button assignment of the crosspoint area, refer to “Assigning signals to buttons”.
- 3 Select [2nd Page] or [3rd Page] from the signal list in the right column.
 - [2nd Page] and [3rd Page] are displayed when [Special] is selected in [Page Select].
- 4 Select [Assign].
 - The SHIFT function is assigned to the button selected in the step 2.
 - Once the assignment is set on one page, the corresponding button on other pages works in a same way.

Selecting the bus mode

Select the A/B bus system or the flip-flop system (PGM/PST system).

- 1 Select the <OPR> button → [OTHER SETTINGS] → [Bus Mode] tab.
- 2 Set an item in [Bus Mode Type] in the [Bus Mode] column.

[Common]	Sets the same bus mode in ME1 and ME2. Setting of the [Bus Mode] column → [Bus Mode] is applied to both ME1 and ME2.
[Each]	Different bus modes can be set for ME1 and ME2. Settings of the [Each Bus Mode] column → [Bus Mode ME1] and [Bus Mode ME2] are applied to ME1 and ME2 respectively.

Setting the transition operation mode

Setting the time display unit

The time display unit used in this unit can be set as a second/frame basis or a frame basis.

- 1 Select the <OPR> button → [OTHER SETTINGS] → [Transition] tab.
- 2 Select an item in [Time Unit] in the [Time Unit] column.

[Sec/Frame]	Sets the time display unit as a second/frame basis.
[Frame]	Sets the time display unit as a frame basis.

- The maximum possible setting time is 16s19f (499 frames).

FTB (Fade to Black)

For DSKPGM1 and DSKPGM2 outputs, fade out from the program image to the black background screen, and fade in from the black ground screen to the program image. While the settings and transition are performed by the menu, use the macro memory to assign to certain buttons to execute transition.

1 Select the <OPR> button → [OTHER SETTINGS] → [Transition] tab.

2 Select an item in [Source] in the [FTB] column.

- Select the image for fading out.

[Still1], [Still2]	Uses still image video memory (Still1, Still2).
[Clip1], [Clip2]	Uses moving image video memory (Clip1, Clip2).
[CBGD1], [CBGD2]	Uses the color background.
[White]	Uses the white background.
[Black]	Uses the black background.

3 Set [Time] in the [FTB] column.

- Set the transition time.

4 Set [FTB On] in the [FTB] column.

- When [FTB On] is selected, the screen fades out to the image selected in the step **2** at a specified transition time.
If [FTB On] is selected when the image selected in the step **2** is on the screen, the screen fades in to the program image.
If [FTB On] is selected during transition, the transition direction is reversed.

NOTE

- If an item other than [White] or [Black] is selected in [Source] in the [FTB] column, the corresponding crosspoint buttons will light in red while [FTB On] is set.

AUX1 to AUX4 bus transitions

In the AUX1 to AUX4 buses, MIX transition is available.

1 Select the <OPR> button → [OTHER SETTINGS] → [Transition] tab.

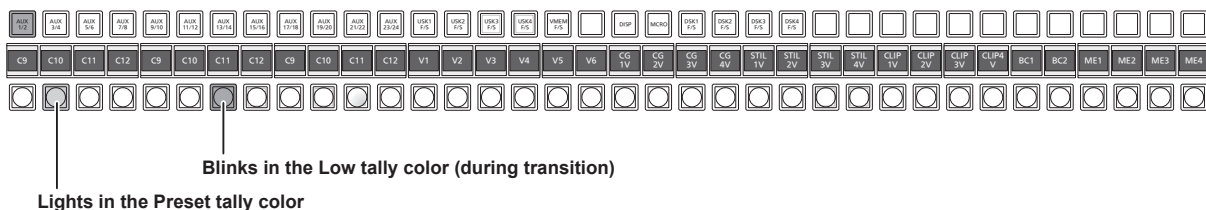
2 Select an item in [AUX1] to [AUX4] in the [AUX Trans] column.

[OFF]	Disables the MIX translation.
[ON]	Enables the MIX translation.

3 Set [AUX1] through [AUX4] in the [Trans Time] column.

- Set the transition time.

AUX bus transition operation



Set [AUX1] to [AUX4] to [ON] in the [AUX Trans] column, then select sources with the relevant AUX bus crosspoint buttons.

At this time, the MIX transition is performed at the transition time specified in [AUX1] to [AUX4] in the [Trans Time] column.

During transition, KEY crosspoint buttons denoting the transition source lights in the Preset tally color, and the KEY bus crosspoint buttons denoting the transition target source lights in the Low tally color.

When the transition is completed, the transition source button goes off, and the transition target button lights in the Low tally color.

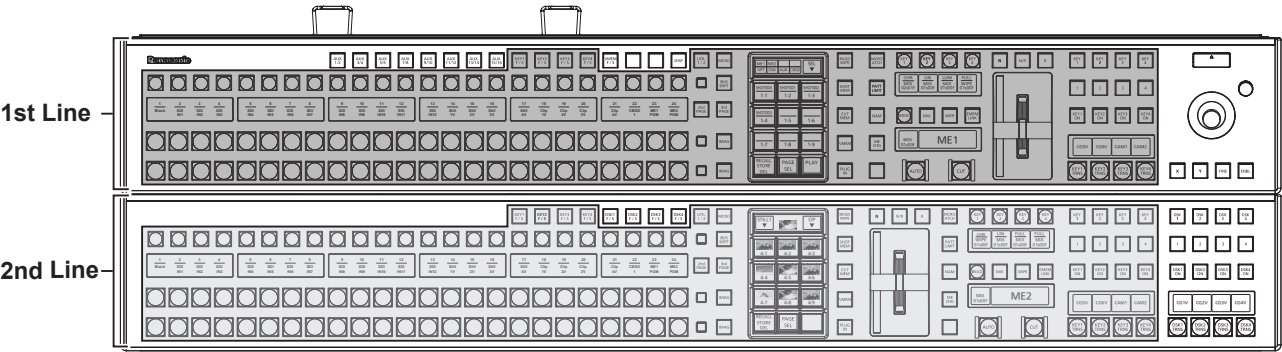
When another signal is selected during transition, the transition processing continues from that midway point.

Switching the ME area in the Control Panel AV-HS60C2/AV-HS60C4

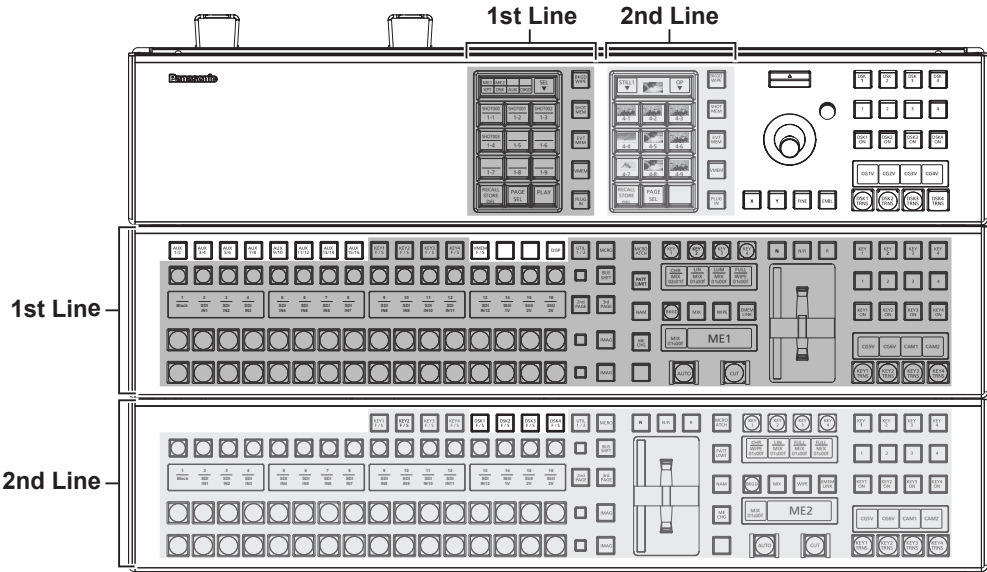
Switch the ME1 and ME2 in the Control Panel AV-HS60C2/AV-HS60C4.

- The following figure shows the area that can be switched.

■ AV-HS60C2



■ AV-HS60C4



NOTE

- <AUX1/2> to <AUX15/16> buttons, <VMEM F/S> button, <DISP> button, <DSK1 F/S> to <DSK4 F/S> buttons, DSK operation area, positioner area, and Menu Panel AV-HS60C3 are not subject for switching.
- If you perform switching using the KEY bus selector buttons on the upper ME line (1st Line) while <AUX 1/2> to <AUX 15/16> buttons are selected, the selection status of the KEY bus crosspoint buttons on the lower ME line (2nd Line) takes over the KEY bus crosspoint buttons on the upper ME line (1st Line) before switching, and the KEY bus selector button lamps all turn off. Press the KEY bus selector buttons on the lower ME line (2nd Line) to turn on the lamps and change the operation targets of the KEY bus crosspoint buttons to the appropriate bus.

Switching the ME area in the Menu Panel AV-HS60C3

- 1 Select the <PANEL> button → [PANEL CONFIG] → [ME Change] tab.
- 2 Select an item in [1st Line] and [2nd Line] in the [Panel1]/[Panel2]/[Panel3] column.

[ME1]	The corresponding ME area is used as ME1.
[ME2]	The corresponding ME area is used as ME2.

- If the item set for [ME1] is switched to [ME2], the item selected for [ME2] is switched to [ME1].

Switching the ME area in multi-selection panel area

You can switch ME areas through the multi-selection panel area.
For basic operations of the multi-selection panel area, refer to “Basic operations for the multi-selection panel area”.

1 Press the <ME CHG> button.

- The display of the multi-selection panel area changes as follows:

S1	Blank	—
S2	Current ME line	Displays the ME line to which the corresponding multi-selection panel area belongs.
S3	Blank	—
1	ME1	The current ME line is displayed in red.
2	ME2	The current ME line is displayed in red.
3 to 12	Blank	—

2 In the multi-selection panel area, hold down the button (1 or 2) that displays the target ME line.

- If you press the button that displays an ME line that is different from the current ME line, the ME line will be switched.

Key source preset settings

The key source preset is a function that stores (presents) key settings in memory for each keyer and each source.

If a key source is selected using the KEY bus crosspoint buttons of the control panel, a preset is automatically recalled. Also, if the key settings are changed, each preset is automatically overwritten.

The following settings are stored in memory for each preset:

- KEY1, KEY2 of ME1 and ME2
 - All settings of the <ME1>/<ME2> button on the top menu → [KEY1], [KEY2] → [Key Setting] tab
 - Settings of the <ME1>/<ME2> button on the top menu → [KEY1], [KEY2] → [Chroma] tab → [Adjust] column
 - Settings that disable the chroma key
- DSK1, DSK2
 - All settings of the <DSK> button on the top menu → [DSK1], [DSK2] → [Setting] tab

Key source preset operation settings**1 Select the <OPR> button → [OTHER SETTINGS] → [Key] tab.****2 Select an item in [Source Preset] in the [Key Source Preset] column.**

[Enable]	Enables the key source preset function. Stores the settings in memory by each keyer and each source.
[Disable]	Disables the key source preset function. The preset is not recalled even if the source is switched.

3 Select an item in [Keyer Link] in the [Key Source Preset] column.

- Select the keyer link setting for the source preset.

[Enable]	Links key source presets between keyers. If the selected source is the same, the same settings are applied, even if the keyers are different. However, a link is not established between KEY1, KEY2, and between DSK1, DSK2 of ME.
[Disable]	Stores key source presets individually by each keyer and each source. If the same source is selected using a different keyer, different settings are applied for each.

NOTE

- When [Disable] is selected in the [Source Preset] item, operation is performed with keyer link settings in [Disable], regardless of the [Keyer Link] item selection status.

Chapter 8 **System Menu**

This chapter describes how to operate system menus.

System settings

Setting the video format function

Select the system format.

1 Select the <SYS> button → [SYSTEM] tab.

2 Set an item in [Video Format] in the [Video Format] column.

- Select from [2160/59.94p], [2160/50p], [1080/59.94p], [1080/50p], [1080/59.94i] or [1080/50i].
- When the switcher mode is 4K mode, [2160/59.94p] or [2160/50p] can be selected, and when the switcher mode is Standard mode, [1080/59.94p], [1080/50p], [1080/59.94i] or [1080/50i] can be selected.

NOTE

- Do not check the format during the following operations.
 - When loading from a memory card or saving to a memory card
 - When loading from the Storage Module or saving to the Storage Module
 - When recording videos or still images

1 Select the <SYS> button → [SYSTEM] → [Video] tab.

2 Check the item in [Video Format] in the [Video Format] column.

Setting the output phase

The phase of the output video signals can be adjusted.

1 Select the <SYS> button → [SYSTEM] → [Video] tab.

2 Select an item in [System] in the [Output Phase] column.

[1H]	Outputs video signal with 1H delay against the system sync signal. When the frame synchronizer function is on, the video signal is output with delay of 1 frame + 1H. • 1H=35.5 μ s This is equivalent to 1 line with 1080/50i, or 4 lines with 2160/50p. 1 frame is 1/25 s with 1080/50i, while 1 frame is 1/50 s with 2160/50p.
[0H]	Output video signals are output in phase for the system sync signal. The frame synchronizer function is on for all input signals coming through input terminals equipped with the frame synchronizer function.

3 Select [H-Phase [H]] in the [Output Phase] column.

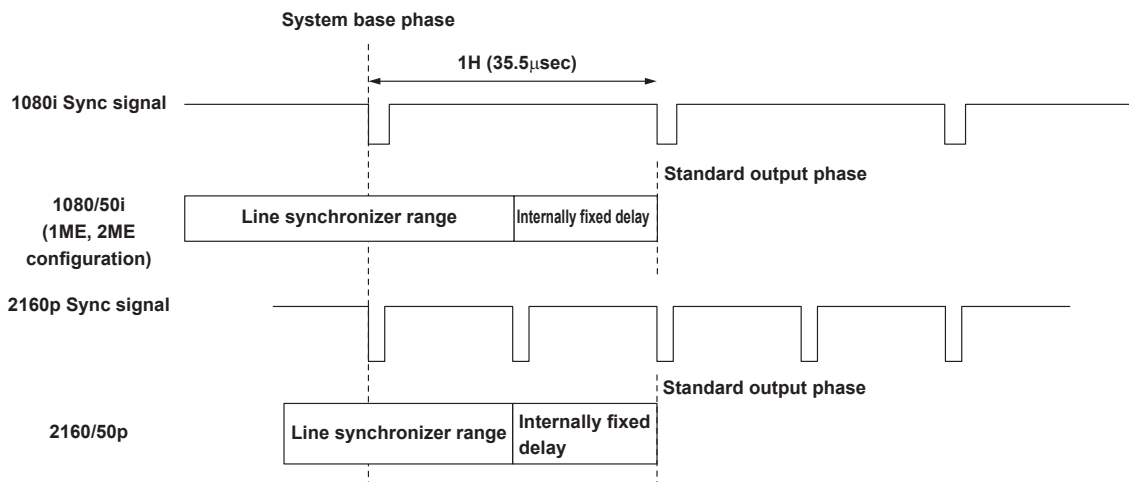
- Adjust the H phase. It can be adjusted to a value from [−0.50H] to [0.49H].
 [−0.50H] to [0.49H] is equivalent to approximately −17.7 μ s to +17.7 μ s.

4 Select [V-Phase [Line]] in the [Output Phase] column.

- Adjust the V phase. It can be adjusted to a value from [−100H] to [100H].
 1 step is equivalent to 1 line with 1080/50i, or 4 lines with 2160/50p.

■ Phase adjustment setup (When [System] is [1H])

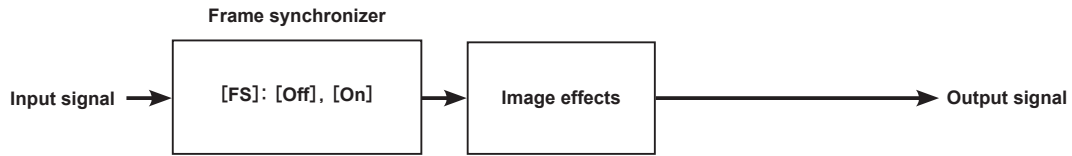
- The line synchronizer range is the draw-in range in which automatic phase adjustment is possible.
 The range shifts according to the output horizontal phase.



Format	1080/50i (1ME, 2ME configuration)	2160/50p
Horizontal period	Approx. 35.5 μ s	Approx. 17.7 μ s
Line synchronizer range	-0.5H to +0.5H (Approx. ± 17.7 μ s)	-0.25H to +0.25H (Approx. ± 8.8 μ s)
Internally fixed delay	0.5H (Approx. ± 17.7 μ s)	0.75H (Approx. ± 26.6 μ s)
Standard output phase \pm variable range	1H \pm 0.5H (Approx. 35.5 μ s)	1H \pm 0.5H (Approx. 35.5 μ s)

- The 1H indication is the calculated value for 1080/50i.

Phases and delay amount of input/output signals



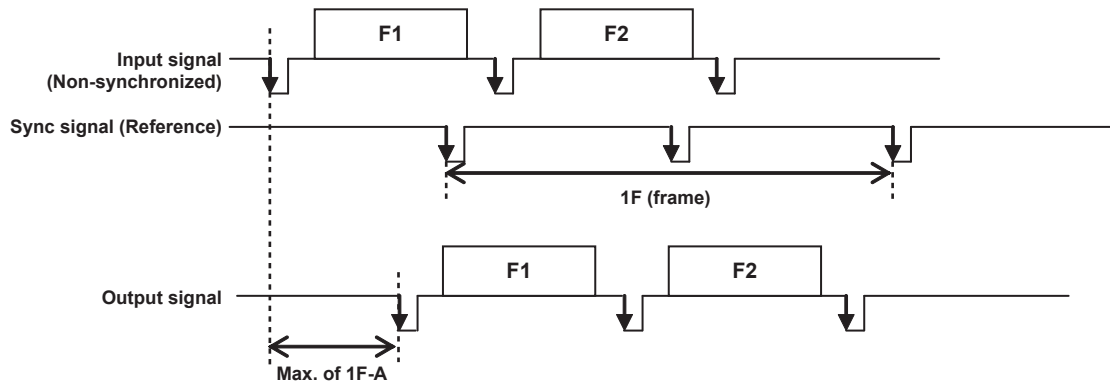
- For details on the frame synchronizer, refer to “Setting the frame synchronizer”.

[Output Phase]	[System]	[1H]	[0H]
Input signal	[FS]	[Off]	[On]
Non-synchronized input		Not possible	Possible
Output signal	Phase	Reference - A + 1H	
	Delay amount	1H	Max. of 1F - A

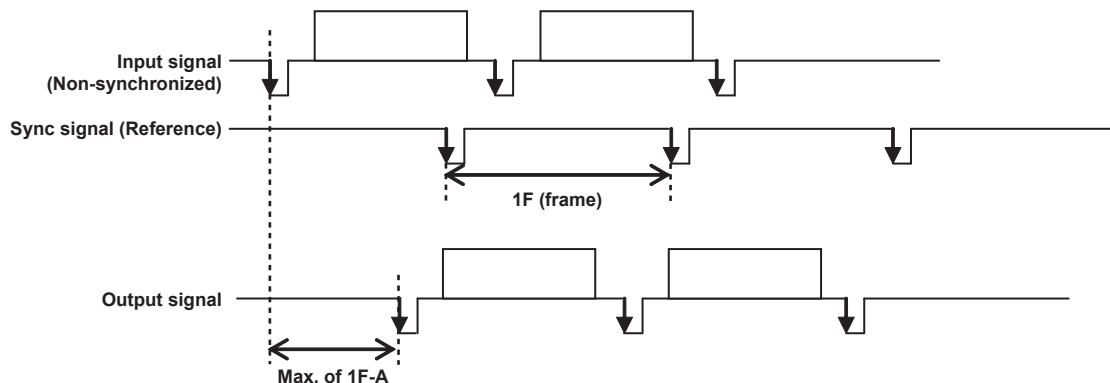
- A=0 when the synchronizing signal (Reference) is either [BB] or [Tri-level sync]. A=75H when it is [BB Advanced].
- 1H is 1 line with 1080/50i (35.5 μ s). With 2160/50p it is 4 lines.
- When DVE or Resizer is used as image effects on images, the delay is +1/25 s (1 frame in 1080/50i, 2 frames in 2160/50p).
- Images output to MultiView displays are delayed by +1/25 s (1 frame in 1080/50i, 2 frames in 2160/50p).

■ Phase relationship between input and output signals

- With 1080/50i



- With 2160/50p



Setting the sync signal

The sync signal to be used by the system can be selected.

In external synchronization, it is synchronized with an external sync signal. (Genlock)

The Reference input signal is output using the loop-through method.

1 Select the <SYS> button → [SYSTEM] → [Video] tab.

2 Select an item in [Sync] in the [Reference] column.

- Select the sync signal.

[BB]	Black burst signal (vertical phase of 0H)
[BB Advanced]	Black burst signal When 59.94i or 59.94p is selected: Vertical phase of 90H When 50i or 50p is selected: Vertical phase of 75H
[Tri-level sync]	Tri-level sync signal (vertical phase of 0H)
[Internal]	Synchronizes with an internal reference signal (INT).
[ST2059]	This is the PTP synchronizing signal. Future support is planned.

- This unit supports synchronization signals for field frequencies that are the same as those of the system format.

3 Check the display in [Gen Lock] in the [Reference] column.

- Check the Genlock status.

[Unlocked]	Not synchronized with the external sync signal or internal reference signal.
[Locked]	Synchronized with the external sync signal or internal reference signal.

Other video signal settings

Setting the amount of delay in video effects

Check the amount of delay in background images or key images.

1 Select the <SYS> button → [SYSTEM] → [Video] tab.

2 Check the item in [BKGD]/[Key]/[DSK] in the [Latency] column.

[Minimum]	The video is not delayed.
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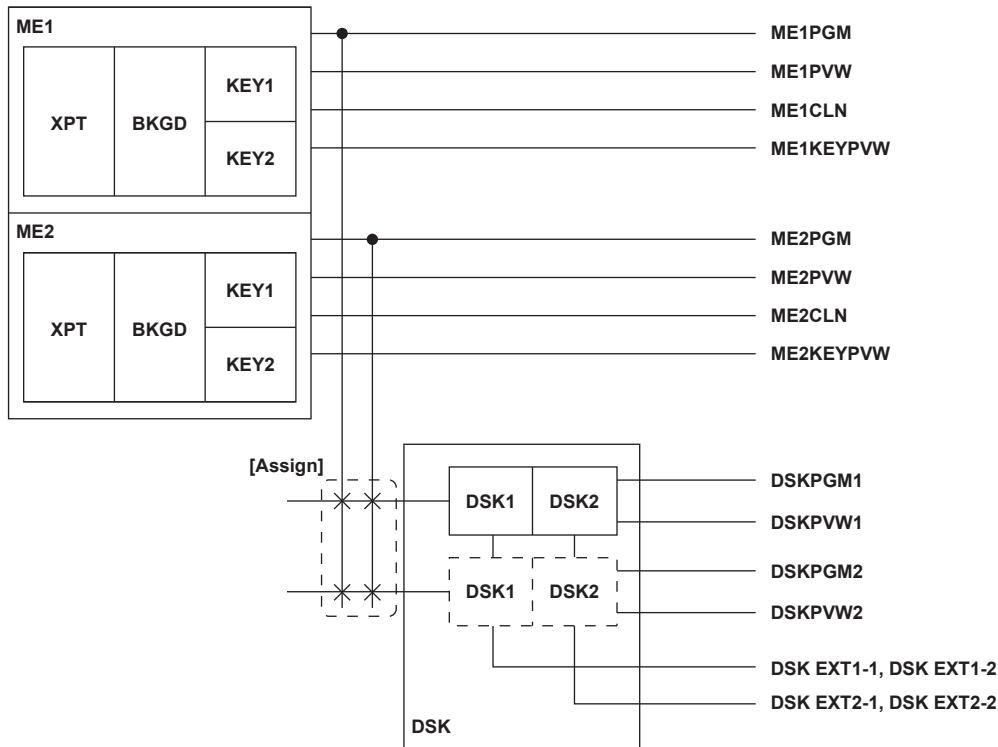
Network settings

For details on network settings, refer to "Network settings".

ME unit settings

Setting the ME output and DSK output

Video signals can be output in the ME1/ME2/DSK block as shown in the following figure. Each output can be assigned to the SDI OUT signal from the <IN OUT> button → [SDI OUT] → [Assign] tab.



Setting the ME1 CLN/ME2 CLN output

Clean signals (before key effects were added) can be output. Key Out signals using key combinations can also be output.

- 1 Select the <SYS> button → [ME SETTINGS] → [ME1,2] tab.
- 2 Select an item in [Key Select] in the [ME1 CLN]/[ME2 CLN] column.
 - Select the keyer from [Key1], [Key2].
- 3 Select an item in [CLN/KOUT] in the [ME1 CLN]/[ME2 CLN] column.

[Clean]	Outputs clean signals before key effects of the keyer set in [Key Select] in the [ME1 CLN]/[ME2 CLN] column were added.
[Keyout]	Outputs key signals for the keyer set in [Key Select] in the [ME1 CLN]/[ME2 CLN] column.
[Combined]	Outputs the combined key signal of KEY1, KEY2.

NOTE

- DSK clean signals are output by allocating to DSK EXT1-1, DSK EXT1-2, DSK EXT2-1, or DSK EXT2-2.
- DSK Key Out signals cannot be output.

Setting the ME1 KEYPVW/ME2 KEYPVW output

Preview output exclusive for key. Set whether to output signals with added keyer key effects to the PGM background.

It can be switched with the chroma key adjustment preview screen for the corresponding keyer when [Key1], [Key2] is selected on the top menu <ME1>/<ME2> button → [KEY1], [KEY2] → [Chroma] → [Sample] → [Chroma PVW].

- 1 Select the <SYS> button → [ME SETTINGS] → [ME1,2] tab.
- 2 Select an item in [Key1], [Key2], [PinP1], [PinP2] in the [ME1 KEYPVW]/[ME2 KEYPVW] column.

[On]	Signals with added key effects of the corresponding keyer is output.
[Off]	No signal is output.

- 3 Select an item in [Chroma PVW] in the [ME1 KEYPVW]/[ME2 KEYPVW] column.

[Enable]	Displays the preview screen for chroma key adjustment in each preview output.
[Disable]	Does not display the preview screen for chroma key adjustment in each preview output.

Setting the ME1 PVW/ME2 PVW output

A preview signal of the BKGD and KEY1, KEY2 which were selected in the next transaction can be output.

Select [Key1], [Key2] from the <ME1>/<ME2> button on the top menu → [KEY1], [KEY2] → [Chroma] → [Sample] → [Chroma PVW] to switch to the preview screen for chroma key adjustment of the corresponding keyer.

1 Select the <SYS> button → [ME SETTINGS] → [ME1,2] tab.

2 Select an item in [Key1], [Key2], [PinP1], [PinP2] in the [ME1 PVW]/[ME2 PVW] column.

[Off]	Does not output signals.
[On]	Outputs the preview signal of the corresponding keyer.

3 Select an item in [Chroma PVW] in the [ME1 PVW]/[ME2 PVW] column.

[Enable]	Displays the preview screen for chroma key adjustment in each preview output.
[Disable]	Does not display the preview screen for chroma key adjustment in each preview output.

Setting the DSKPGM1/DSKPGM2 output

Selects the video to be the base of DSKPGM1 and DSKPGM2.

1 Open the <SYS> button → [DSK SETTINGS] → [DSK Assign] tab.

2 Select an item in the [DSK Assign] column → [Assign Mode].

[Common]	<ul style="list-style-type: none"> Makes the base video for DSKPGM1 and DSKPGM2 the same. Setting of the [DSK Assign] column → [DSKPGM1] is applied to both DSKPGM1 and DSKPGM2.
[Each]	<ul style="list-style-type: none"> Different base videos can be set for DSKPGM1 and DSKPGM2. Settings of the [DSK Assign] column → [DSKPGM1] and [DSKPGM2] are applied to DSKPGM1 and DSKPGM2 respectively.

3 Select an item in the [DSK Assign] column → [DSKPGM1]/[DSKPGM2].

[ME1PGM], [ME2PGM]	ME1PGM and ME2PGM will be the base video, respectively.
[ME1CLN], [ME2CLN]	ME1CLN and ME2CLN will be the base video, respectively.

- For details of ME1CLN and ME2CLN output settings, refer to "Setting the ME1 CLN/ME2 CLN output".

Setting DSKPVW1/DSKPVW2 output

The unit can output 2 signals for preview output and clean output in addition to the DSKPGM1 or DSKPGM2 for program output as the DSK output.

- DSKPVW1: Signal for preview of DSKPGM1
- DSKPVW2: Signal for preview of DSKPGM2

Following signals can be assigned to the DSKPVW2 in addition to the signal for preview of DSKPGM2.

- DSK1PVW: Signal for individual preview of DSK1
- DSK2PVW: Signal for individual preview of DSK2

1 Select the <SYS> button → [DSK SETTINGS] → [DSK Out1]/[DSK Out2] tab.

2 Select an item in [Type], [DSK1], [DSK2] in the [DSK PGM1]/[DSK PGM2] column.

- Set [DSK PGM1]/[DSK PGM2].

3 Select an item in [Type], [DSK1], [DSK2] in the [DSK PVW1]/[DSK PVW2] column.

- Set [DSK PVW1]/[DSK PVW2].

4 Select an item in [Type], [DSK1], [DSK2] in the [DSK EXT1-1]/[DSK EXT1-2]/[DSK EXT2-1]/[DSK EXT2-2] column.

- Set [DSK EXT1-1]/[DSK EXT1-2]/[DSK EXT2-1]/[DSK EXT2-2].

5 Select an item in [Priority DSK1], [Priority DSK2] in the [Priority DSK1-2] column.

Setting the Control Panel

Settings for the control panel

Panel brightness and saver time can be set for each of the Control Panel.

Buzzer settings

Set when the buzzer sound on the menu panel is enabled or disabled.

- 1 Select the <PANEL> button → [OTHER SETTINGS] → [Panel1]/[Panel2]/[Panel3] tab.
- 2 Select an item in [Touch Sound]/[Register Sound]/[Error Sound] in the [Touch Sound] column.

[Touch Sound]	Sets the enable ([ON])/disable ([OFF]) of the buzzer sound during the touch screen operation in the menu panel.
[Register Sound]	Sets the enable ([ON])/disable ([OFF]) of the buzzer sound during the [Store] operation of the memory.
[Error Sound]	Sets the enable ([ON])/disable ([OFF]) of the buzzer sound when the error message is displayed.

Setting menu delegation

For details on the menu delegation function, refer to “Menu delegation function”.

Setting the saver time

The panel backlight can be automatically turned off when panel operation becomes idle for a certain period.

- This setting is applied to Menu Panel, multi-selection panel, and source name display panel.

- 1 Select the <PANEL> button → [OTHER SETTINGS] → [Panel1]/[Panel2]/[Panel3] tab.
- 2 Select an item in [Saver Time] in the [Saver Time] column.

[On]	Backlight is turned on all the time.
[Off]	The backlight turns off as soon as [Off] is set. It turns on again when the panel is operated. The setting after it turns on becomes [On].
[60], [120], [180]	When no control panel operation is performed within a set time interval (60, 120, or 180 minutes), the built-in display backlight is turned off automatically. It turns on again when the panel is operated.



NOTE

- The backlight does not turn on even if a mouse is used.

Setting the panel brightness

- 1 Select the <PANEL> button → [OTHER SETTINGS] → [Panel1]/[Panel2]/[Panel3] tab.
- 2 Set [MenuPanel] in the [Brightness] column.
 - Adjust the brightness of the Menu Panel.
- 3 Set [Select Panel] in the [Brightness] column.
 - Adjust the brightness of the multi-selection menu panel.
- 4 Set [Source Name] in the [Brightness] column.
 - Adjust the brightness of the source name display panel.

Setting the button color

The lighting color for each of the Control Panel buttons can be set.

Setting the colors when the buttons are turned on

- You can select [Red], [Green], [Yellow], [Orange], and [ColorGroup1] to [ColorGroup8].

- 1 Select the <PANEL> button → [BUTTON COLOR] → [Settings] tab.
- 2 Select an item in [High Tally] in the [Select Button] column.
 - Set the color of the button included in the on-air output.
 - Applicable buttons are the AUX bus crosspoint buttons, KEY bus crosspoint buttons, PGM/A bus crosspoint buttons, PST/B bus crosspoint buttons, corresponding buttons from <KEY1 TRNS>, <KEY2 TRNS>, <KEY3 TRNS>, <KEY4 TRNS> and buttons from <DSK1 TRNS>, <DSK2 TRNS>.
- 3 Select an item in [Low Tally] in the [Select Button] column.
 - Set the color of the button not included in the on-air output (except Preset).
 - Besides the AUX bus crosspoint buttons, KEY bus crosspoint buttons, the PGM/A bus crosspoint buttons, and the PST/B bus crosspoint buttons, other buttons excluding Preset are also included.
- 4 Select an item in [Preset (XPT)] in the [Select Button] column.
 - Set the color of the crosspoint button Preset button.

5 Select an item in [Preset (Other)] in the [Select Button] column.

- Set the color of the other buttons that still mean “Preset” other than the crosspoint button Preset button.

Setting the colors when the buttons are turned off

Set the buttons so that they will light dimly when they are turned off. The color of buttons that are turned off can be set at each block of the Control Panels.

- Select a color from [ColorGroup1] to [ColorGroup8].

1 Select the <PANEL> button → [BUTTON COLOR] → [Settings] tab.**2 Select an item in [XPT]/[Select Panel]/[BKGD]/[Key]/[Macro Attach]/[DSK]/[Common] in the [No Sel ME1]/[No Sel ME2]/[No Sel Other] column.**

- The applicable blocks of each item are as follows:
 - [XPT]: Crosspoint area
 - [Select Panel]: Multi-selection panel area
 - [BKGD]: Transition area
 - [Key]: Key operation area
 - [Macro Attach]: A button to which a macro memory is attached
 - [DSK]: DSK operation area
 - [Common]: Other buttons

[Input]*¹	Sets [ColorGroup1] through [ColorGroup8] for each source from the <NAME> button → [SDI IN]/[IP IN]/[INTERNAL]/[ME]/[DSK]/[AUX]/[MV] → [Panel Name] tab.
[ColorGroup1] to [ColorGroup8]	Sets any of 8 types of color.
[AssignableME]*²	Sets the button color to the ME color that was selected from the <SYS> button → [ME SETTINGS] → [DSK] tab → [DSK Assign] column.

*1 Setting item only for [XPT] in the [No Sel ME1]/[No Sel ME2]/[No Sel Other] column.

*2 Setting item only for [DSK] in the [No Sel Other] column.

Setting the brightness of buttons when they are turned off**1 Select the <PANEL> button → [OTHER SETTINGS] → [Panel1]/[Panel2]/[Panel3] tab.****2 Set [Button Dimmer] in the [Brightness] column.**

- Set the brightness of buttons that are OFF.

Setting the preset color of buttons when they are turned on**1 Select the <PANEL> button → [BUTTON COLOR] → [Color Group] tab.****2 Adjust the color.**

- While looking at the lighting status of the buttons, set [R], [G], and [B] in the [Color Group1] to [Color Group8] columns.

Setting the external connection

Setting a tally

Setting a tally group

- 1** Select the <SYS> button → [PERIPHERAL] → [Tally] tab.
- 2** Select an item in [Target A], [+Target B], [+Target C], [+Target D], [+Target E], [+Target F], [+Target G], and [+Target H] of the [Tally Group1 (On-Air)] column.
 - Set the reference output for [Tally Group1 (On-Air)] (on-air tally).
Off, ME1PGM, ME2PGM, DSKPGM1, DSKEXT1-1, DSKEXT1-2, DSKPGM2, DSKEXT2-1, DSKEXT2-2, AUX1 to AUX16
 - Since [Tally Group1 (On-Air)] is used exclusively for on-air tally, a preview output cannot be specified.
 - Tally information of sources that configure any of the outputs set in [Target A], [+Target B], [+Target C], [+Target D], [+Target E], [+Target F], [+Target G], and [+Target H] of the [Tally Group1 (On-Air)] column is generated.
- 3** Select an item in [Target A], [+Target B], [+Target C], [+Target D], [+Target E], [+Target F], [+Target G], and [+Target H] of columns [Tally Group2] to [Tally Group4].
 - Set the reference output for [Tally Group2] to [Tally Group4].
Off, ME1PGM, ME1PVW, ME2PGM, ME2PVW, DSKPGM1, DSKPVW1, DSKEXT1-1, DSKEXT1-2, DSKPGM2, DSKPVW2, DSKEXT2-1, DSKEXT2-2, AUX1 to AUX16
- 4** Select an item in [Color] in the [Tally Group1 (On-Air)]/[Tally Group2] to [Tally Group4] columns.
 - Select [Red], [Green], [Yellow], or [Orange] for the color to be used for the tally in the MultiView display.
 - Since [Tally Group1 (On-Air)] is exclusively for on-air tally, the color is fixed to [Red].

Tally display of the MultiView display

The MultiView display has 3 tally display targets: [Tally Box], [Tally Label L], and [Tally Label R].

For each of those areas, [Tally Group1] to [Tally Group4] are set and displayed.

- For details on the tally display of the MultiView display, refer to “Setting the tally display”.

High tally display and bus tally display of the button

The High tally and bus tally are displayed for the next button from [Tally Group1 (On-Air)] (on-air tally).

- Applicable buttons are the AUX bus crosspoint buttons, KEY bus crosspoint buttons, PGM/A bus crosspoint buttons, PST/B bus crosspoint buttons, corresponding buttons from <KEY1 TRNS>, <KEY2 TRNS>, <KEY3 TRNS>, <KEY4 TRNS> and buttons from <DSK1 TRNS>, <DSK2 TRNS>.

Boot operation settings

Boot mode settings

1 Select the <SYS> button → [BOOT] → [Boot] tab.

2 Select an item in the [Boot Mode] column.

- Select the status of the switcher when it boots up.

[Resume]	The switcher boots up with the settings as they were immediately before it was turned off.
[Initial]	The switcher boots up with the initial settings as they were when it was delivered.
[Project]	The switcher boots up with the settings found in the specified project file. <ul style="list-style-type: none"> • Specify the project file by selecting [File Select] and then specifying it in the file selection dialog. • It is not possible to make settings to the detailed items loaded from the specified project file.

Maintenance settings

Software and hardware version

Version information

Information on the software and hardware versions of this unit can be displayed.

- 1 Select the <SYS> button → [MAINTENANCE] → [Status] tab.
- 2 Check the [System Version] display in the [System Version] column.
 - Check the version of the overall system.

Updates

You can connect the PC to the LAN and then update the software of this unit via the browser on the PC.

For the latest software information and methods to upgrade the software version, refer to the following website.

<https://pro-av.panasonic.net/> (English only)

Alarm

In this unit, the next alarm message will appear as a popup.

For error displays, the indicator part of [ALARM] in Menu Panels is lit in red.

Alarm message

An alarm message is displayed in Menu Panel when an alarm has occurred.

Alarm message	Type of trouble	Solution
[ALARM! Fan Stop]	Shutdown of the cooling fan	The alarm message disappears if [OK] is selected. Contact your dealer immediately.
[ALARM! Power Failure]	Power supply problem	
[ALARM! Temperature]	Rise in the temperature inside the unit	

Alarm status displays

The next hardware alarm can be checked from the <SYS> button → [MAINTENANCE] → [Alarm] tab page. This page can be displayed even if [ALARM] of the Menu Panel is selected.

- 1 Select the <SYS> button → [MAINTENANCE] → [Alarm] tab.
- 2 Check the display of each item in the [Main Frame]/[Panel1]/[Panel2]/[Panel3] column.

[Power 1]	Displays the status of problems in the cooling fan or power inside the power supply 1.
[Power 2]	Displays the status of problems in the cooling fan or power inside the power supply 2.
[Fan]	Displays the problem status of the cooling fan. It is displayed in the [Main Frame] column.
[Temperature]	Displays the problem status of the internal temperature.

■ Display details

[No Alarm]	Shows that there are no problems.
[Alarm]	Shows that there is a problem.
[-]	Not a target for determination. <ul style="list-style-type: none"> • When a power supply unit is not mounted • When [OFF] is selected in each item of [Alarm Enable]

Enabling/disabling the alarm display

- 1 Select the <SYS> button → [MAINTENANCE] → [Alarm] tab.
- 2 Select an item in the [Alarm Enable] column.
 - Select the item in the [Alarm Enable] column which is in the column you want to set of the [Main Frame]/[Panel1]/[Panel2]/[Panel3] columns.

[ON]	Alarm detection is enabled.
[OFF]	Alarm detection is disabled.

Log file recording

Each type of information in this unit such as alarms, are recorded in the built-in log file.

Log files can be saved in a local computer connected to the LAN terminal of the Live Production Suite system.

- 1 Connect the Live Production Suite system and a computer.
 - Refer to “Connecting a computer” for connection instructions.
- 2 Enter the address (<http://192.168.0.10/log/log.txt>) in the Web browser of a computer.

- A log file is saved in an internal storage of the computer.
- Enter the IP address for the <LAN> terminal of the Live Production Suite system in the place of “192.168.0.10”. If the address has been changed from the default setting (192.168.0.90), enter the changed value. For details on IP address setting, refer to “Configuring the network for the Live Production Suite system”.

Initialization

Initializing the setting data

The setting data can be reset to factory settings.

1 Select the <SYS> button → [BOOT] → [Boot] tab.

2 Select [Initial].

- Select the mode to be initialized.

[Initial]	Initializes the unit. • Plug-in software is not deleted. • Network setting values are not initialized.
-----------	--

3 Select [OK] in the confirmation screen.

- Initialize the settings data.



NOTE

- When settings data is initialized, the still image data and moving image data saved in the video memory is deleted. Data stored in the Storage Module is not initialized.
- The setting of date and time is not initialized. (page 134)
- Initialization cannot be performed during video (Clip) recording/playback or during event memory playback.
- When you have deleted plug-in software, turn off the power, and restart the unit.
- There may be differences in the items displayed depending on the settings at the time of delivery.

Initializing the fader lever

The transition range of the fader lever can be initialized.

- Initialization should be performed when the fader lever becomes out of adjustment by moving the installation location, etc., and transitions are not completed even if the fader lever has been pushed as far as it will go.

1 Select the <SYS> button → [BOOT] → [Boot] tab.

2 Select [Panel1]/[Panel2]/[Panel3] in the [Fader Initial] column.

3 Select [OK] in the confirmation screen.

4 Move the fader lever back and forth once.

Maintenance

Confirmation of cumulative operating time

Confirm rough indication of the cumulative operating time of the Live Production Suite system, and the cumulative operating time of the power supply and cooling fan installed in the Live Production Suite system and the Control Panel.

1 Select the <SYS> button → [MAINTENANCE] → [Mainte] tab

2 Confirm each item in the [System Running] column.

[System]	Displays the count-up time when the Live Production Suite system is in operation.
----------	---

3 Confirm each item in the [Main Frame Running] column.

[Power 1]	Displays the count-up time when the power supply 1 of the Live Production Suite system is in operation.
[Power 2]	Displays the count-up time when the power supply 2 of the Live Production Suite system is in operation.
[Fan]	Displays the count-up time when the Live Production Suite system is in operation.

4 Confirm each item in the [Panel 1 Connecting]/[Panel 2 Connecting]/[Panel 3 Connecting] column.

[Power 1]	Displays the count-up time when the control panels are connected to the LAN terminal of the Live Production Suite system and each power supply 1 is in operation.
[Power 2]	Displays the count-up time when the control panels are connected to the LAN terminal of the Live Production Suite system and each power supply 2 is in operation.

 **NOTE**

- Each item in the [Panel 1 Connecting]/[Panel 2 Connecting]/[Panel 3 Connecting] columns will display the value counted up in the Live Production Suite system. Therefore, the displayed value will not change even if the control panel 1 or the control panel 2/3 connected to the Live Production Suite system is replaced.

Setting the date and time

The date and time to be used as the time stamp of the memory card can be set. Make sure to set them when using a memory card. They can be displayed on the split screens of the MultiView display.

Setting the date

- 1 Select the <SYS> button → [MAINTENANCE] → [Misc] tab.**
 - The date currently set will be loaded when the [Misc] tab page is opened.
- 2 Set the [Year], [Month], and [Date] in the [Date] column.**
 - Set the year, month, and day.
 - The date currently set will be reloaded if [Get] in the [Date] column is selected.
- 3 Select [Set] in the [Date] column.**
 - Modified items will be set.

Setting the time

- 1 Select the <SYS> button → [MAINTENANCE] → [Misc] tab.**
 - The time currently set will be loaded when the [Misc] tab page is opened.
- 2 Set the [Hour], [Minute], and [Second] in the [Time] column.**
 - Change the hour, minute, and second.
 - The time currently set will be reloaded if [Get] in the [Time] column is selected.
- 3 Select [Set] in the [Time] column.**
 - Modified items will be set.

Locking the menu operation

You can lock the secondary menus so that settings cannot be changed.

1 Select the <SYS> button → [MENU LOCK] → [Menu Lock] tab.

2 Select the relevant secondary menu, then select the item.

[OFF]	Enables changing of the settings of the corresponding secondary menu.
[ON]	Locks the settings of the corresponding secondary menu. The setting details can be checked.

■ Menus that can be locked

Menus that can be locked	Operation
Secondary menu of the <SYS> button • [SYSTEM], [BOOT], [ME SETTINGS], [DSK SETTINGS], [PERIPHERAL], [MAINTENANCE]	<SYS> button on the top menu → [MENU LOCK] → [Menu Lock] tab → [Menu Lock] column → [SYSTEM]/[BOOT]/[ME SETTINGS]/[DSK SETTINGS]/[PERIPHERAL]/[MAINTENANCE]
Secondary menu of the <PANEL> button • [BUTTON INHIBIT], [XPT ASSIGN], [PANEL CONFIG], [BUTTON COLOR], [OTHER SETTINGS]	<PANEL> button on the top menu → [MENU LOCK] → [Menu Lock] tab → [Menu Lock] column → [BUTTON INHIBIT]/[XPT ASSIGN]/[SW DELAY]/[PANEL CONFIG]/[BUTTON COLOR]/[OTHER SETTINGS]
Secondary menu of the <IN OUT> button • [OUT ASSIGN]	<SYS> button on the top menu → [MENU LOCK] → [Menu Lock] tab → [Menu Lock Other] column → [SDI OUT]
Secondary menu of the <PLG IN> button • [PLUGIN Maint]	<SYS> button on the top menu → [MENU LOCK] → [Menu Lock] tab → [Menu Lock Other] column → [PLUG IN]

NOTE

- Depending on the settings at the time of delivery, the menus may already be fixed to the locked state and this menu will not be displayed.

Chapter 9 **External Interfaces**

This chapter describes plug in functions.

Plug-in software

The unit allows plug-in software to be registered and functions to be added.

Plug-in software can be registered, deleted, or started through the <PLG IN> button on the top menu → [PLUGIN Maint] → [Configuration]/[Load] tab.

- For detailed information regarding the plug-in software, consult your dealer.

1 Select the <PLG IN> button → [PLUGIN Maint] → [Configuration]/[Load] tab.

2 Select an item in [Enable on boot] in the column which displays the name of the plug-in to be set.

- Set whether to start the plug-in software when the unit is started up.
- The [Enable on boot] setting takes effect the next time the unit is started up.

[On]	The plug-in software is started up when the unit is started up.
[Off]	The plug-in software is not started up when the unit is started up.

3 Select an item in the column which displays the name of the plug-in to be set.

[Version]	Displays the plug-in software version.
[Delete]	Deletes the plug-in software from the internal memory. • The corresponding plug-in software is deleted the next time the unit is started up.
[SD Load]	Loads the program from the memory card. • By registering the plug-in software, individual menu operation defined using the plug-in software becomes available. • The operations by this item are only valid on the menu panel. • When you have loaded plug-in software, turn off the power, and restart the unit.
[Local Load]	Loads the plug-in software saved in the computer. • By registering the plug-in software, individual menu operation defined using the plug-in software becomes available. • This function is available only in computers connected to the <LAN> terminal. • When you have loaded plug-in software, turn off the power, and restart the unit.

Chapter 10 Specifications

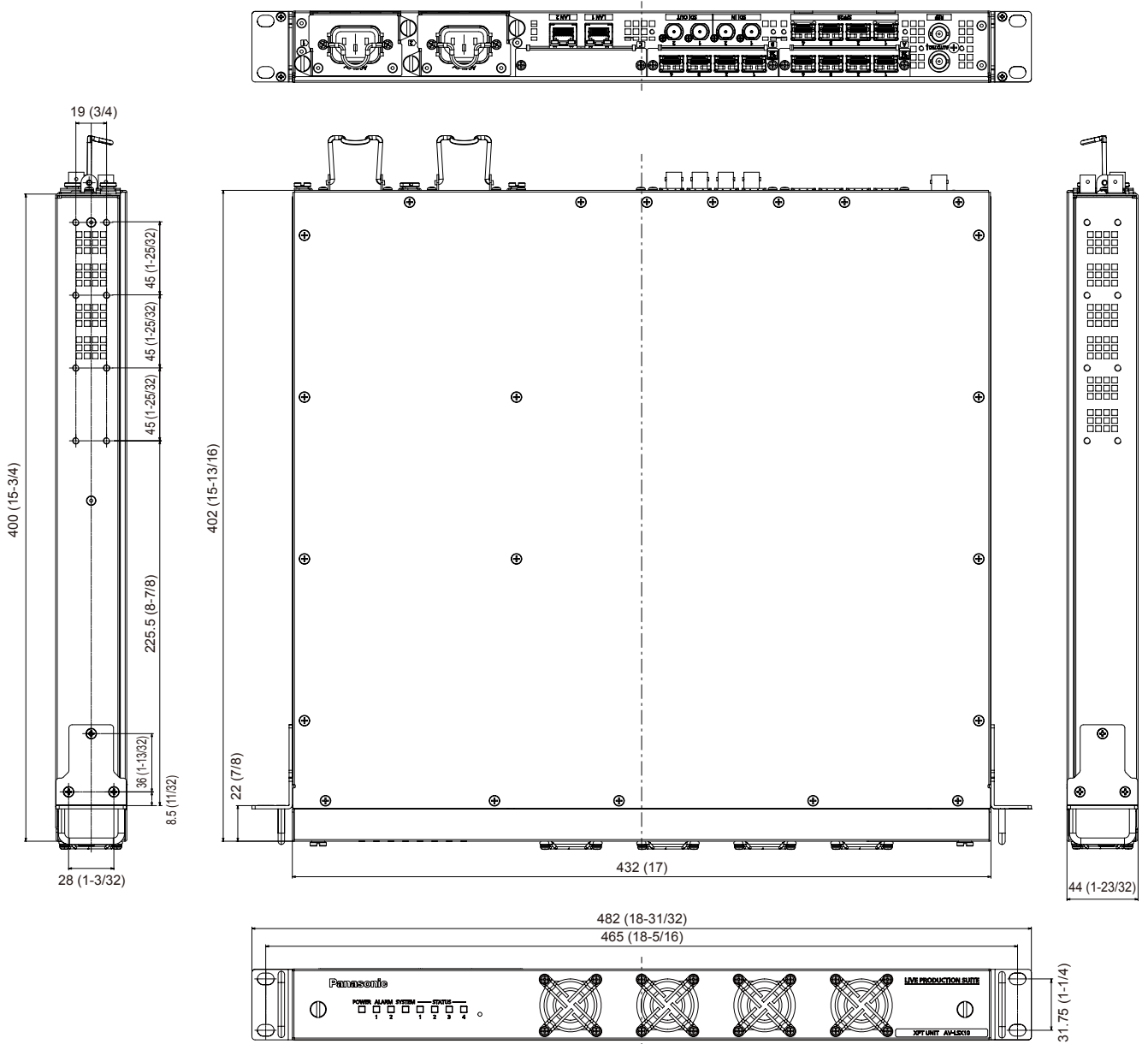
This chapter describes the dimensions and specifications of this product.

Unit: mm (inch)



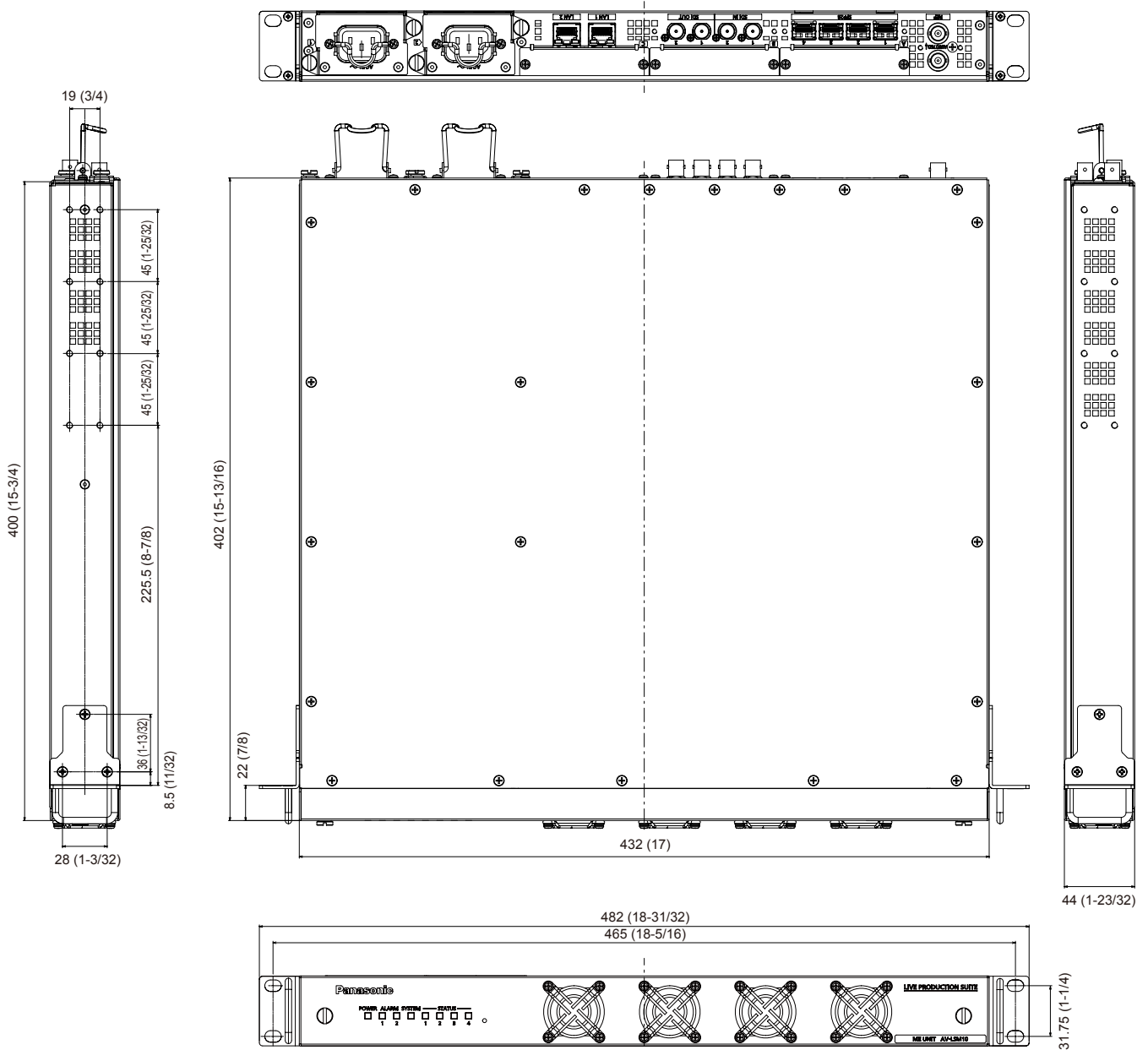
Dimensions of the XPT Unit AV-LSX10

Unit: mm (inch)



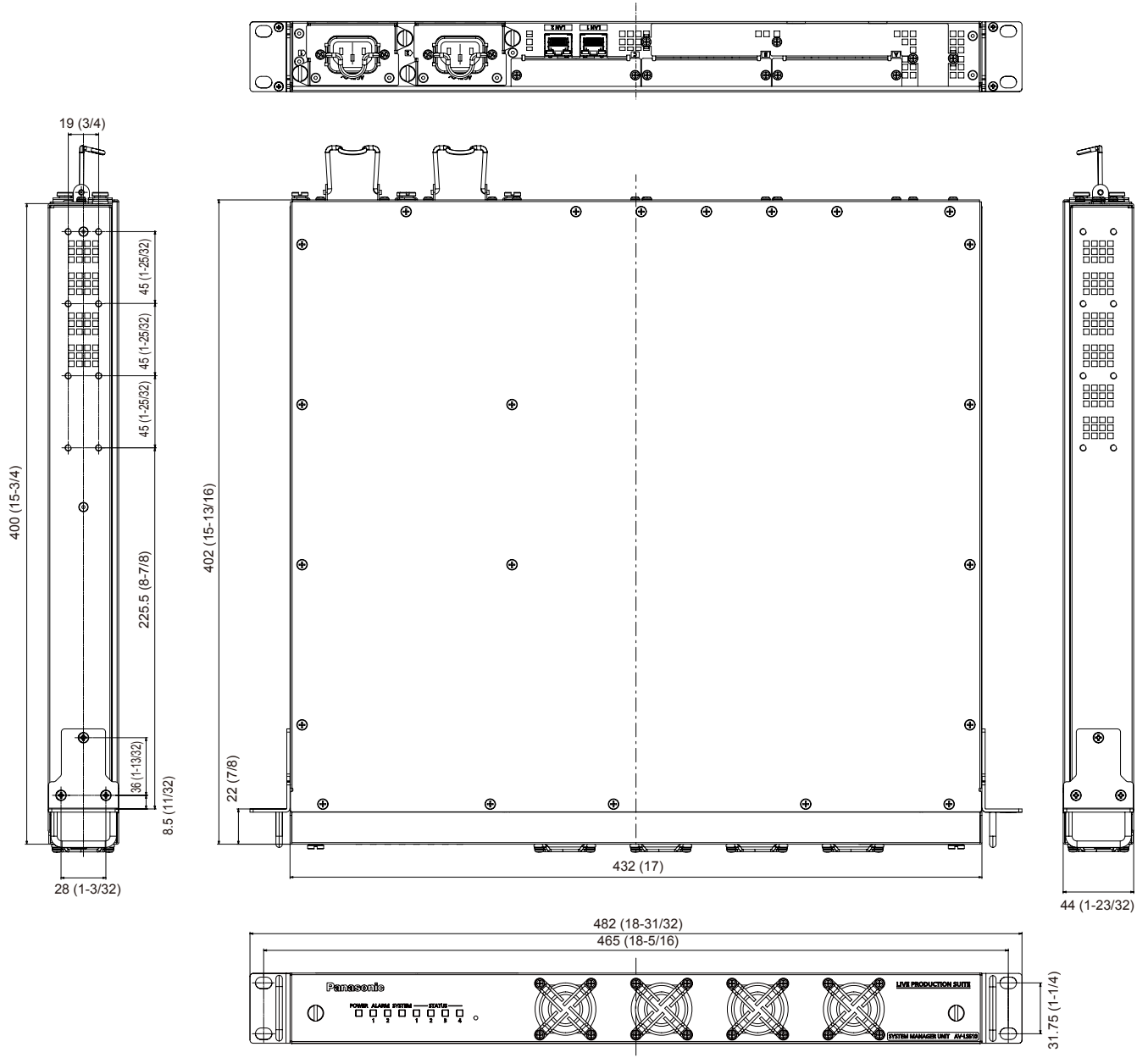
Dimensions of the ME Unit AV-LSM10

Unit: mm (inch)



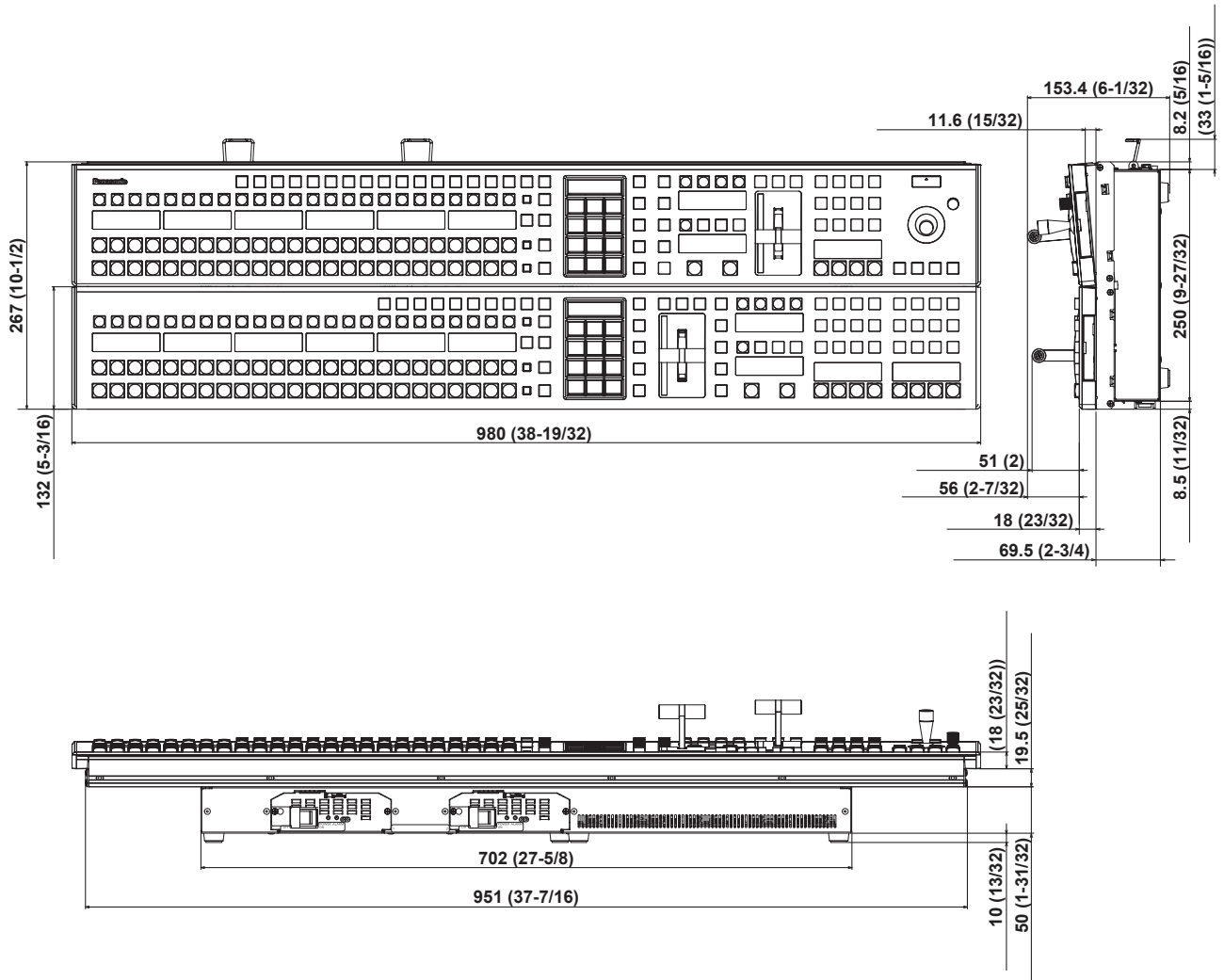
Dimensions of the System Manager Unit AV-LSS10

Unit: mm (inch)



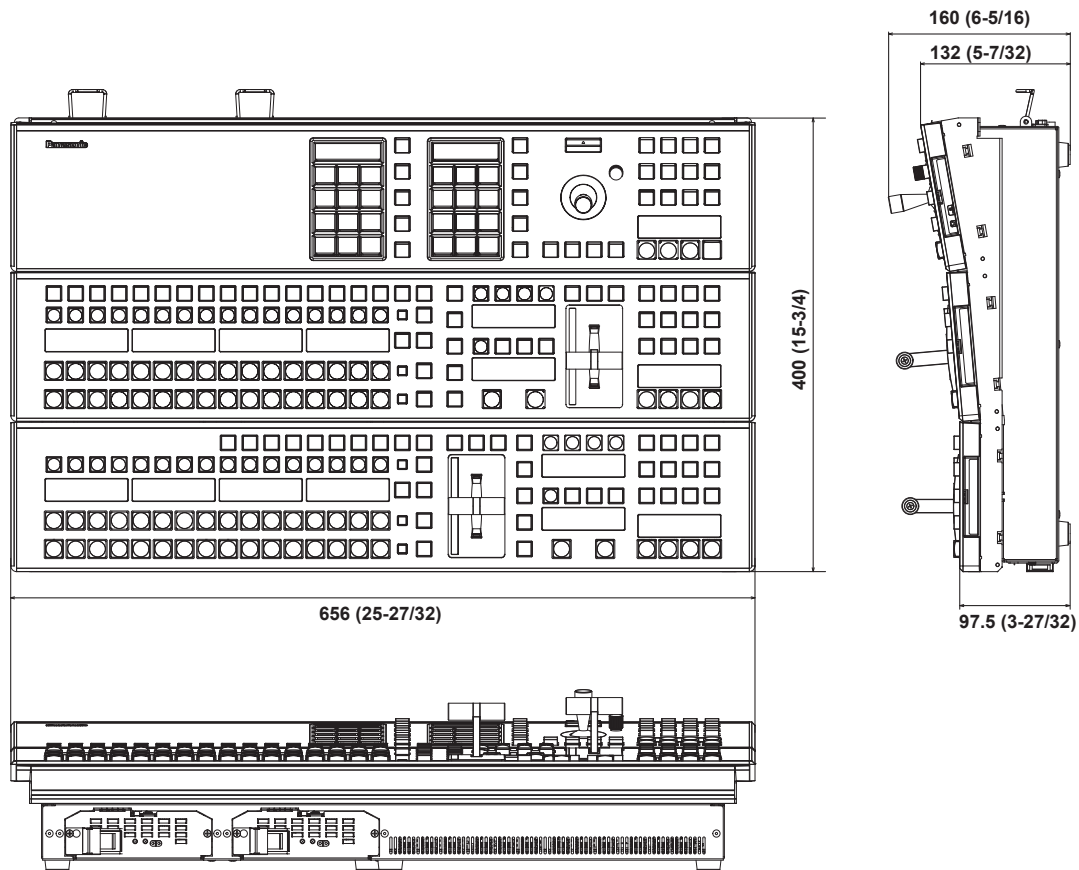
Dimensions of the Control Panel AV-HS60C2

Unit: mm (inch)



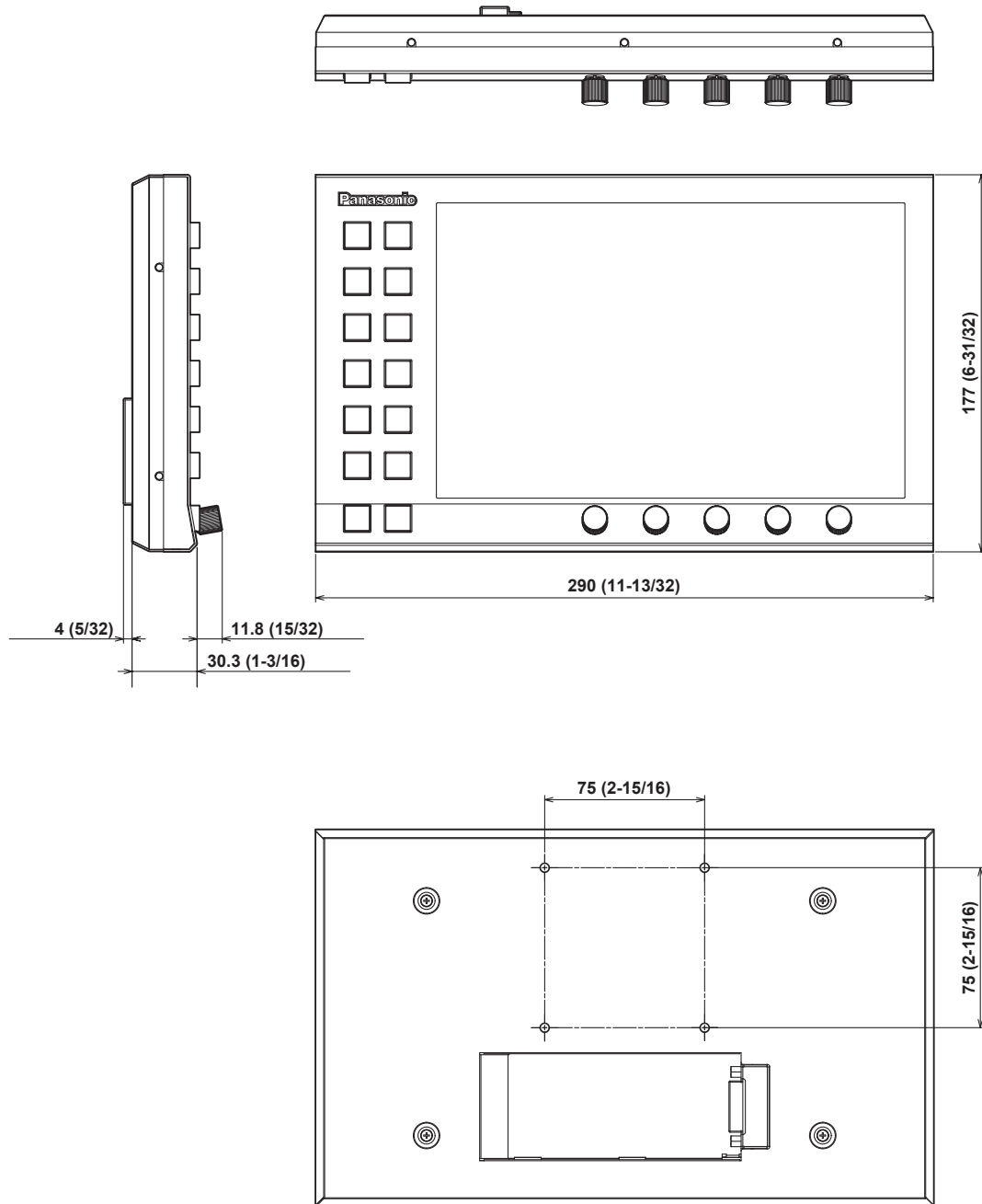
Dimensions of the Control Panel AV-HS60C4

Unit: mm (inch)



Dimensions of the Menu Panel AV-HS60C3

Unit: mm (inch)



Specifications

Gateway Unit AV-LSG10

Power supply/Current consumed

<AC IN 1> AC (⌚) 100 V to 240 V, 50 Hz/60 Hz, 1.5 A
 <AC IN 2> AC (⌚) 100 V to 240 V, 50 Hz/60 Hz, 1.5 A

Supports redundant power supply.

Power consumption 150 W

 indicates safety information.

Video terminal

<SDI IN A 1> to <SDI IN A 4> terminals <SDI IN B 1> to <SDI IN B 4> terminals <SDI IN 1>, <SDI IN 2> terminals	Maximum of 10 lines • Connectors: BNC×10 4K signal×10 lines	
	12G-SDI	12G serial digital, SMPTE2082 standard compliant (video signal only) • 11.88/1.001 Gbps
<SDI OUT C 1> to <SDI OUT C 4> terminals <SDI OUT 1>, <SDI OUT 2> terminals	Maximum of 6 lines • Connectors: BNC×6 4K signal×6 lines	12G serial digital, SMPTE2082 standard compliant (video signal only) • 11.88/1.001 Gbps
	• ME1PGM, ME1PVW, ME1CLN, ME1KEYPVW, ME2PGM, ME2PVW, ME2CLN, ME2KEYPVW, DSKPGM1, DSKPVW1, DSKEXT1-1, DSKEXT1-2, DSKPGM2, DSKPVW2, DSKEXT2-1, DSKEXT2-2, MV1, MV2, and AUX1 to AUX16 can be assigned.	
<SFP28 1> to <SFP28 4> terminals	• Connectors: SFP28 Used for connecting the XPT Unit. • Mellanox: Use MCP2M00-A001E30N.	
Signal formats	During 4K mode: 2160/59.94p, 2160/50p During Standard mode: 1080/59.94p, 1080/50p, 1080/59.94i, 1080/50i	
Signal processing	Y: P _B : P _R	4: 2: 2 10 bit

Synchronous terminal

<REF> terminal	In Genlock mode: Black burst or Tri-level Sync input signals (with loop-through) • If the loop-through output is not used, provide a 75 Ω termination. • Connector: BNC • Same field frequencies as those of the system formats supported The REF terminals cannot be used. Do not connect a cable.	
Video delay time	2 lines (H)	When the frame synchronizer is set to [Off]
	1 frame (F)	When the frame synchronizer is set to [On]
	• A delay is applied when via Resizer, DVE, or MultiView.	

Control terminal

<LAN1> terminal	Compatible with 1000BASE-T and AUTO-MDIX (For IP control) • Connection cable: LAN cable (CAT5E), max. 100 m (328 ft), STP (Shielded Twisted Pair cable recommended) • Connector: RJ-45
<LAN2> terminal	For a future expansion feature. Do not connect a cable.

Other

Ambient operating temperature	0 °C to 40 °C (32 °F to 104 °F)
Humidity	10% to 90% (no condensation)
Dimensions (W×H×D)	432 mm×44 mm×402 mm (17 inches×1-23/32 inches×15-13/16 inches) (excluding protrusions)
Mass	Approx. 6.4 kg (14.1 lbs.)


XPT Unit AV-LSX10

Power supply/Current consumed

<AC IN 1> AC (⌚) 100 V to 240 V, 50 Hz/60 Hz, 1.5 A
 <AC IN 2> AC (⌚) 100 V to 240 V, 50 Hz/60 Hz, 1.5 A

Supports redundant power supply.

Power consumption 150 W

 indicates safety information.

Video terminal

<SFP28 A 1> to <SFP28 A 4> terminals <SFP28 B 1> to <SFP28 B 4> terminals <SFP28 1> to <SFP28 4> terminals	<ul style="list-style-type: none"> Connectors: SFP28 Used for connecting the Gateway Unit/ME Unit. <ul style="list-style-type: none"> Mellanox: Use MCP2M00-A001E30N. 	
Signal formats	During 4K mode: 2160/59.94p, 2160/50p During Standard mode: 1080/59.94p, 1080/50p, 1080/59.94i, 1080/50i	
Signal processing	Y: P _B : P _R	4: 2: 2 10 bit
<SDI IN 1>, <SDI IN 2> terminals	The SDI IN terminals cannot be used. Do not connect a cable.	
<SDI OUT 1>, <SDI OUT 2> terminals	The SDI OUT terminals cannot be used. Do not connect a cable.	

Synchronous terminal

<REF> terminal	In Genlock mode: Black burst or Tri-level Sync input signals (with loop-through) <ul style="list-style-type: none"> If the loop-through output is not used, provide a 75 Ω termination. Connector: BNC Same field frequencies as those of the system formats supported
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Control terminal

<LAN1> terminal	Compatible with 1000BASE-T and AUTO-MDIX (For IP control) <ul style="list-style-type: none"> Connection cable: LAN cable (CAT5E), max. 100 m (328 ft), STP (Shielded Twisted Pair cable recommended) Connector: RJ-45
<LAN2> terminal	For a future expansion feature. Do not connect a cable.

Other

Ambient operating temperature	0 °C to 40 °C (32 °F to 104 °F)
Humidity	10% to 90% (no condensation)
Dimensions (W×H×D)	432 mm×44 mm×402 mm (17 inches×1-23/32 inches×15-13/16 inches) (excluding protrusions)
Mass	Approx. 6.5 kg (14.3 lbs.)


ME Unit AV-LSM10

Power supply/Current consumed

<AC IN 1> AC (⎓) 100 V to 240 V, 50 Hz/60 Hz, 1.5 A
 <AC IN 2> AC (⎓) 100 V to 240 V, 50 Hz/60 Hz, 1.5 A

Supports redundant power supply.

Power consumption 150 W

 indicates safety information.

Video terminal

<SFP28 1> to <SFP28 4> terminals	<ul style="list-style-type: none"> Connectors: SFP28 Used for connecting the XPT Unit. <ul style="list-style-type: none"> Mellanox: Use MCP2M00-A001E30N. 	
Signal formats	During 4K mode: 2160/59.94p, 2160/50p During Standard mode: 1080/59.94p, 1080/50p, 1080/59.94i, 1080/50i	
Signal processing	Y: P _B : P _R	4: 2: 2 10 bit
<SDI IN 1>, <SDI IN 2> terminals	The SDI IN terminals cannot be used. Do not connect a cable.	
<SDI OUT 1>, <SDI OUT 2> terminals	The SDI OUT terminals cannot be used. Do not connect a cable.	

Synchronous terminal

<REF> terminal	In Genlock mode: Black burst or Tri-level Sync input signals (with loop-through) <ul style="list-style-type: none"> If the loop-through output is not used, provide a 75 Ω termination. Connector: BNC Same field frequencies as those of the system formats supported The REF terminals cannot be used. Do not connect a cable.
----------------	--

Control terminal

<LAN1> terminal	Compatible with 1000BASE-T and AUTO-MDIX (For IP control) <ul style="list-style-type: none"> Connection cable: LAN cable (CAT5E), max. 100 m (328 ft), STP (Shielded Twisted Pair cable recommended) Connector: RJ-45
<LAN2> terminal	For a future expansion feature. Do not connect a cable.

Other

Ambient operating temperature	0 °C to 40 °C (32 °F to 104 °F)
Humidity	10% to 90% (no condensation)
Dimensions (W×H×D)	432 mm×44 mm×402 mm (17 inches×1-23/32 inches×15-13/16 inches) (excluding protrusions)
Mass	Approx. 6.4 kg (14.1 lbs.)


System Manager Unit AV-LSS10

Power supply/Current consumed

<AC IN 1> AC (∼) 100 V to 240 V, 50 Hz/60 Hz, 0.5 A
 <AC IN 2> AC (∼) 100 V to 240 V, 50 Hz/60 Hz, 0.5 A

Supports redundant power supply.

Power consumption 50 W

 indicates safety information.

Control terminal

<LAN1> terminal	Compatible with 1000BASE-T and AUTO-MDIX (For IP control) • Connection cable: LAN cable (CAT5E), max. 100 m (328 ft), STP (Shielded Twisted Pair cable recommended) • Connector: RJ-45
<LAN2> terminal	For a future expansion feature. Do not connect a cable.


Other

Ambient operating temperature	0 °C to 40 °C (32 °F to 104 °F)
Humidity	10% to 90% (no condensation)
Dimensions (W×H×D)	432 mm×44 mm×402 mm (17 inches×1-23/32 inches×15-13/16 inches) (excluding protrusions)
Mass	Approx. 5.7 kg (12.5 lbs.)

Control Panel AV-HS60C2

Power supply
AC ~ 100 V to 240 V, 50 Hz/60 Hz
Power consumption
40 W

Supports redundant power supply.

 indicates safety information.

Control terminal

<MAIN FRAME> terminal	Compatible with 100Base-TX and AUTO-MDIX • Connection cable: LAN cable (CAT5E), straight cable, STP (Shielded Twisted Pair), 10 m (32.8 ft) • Connector: RJ-45 * When connected to the <LAN> terminal, no video will be displayed on the Menu Panel AV-HS60C3.
<MENU PANEL> terminal	Used only for the Menu Panel AV-HS60C3 • Connector: DVI-D • Because an independent signal format is used, cannot be displayed on a DVI-D monitor. • Cannot be used concurrently with a DVI-D monitor (computer) connected to the <DVI-D> terminal. Select with the display selector switch.
<DVI-D> terminal	Used for displaying menus to the DVI monitor (computer) • Connector: DVI-D • Monitor resolution: 1366×768 compatible monitor • Cannot be used concurrently with the <MENU PANEL> terminal. Select with the display selector switch. This terminal cannot be used with the Live Production Suite series. Do not connect anything to this terminal.
<USB> terminal	For DVI monitor (computer) menu operation • Connector: USB (Type A, female) • Cannot be used for the Menu Panel AV-HS60C3. This terminal cannot be used with the Live Production Suite series. Do not connect anything to this terminal.
Display selector switch	Switch for selecting <MENU PANEL> terminal or <DVI-D> terminal This switch cannot be used with the Live Production Suite series. Fix this to the <MENU PANEL> side for use.
<COM1 (M)> terminal	RS-422 control terminal For master connection for controlling external devices • Connector: D-sub 9-pin (female), inch screw This terminal cannot be used with the Live Production Suite series. Do not connect anything to this terminal.
<COM2 (RS-232)> terminal	RS-232 control terminal For external device control connections • Connector: D-sub 9-pin (male), inch screw This terminal cannot be used with the Live Production Suite series. Do not connect anything to this terminal.
<GPI I/O> terminal	GPI IN: 8 inputs, general-purpose, photocoupler sensing ALARM OUT: 1 output, open collector output (negative logic) GPI OUT: 10 outputs, selected from general purpose, tally Open collector output • Connector: D-sub 25-pin (female), inch screw • Logic is switchable by menu. This terminal cannot be used with the Live Production Suite series. Do not connect anything to this terminal.
ME number	2ME

Other

Ambient operating temperature	0 °C to 40 °C (32 °F to 104 °F)
Humidity	10% to 90% (no condensation)
Dimensions (W×H×D)	980 mm×153.4 mm×267 mm (38-19/32 inches×6-1/32 inches×10-1/2 inches) (excluding protrusions)
Mass	Approx. 13.9 kg (30.6 lbs.) (excluding accessories)


■ For AV-HS60C2E

Inrush current, measured according to European standard EN55103-1, on initial switch-on: 3 A, after a supply interruption of 5 s: 25 A (Each mains input)

Control Panel AV-HS60C4

Power supply
AC ~ 100 V to 240 V, 50 Hz/60 Hz
Power consumption
40 W

Supports redundant power supply.

 indicates safety information.

Control terminal

<MAIN FRAME> terminal	Compatible with 100Base-TX and AUTO-MDIX • Connection cable: LAN cable (CAT5E), straight cable, STP (Shielded Twisted Pair), 10 m (32.8 ft) • Connector: RJ-45 * When connected to the <LAN> terminal, no video will be displayed on the Menu Panel AV-HS60C3.
<MENU PANEL> terminal	Used only for the Menu Panel AV-HS60C3 • Connector: DVI-D • Because an independent signal format is used, cannot be displayed on a DVI-D monitor. • Cannot be used concurrently with a DVI-D monitor (computer) connected to the <DVI-D> terminal. Select with the display selector switch.
<DVI-D> terminal	Used for displaying menus to the DVI monitor (computer) • Connector: DVI-D • Monitor resolution: 1366×768 compatible monitor • Cannot be used concurrently with the <MENU PANEL> terminal. Select with the display selector switch. This terminal cannot be used with the Live Production Suite series. Do not connect anything to this terminal.
<USB> terminal	For DVI monitor (computer) menu operation • Connector: USB (Type A, female) • Cannot be used for the Menu Panel AV-HS60C3. This terminal cannot be used with the Live Production Suite series. Do not connect anything to this terminal.
Display selector switch	Switch for selecting <MENU PANEL> terminal or <DVI-D> terminal This switch cannot be used with the Live Production Suite series. Fix this to the <MENU PANEL> side for use.
<COM1 (M)> terminal	RS-422 control terminal For master connection for controlling external devices • Connector: D-sub 9-pin (female), inch screw This terminal cannot be used with the Live Production Suite series. Do not connect anything to this terminal.
<COM2 (RS-232)> terminal	RS-232 control terminal For external device control connections • Connector: D-sub 9-pin (male), inch screw This terminal cannot be used with the Live Production Suite series. Do not connect anything to this terminal.
<GPI I/O> terminal	GPI IN: 8 inputs, general-purpose, photocoupler sensing ALARM OUT: 1 output, open collector output (negative logic) GPI OUT: 10 outputs, selected from general purpose, tally Open collector output • Connector: D-sub 25-pin (female), inch screw • Logic is switchable by menu. This terminal cannot be used with the Live Production Suite series. Do not connect anything to this terminal.
ME number	2ME

Other


Ambient operating temperature	0 °C to 40 °C (32 °F to 104 °F)
Humidity	10% to 90% (no condensation)
Dimensions (W×H×D)	656 mm×160 mm×400 mm (25-27/32 inches×6-5/16 inches×15-3/4 inches) (excluding protrusions)
Mass	Approx. 15.0 kg (33.1 lbs.) (excluding accessories)

■ For AV-HS60C4E

Inrush current, measured according to European standard EN55103-1, on initial switch-on: 3 A, after a supply interruption of 5 s: 25 A (Each mains input)

Menu Panel AV-HS60C3

Power supply
 DC === 12 V/0.54 A
 * Supplied from AV-HS60C2/AV-HS60C4 using supplied cable
 Power consumption
 6.48 W

 indicates safety information.

<CONTROL PANEL> terminal	Used only for the Control Panel AV-HS60C2/AV-HS60C4 <ul style="list-style-type: none"> • Connector: DVI-D • Because an independent signal format is used, DVI-D source cannot be displayed. • Cannot be used concurrently with a DVI-D monitor connected to the <DVI-D> terminal of the Control Panel AV-HS60C2/AV-HS60C4. Set the display selector switch of the Control Panel AV-HS60C2/AV-HS60C4 to the <MENU PANEL> terminal side.
Ambient operating temperature	0 °C to 40 °C (32 °F to 104 °F)
Humidity	10% to 90% (no condensation)
Dimensions (W×H×D)	290 mm×177 mm×46.1 mm (11-13/32 inches×6-31/32 inches×1-13/16 inches) (excluding protrusions) 4RU
Mass	Approx. 1.7 kg (3.7 lbs.) (excluding accessories)

Chapter 11 **Appendix**

This chapter describes the setting menu table and terms.

Setting menu table

This section describes the menu configuration. To perform menu operations, select the top menu → secondary menu → menu tab → item. For details on basic menu operations, refer to “Basic menu operations”.

NOTE

- This document shows the menus at their largest possible configuration. Some menu items may not be displayed, depending on the system delivered.
- The values and initial values in the columns and for the various items are standard values. Some may be different depending on the system delivered.

<ME1>/<ME2> button (top menu)

[KEY1]/[KEY2] (secondary menu)

[Key Setting] tab

Column	Item	Setting item	Default
[Key Type]	—	[Lum], [Linear], [Chroma], [Full]	[Linear]
—	[Lum Key]	[Chroma Off], [Chroma On]	[Chroma Off]
—	[Key Invert]	[OFF], [ON]	[OFF]
[Fill]	—	[Bus], [Matte]	[Bus]
[Source Type]	—	[Ext Key], [Self Key]	[Ext Key]
—	[Clean Key]	[OFF], [ON]	[OFF]
—	[Source Split]	[OFF], [ON]	[OFF]
[Mask]	[Mask]	[OFF], [ON]	[OFF]
	[Type]	[FG], [BG]	[FG]
	[Invert]	[OFF], [ON]	[OFF]
[Box Matte]	[Box Matte]	[OFF], [ON]	[OFF]
[Multi]	[H]	[1], [2], [4], [8]	[1]
	[V]	[1], [2], [4], [8]	[1]
	[H/V Sync]	[OFF], [ON]	[ON]
[Modulation]	[H Pattern]	[Sine], [Delta]	[Sine]
	[V Pattern]	[Sine], [Delta]	[Sine]

■ R menu of the [Key Setting] tab

R menu	Item	Setting item	Default
[Key Adjust]	[Clip]	[0.0] - [108.0]	[0.0]
	[Gain]	[0.0] - [200.0]	[100.0]
	[Density]	[0.0] - [100.0]	[100.0]
[Fill Matte]	—	(Color palette screen)	—
	[Hue]	[0.0] - [359.9]	[0.0]
	[Sat]	[0.0] - [100.0]	[0.0]
	[Lum]	[0.0] - [108.0]	[100.0]
[Mask Adjust]	[Left]	[–50.00] - [50.00]	[–25]
	[Top]	[–50.00] - [50.00]	[25.00]
	[Right]	[–50.00] - [50.00]	[25.00]
	[Bottom]	[–50.00] - [50.00]	[–25]
[Box Adjust]	[X]	[–50.00] - [50.00]	[0.00]
	[Y]	[–50.00] - [50.00]	[0.00]
	[H Size]	[0.00] - [100.00]	[50.00]
	[V Size]	[0.00] - [100.00]	[25.00]
	[Density]	[0.00] - [100.00]	[25.00]
[Box Matte]	—	(Color palette screen)	—
	[Hue]	[0.0] - [359.9]	[0.00]
	[Sat]	[0.0] - [100.0]	[0.00]
	[Lum]	[0.0] - [108.0]	[0.00]
[H Modulation]	[Amplitude]	[0.00] - [100.00]	[0.00]
	[Frequency]	[0.00] - [100.00]	[0.00]
	[Speed]	[–50] - [50]	[0]
[V Modulation]	[Amplitude]	[0.00] - [100.00]	[0.00]
	[Frequency]	[0.00] - [100.00]	[0.00]
	[Speed]	[–50] - [50]	[0]

[Transition] tab

Column	Item	Setting item	Default
[In Type]	—	[CUT], [MIX], [WIPE]	[CUT]
—	[In Time]	—	[01s00f]
—	[WIPE PATTERN]	(Wipe pattern screen)	—
[Out Type]	—	[CUT], [MIX], [WIPE]	[CUT]
—	[Out Time]	—	[01s00f]
—	[WIPE PATTERN]	(Wipe pattern screen)	[5]
[Position]	[Over Center]	[OFF], [ON]	[OFF]
[Key Transition Curve]	[MIX]	[Linear], [S Soft], [S Mid], [S Hard]	[Linear]
	[WIPE]	[Linear], [S Soft], [S Mid], [S Hard]	[Linear]

■ R menu of the [Transition] tab

R menu	Item	Setting item	Default
[In Time]	[In Time]	[0s00f] - [16s39f]	[01s00f]
[In Position]	[X-Pos]	[–100.00] - [100.00]	[0.00]
	[Y-Pos]	[–100.00] - [100.00]	[0.00]
[Out Time]	[Out Time]	[0s00f] - [16s39f]	[01s00f]
[Out Position]	[X-Pos]	[–100.00] - [100.00]	[0.00]
	[Y-Pos]	[–100.00] - [100.00]	[0.00]

[Chroma] tab

Column	Item	Setting item	Default
[Auto Compute]	[Auto Compute]	—	—
	[Reset]	—	—
[Adjust]	[Narrow]	[Off], [0.5], [1.0], [1.5]	[Off]
[Chroma PVW Mode]	—	[Off], [Key1], [Key2]	[Off]
[Chroma PVW View]	—	[Composite], [Matte], [Proc.FG], [FG]	[Composite]
[Sampling Mode]	—	[Select BG], [Clean BG], [Clean FG], [Sponge], [Fine Tuning]	[Select BG]
	[Sampling]	—	—
[Select BG]	[Point]	[OFF], [ON]	[OFF]
[Sponge]	[Sponge]	[Spill–], [Matte+], [FG Trans], [Detail+]	[Spill–]
—	[Undo]	—	—

■ R menu of the [Chroma] tab

R menu	Item	Setting item	Default
[Phase Adjust]	[Phase]	[–4.0] - [4.0]	[0.00]
[Sample Area]	[X-Pos]	[–50.00] - [50.00]	[0.00]
	[Y-Pos]	[–50.00] - [50.00]	[0.00]
	[Size]	[1.00] - [100.00]	[10.00]
[Fine Tuning]	[Spill]	[–1000] - [1000]	[0]
	[Trans]	[–1000] - [1000]	[0]
	[Detail]	[–1000] - [1000]	[0]

[PinP1], [PinP2] (secondary menu)**[Resizer] tab**

Column	Item	Setting item	Default
[Mask Shape]	[Mask Shape]	[Square], [Circle], [Heart], [Flower], [Star]	[Square]
[Trim(Square)]	[Trim]	[OFF], [ON]	[OFF]
	[Pair]	[OFF], [ON]	[OFF]
	[Preset]	[16:9], [12:9], [9:9], [7:9], [6:9], [Manual]	[16:9]
[Border]	[Border]	[OFF], [ON]	[OFF]
	[Mode]	[Fix], [Variable]	[Fix]

■ R menu of the [Resizer] tab

R menu	Item	Setting item	Default
[Position Size]	[X]	[-100.00] - [100.00]	[0.00]
	[Y]	[-100.00] - [100.00]	[0.00]
	[Size]	[0.00] - [100.00]	[25.00]
[Trim]	[Left]	[-50.00] - [50.00]	[-50.00]
	[Top]	[-50.00] - [50.00]	[50.00]
	[Right]	[-50.00] - [50.00]	[50.00]
	[Bottom]	[-50.00] - [50.00]	[-50.00]
[Border]	[Width]	[0.1] - [100.00]	[5.0]
	[Soft]	[0.0] - [100.0]	[0.0]
[Border Color]	—	(Color palette screen)	—
	[Hue]	[0.0] - [359.9]	[0.0]
	[Sat]	[0.0] - [100.0]	[0.0]
	[Lum]	[0.0] - [100.0]	[100.0]

[BKGD] (secondary menu)**[Transition] tab**

Column	Item	Setting item	Default
[Direction]	[N/R]	[OFF], [ON]	[ON]
	[Direction]	[Normal], [Reverse]	[Normal]
—	[AUTO Time]	—	[01s00f]
—	[Pattern Limit]	[OFF], [ON]	[OFF]
[Trans Type]	—	[MIX], [WIPE], [EMEM Link]	[MIX]
[NAM/CMIX]	[NAM/CMIX]	[OFF], [ON]	[OFF]
	[Type]	[NAM], [CMIX]	[NAM]
[WIPE Patt]	[WIPE Pattern]	(Wipe pattern screen)	[5]
[Trans Curve]	[MIX]	[Linear], [S Soft], [S Mid], [S Hard]	[Linear]
	[WIPE]	[Linear], [S Soft], [S Mid], [S Hard]	[Linear]
[Margin]	[Start / End]	[OFF], [ON]	[OFF]
	[Mid]	[OFF], [ON]	[ON]

[Transition] tab

Column	Item	Setting item	Default
[In Type]	—	[CUT], [MIX]	[CUT]
—	[In Time]	—	[01s00f]
[Out Type]	—	[CUT], [MIX]	[CUT]
—	[Out Time]	—	[01s00f]

■ R menu of the [Transition] tab

R menu	Item	Setting item	Default
[In Time]	[In Time]	[00s00f] - [19s49f]	[01s00f]
[Out Time]	[Out Time]	[00s00f] - [19s49f]	[01s00f]

■ R menu of the [Transition] tab

R menu	Item	Setting item	Default
[AUTO Time]	[AUTO Time]	[0s00f] - [19s49f]	[01s00f]
[Patt Limit]	[Size]	[1.00] - [99.00]	[50.00]
	[Return Time]	[0s00f] - [19s49f]	[01s00f]
[CMIX Matte]	—	(Color palette screen)	—
	[Hue]	[0.0] - [359.9]	[0.0]
	[Sat]	[0.0] - [100.0]	[0.0]
	[Lum]	[0.0] - [108.0]	[100.0]
[Margin Adjust]	[Start Point]	[0.0] - [100.0]	[0.0]
	[End Point]	[0.0] - [100.0]	[0.0]
	[Mid Margin]	[0] - [50]	[20]

[Border/Trim] tab

Column	Item	Setting item	Default
[Border]	[Border]	[OFF], [ON]	[OFF]
[Trim Mode]	—	[Off], [4:3 Smooth], [Manual]	[Manual]
[Trim]	[Pair]	[OFF], [ON]	[OFF]
	[Preset]	[16:9], [12:9], [9:9], [7:9], [6:9], [Manual]	[16:9]
	[Smooth]	[OFF], [ON]	[OFF]

■ R menu of the [Border/Trim] tab

R menu	Item	Setting item	Default
[Border]	[Width]	[0.1] - [100.0]	[5.0]
	[Soft]	[0.1] - [300.0]	[0.0]
[Border Matte]	—	(Color palette screen)	—
	[Hue]	[0.0] - [359.9]	[0.0]
	[Sat]	[0.0] - [100.0]	[0.0]
	[Lum]	[0.0] - [108.0]	[100.0]
[Trim]	[Left]	[−50.00] - [50.00]	[−50.00]
	[Top]	[−50.00] - [50.00]	[50.00]
	[Right]	[−50.00] - [50.00]	[50.00]
	[Bottom]	[−50.00] - [50.00]	[−50.00]
[Wipe Aspect]	[Wipe Aspect]	[−50.00] - [50.00]	[0.00]

[Pos/Modify] tab

Column	Item	Setting item	Default
[Position]	[Over Center]	[OFF], [ON]	[OFF]
[Spin Mode]	—	[Off], [Trans Spin], [Auto Spin], [Manual Spin]	[Off]
	—	[Priority]	[Auto], [Fix]
—	[Light]	[OFF], [ON]	[ON]
[Multi]	[H]	[1], [2], [4], [8]	[1]
	[V]	[1], [2], [4], [8]	[1]
	[H/V Sync]	[OFF], [ON]	[ON]
[Modulation]	[H Pattern]	[Sine], [Delta]	[Sine]
	[V Pattern]	[Sine], [Delta]	[Sine]

■ R menu of the [Pos/Modify] tab

R menu	Item	Setting item	Default
[Pos/Size]	[X]	[−200.00] - [200.00]	[0.00]
	[Y]	[−200.00] - [200.00]	[0.00]
	[Size]	[0.00] - [400.00]	[0.00]
[Mid Position]	[X]	[−100.00] - [100.00]	[−25.00]
	[Y]	[−100.00] - [100.00]	[25.00]
	[Size]	[0.00] - [100.00]	[50.00]
[Spin]	[X-Spin]	[−4.0] - [4.0]	[0.000]
	[Y-Spin]	[−4.0] - [4.0]	[0.000]
	[Z-Spin]	[−4.0] - [4.0]	[0.000]
[Page Turn]	[Size]	[0.0] - [100.0]	[100.0]
	[Radius]	[0.000] - [1.000]	[0.500]
	[Angle]	[−45] - [45]	[0]
[Ripple]	[Amplitude]	[0.00] - [100.00]	[50.00]
	[Frequency]	[0.00] - [100.00]	[50.00]
	[Speed]	[−50] - [50]	[0]
[H Modulation]	[Amplitude]	[0.00] - [100.00]	[0.00]
	[Frequency]	[0.00] - [100.00]	[0.00]
	[Speed]	[−50] - [50]	[0]
[V Modulation]	[Amplitude]	[0.00] - [100.00]	[0.00]
	[Frequency]	[0.00] - [100.00]	[0.00]
	[Speed]	[−50] - [50]	[0]

[MISC] (secondary menu)

[Key Priority] tab

Column	Item	Setting item	Default
[Key Priority]	[Key1]	[1st] - [4th]	[4th]
	[Key2]	[1st] - [4th]	[3rd]
	[PinP1]	[1st] - [4th]	[2nd]
	[PinP2]	[1st] - [4th]	[1st]

[Key Link] tab

Column	Item	Setting item	Default
[Key On Link]	[Key1], [Key2]	[Off], [Group1] - [Group4]	[Off]
	[PinP1], [PinP2]	[Off], [Group1]	[Off]

[Key On] tab

Column	Item	Setting item	Default
[Key On]	[Key1], [Key2]	[OFF], [ON]	[OFF]
	[PinP1], [PinP2]	[OFF], [ON]	[OFF]

<DSK> button (top menu)

[DSK1], [DSK2] (secondary menu)

[Key Setting] tab

Column	Item	Setting item	Default
[Key Type]	—	[Lum], [Linear]	[Linear]
	[Lum Key]	[Chroma Off], [Chroma On]	[Chroma Off]
—	[Key Invert]	[OFF], [ON]	[OFF]
[Fill]	—	[Bus], [Matte]	[Bus]
[Source Type]	—	[Ext Key], [Self Key]	[Ext Key]
	—	[Clean Key]	[OFF], [ON]
—	[Source Split]	[OFF], [ON]	[OFF]
[Mask]	[Mask]	[Off], [4:3], [Manual]	[Off]
	[Type]	[BG], [FG]	[FG]
	[Invert]	[OFF], [ON]	[OFF]

■ R menu of the [Key Setting] tab

R menu	Item	Setting item	Default
[Key Adjust]	[Clip]	[0.0] - [108.0]	[0.0]
	[Gain]	[0.0] - [200.0]	[100.0]
	[Density]	[0.0] - [100.0]	[100.0]
[Fill Matte]	—	(Color palette screen)	—
	[Hue]	[0.0] - [359.9]	[0.0]
	[Sat]	[0.0] - [100.0]	[0.0]
	[Lum]	[0.0] - [108.0]	[100.0]
[Mask Adjust]	[Left]	[−50.00] - [50.00]	[−25.00]
	[Top]	[−50.00] - [50.00]	[25.00]
	[Right]	[−50.00] - [50.00]	[25.00]
	[Bottom]	[−50.00] - [50.00]	[−25.00]

[Transition] tab

Column	Item	Setting item	Default
[In Type]	—	[CUT], [MIX]	[MIX]
—	[In Time]		[01s00f]
[Out Type]	—	[CUT], [MIX]	[MIX]
—	[Out Time]		[01s00f]
—	[In=Out]	[OFF], [ON]	[ON]

■ R menu of the [Transition] tab

R menu	Item	Setting item	Default
[In Time]	[In Time]	[0s00f] - [16s39f]	[01s00f]
[Out Time]	[Out Time]	[0s00f] - [16s39f]	[01s00f]

[MISC] (secondary menu)**[DSK Priority] tab**

Column	Item	Setting item	Default
[DSK Priority]	[DSK1]	[1st], [2nd]	[2nd]
	[DSK2]	[1st], [2nd]	[1st]

[DSK Link] tab

Column	Item	Setting item	Default
[DSK On Link]	[DSK1], [DSK2]	[Off], [Group1]	[Off]

[DSK On] tab

Column	Item	Setting item	Default
[DSK On]	[DSK1], [DSK2]	[OFF], [ON]	[OFF]

<MEM> button (top menu)**[STILL] (secondary menu)****[Still] tab**

Column	Item	Setting item	Default
—	[STILL1], [STILL2]	(Thumbnail screen) ([Key Enable OFF], [Key Enable ON])	—
—	[Capture]	—	—
—	[Input Disp]	[OFF], [ON]	[OFF]
[VMEM Bus Status]	[Fill]	(Assignment setting screen)	[Black]
	[Source]	(Assignment setting screen)	[Black]
—	[Source Split]	[OFF], [ON]	[OFF]
—	[Key Enable]	[OFF], [ON]	[ON]
—	[Memory Clear]	—	—

[Register] tab

Column	Item	Setting item	Default
—	[STILL1], [STILL2]	(Thumbnail screen) ([Key Enable OFF], [Key Enable ON])	—
—	[Recall]	([Recall] screen)	—
—	[Store]	([Store] screen)	—
—	[Misc]	([Misc] screen)	—

[SD/PC] tab

Column	Item	Setting item	Default
—	[STILL1], [STILL2]	(Thumbnail screen) ([Key Enable OFF], [Key Enable ON])	—
[SD]	[Recall]	([Recall] screen)	—
	[Store]	([Store] screen)	—
	[Misc]	([Misc] screen)	—
	[Create Thumb]	—	—
[PC]	[Recall]	([Recall] screen)*1	—
	[Store]	—	—

*1 The Windows [Recall] screen opens.

[CLIP] (secondary menu)**[Play Clip] tab**

Column	Item	Setting item	Default
—	[CLIP1]	(Thumbnail screen) ([Key Enable OFF], [Key Enable ON])	—
		(Current Frame)	
		(Total Frame)	
		(Frame Timeline)	
—	[CLIP2]	(Thumbnail screen) ([Key Enable OFF], [Key Enable ON])	—
		(Current Frame)	
		(Total Frame)	
		(Frame Timeline)	
—	[Play]	—	—
—	[Pause]	—	—
—	[<<Lead]	—	—
—	[>>Last]	—	—
—	[<Step]	—	—
—	[>Step]	—	—

■ R menu of the [Play Clip] tab

R menu	Item	Setting item	Default
[Setting Clip1], [Setting Clip2]	[Link Target]	[Off], [AUTO], [KEY1], [KEY2], [Rec], [Fader], [PinP1], [PinP2]	[Off]
	[Link ME]	[ME1], [ME2]	[ME1]
	[Mode]	[Lead], [Last], [Loop]	[Last]
	[Reverse]	[Off], [On]	[Off]
	[Variable]	[×1], [×2], [×4], [×8], [×1/2], [×1/4], [×1/8]	[×1]

[Rec Clip] tab

Column	Item	Setting item	Default
—	[CLIP1]	(Thumbnail screen) ([Key Enable OFF], [Key Enable ON])	—
		(Frame Timeline)	—
—	[CLIP2]	(Thumbnail screen) ([Key Enable OFF], [Key Enable ON])	—
		(Frame Timeline)	—
—	[Rec]	—	—
—	[Stop]	—	—
—	[Input Disp]	[OFF], [ON]	[OFF]
[VMEM Bus Status]	[Fill]	(Assignment setting screen)	[Black]
	[Source]	(Assignment setting screen)	[Black]
—	[Source Split]	[OFF], [ON]	[OFF]
[Rec Mode]	[Loop]	[OFF], [ON]	[OFF]
	[Quality]	[High], [Standard]	[Standard]
	[Key Enable]	[OFF], [ON]	[ON]
	[Limit Time]	—	—
	[Memory Clear]	—	—

■ R menu of the [Rec Clip] tab

R menu	Item	Setting item	Default
[Limit Time]	[Limit Time]	[00s01f] -	[09s00f]*1

*1 2160/50p: [09s00f], 2160/59p: [07s30f]

[Edit] tab

Column	Item	Setting item	Default
—	[CLIP1]	(Thumbnail screen) ([Key Enable OFF], [Key Enable ON])	—
		(Current Frame)	
		(Total Frame)	
		(Frame Timeline)	
—	[CLIP2]	(Thumbnail screen) ([Key Enable OFF], [Key Enable ON])	—
		(Current Frame)	
		(Total Frame)	
		(Frame Timeline)	
—	[Trim In]	—	—
—	[Trim Out]	—	—
—	[Trim In CLR]	—	—
—	[Trim Out CLR]	—	—
—	[Get Thumbnail]	—	—
—	[Play]	—	—
—	[Pause]	—	—
—	[<<Lead]	—	—
—	[>>Last]	—	—
—	[<Step]	—	—
—	[>Step]	—	—

[Register] tab

Column	Item	Setting item	Default
—	[CLIP1]	(Thumbnail screen) ([Key Enable OFF], [Key Enable ON])	—
		(Current Frame)	
		(Total Frame)	
		(Frame Timeline)	
—	[CLIP2]	(Thumbnail screen) ([Key Enable OFF], [Key Enable ON])	—
		(Current Frame)	
		(Total Frame)	
		(Frame Timeline)	
—	[Recall]	([Recall] screen)	—
—	[Store]	([Store] screen)	—
—	[Misc]	([Misc] screen)	—

[SD/PC] tab

Column	Item	Setting item	Default
—	[CLIP1]	(Thumbnail screen) ([Key Enable OFF], [Key Enable ON])	—
		(Current Frame)	
		(Total Frame)	
		(Frame Timeline)	
—	[CLIP2]	(Thumbnail screen) ([Key Enable OFF], [Key Enable ON])	—
		(Current Frame)	
		(Total Frame)	
		(Frame Timeline)	
[SD]	[Recall]* ¹	([Recall] screen)	—
	[Store]* ¹	([Store] screen)	—
	[Misc]* ¹	([Misc] screen)	—
	[Create Thumb]* ¹	—	—
[PC]	[Recall]	* ²	—
	[Store]	* ²	—

*¹ Can be set when a PC browser is selected.*² The [PC] related items are grayed out on the menu panel. In the [PC] column, the [SD] related items are grayed out.**[SHOT MEMORY] (secondary menu)****[Register] tab**

Column	Item	Setting item	Default
[Register]	[Recall]	—	—
	[Store]	—	—
	[Misc]	—	—
[Mode]	[Effect Dissolve]	[OFF], [ON]	[OFF]
	[Dissolve Time]	[00s00f] - [19s49f]	[01s10f]
	[Hue Path]	[Short], [Long], [CW], [CCW], [Step]	[CW]
[Store Select]	[ME1], [ME2]	[OFF], [ON]	[ON]
	[DSK]	[OFF], [ON]	[ON]
	[AUX]	[OFF], [ON]	[ON]
[Recall Select]	[ME1], [ME2]	[OFF], [ON]	[ON]
	[DSK]	[OFF], [ON]	[ON]
	[AUX]	[OFF], [ON]	[ON]

[Detail Select] tab

Column	Item	Setting item	Default
[Detail ME]	[BKGD]	[OFF], [ON]	[ON]
	[Key1], [Key2], [PinP1], [PinP2]	[OFF], [ON]	[ON]
[Detail XPT]	[A/B XPT]	[OFF], [ON]	[ON]
	[Key XPT]	[OFF], [ON]	[ON]
[Detail AUX]	[AUX Sel1] - [AUX Sel10]	[Off], [All]* ¹ , [AUX1] - [AUX16]	[Off]

*¹ Only when [AUX Sel1].**[Multi Select] tab**

Column	Item	Setting item	Default
[Select ME All]	[ME1], [ME2]	[OFF], [ON]	[OFF]
	[DSK]	[OFF], [ON]	[OFF]
	[AUX]	[OFF], [ON]	[OFF]

[EVENT MEMORY] (secondary menu)**[Prepare] tab**

Column	Item	Setting item	Default
[Target Select]	[ME1], [ME2]	[OFF], [ON]	[ON]
	[DSK]	[OFF], [ON]	[ON]
	[AUX]	[OFF], [ON]	[ON]
	[CBGD]	[OFF], [ON]	[ON]
	[CLIP]	[OFF], [ON]	[ON]
	[XPT]	[OFF], [ON]	[ON]
—	[Edit]	[OFF], [ON]	[OFF]
	[New]	—	—
[Fader Play]	[Link]	[Off], [ME1], [ME2]	[Off]
	[Mode]	[Total], [Paddle]	[Total]
[Play Setting]	[Play Mode]	[Normal], [Reverse]	[Normal]
	[Loop]	[OFF], [ON]	[OFF]

[Edit] tab

Column	Item	Setting item	Default
—	[Play]	—	—
—	[<<Lead] ([Last>>)]	—	—
[Path Setting]	[Trans Path]	[Linear], [Spline], [Step]	[Linear]
	[Hue Path]	[Short], [Long], [CW], [CCW], [Step]	[CW]
	[A/B XPT]	[OFF], [ON]	[ON]
	[Key XPT]	[OFF], [ON]	[ON]
—	[<Step]	—	—
—	[>Step]	—	—
[Mark Setting]	[Pause]	[OFF], [ON]	[OFF]
	[Clip]	[Off], [Clip1], [Clip2]	[Off]
—	[Set Total Dur.]	—	—
—	[Insert]	—	—
—	[Delete]	—	—
—	[Modify]	—	—
—	[Copy]	—	—
—	[Paste]	—	—
—	[Undo]	—	—

■ R menu of the [Edit] tab

R menu	Item	Setting item	Default
[Event Duration]	[Event Duration]	[00s01f] - [71m59s49f]	[01s00f]
[Total Duration]	[Total Duration]	[00s00f] - [71m59s49f]	[01s00f]

[Register] tab

Column	Item	Setting item	Default
[Register]	[Recall]	—	—
	[Store]	—	—
	[Misc]	—	—
[Play Setting]	[Direct/Next]	[Direct], [Next]	[Next]
	[Loop]	[OFF], [ON]	[OFF]

[Detail Select] tab

Column	Item	Setting item	Default
[Detail ME]	[BKGD]	[OFF], [ON]	[ON]
	[Key1], [Key2]	[OFF], [ON]	[ON]
	[PinP1], [PinP2]	[OFF], [ON]	[ON]
[Detail XPT]	[A/B XPT]	[OFF], [ON]	[ON]
	[Key XPT]	[OFF], [ON]	[ON]
[Detail Clip]	[Clip1], [Clip2]	[OFF], [ON]	[ON]
[Detail AUX]	[AUX Sel1] - [AUX Sel5]	[Off], [All]*1, [AUX1] - [AUX16]	[Off]

*1 Only when [AUX Sel1].

[Multi Select] tab

Column	Item	Setting item	Default
[Select ME All]	[ME1], [ME2]	[OFF], [ON]	[OFF]
	[DSK]	[OFF], [ON]	[OFF]
	[AUX]	[OFF], [ON]	[OFF]

[MACRO] (secondary menu)

[Macro] tab

Column	Item	Setting item	Default
[Status]	[Rec]	—	—
	[Play]	—	—
	[Pause]	—	—
	[Play Cancel]	—	—
	[Play Resume]	—	—
[Work Status]	[Current Event]	—	—
	[Total Event]	—	—
	[Used]	—	—
	[Remain]	—	—
[Rec]	[Rec]	—	—
	[Stop]	—	—
	[Back Delete]	—	—
[Edit]	[New]	—	—
	[Insert Delay]	—	—
	[Delay Time]	[00s00f] - [12s00f]	[01s00f]
	[Insert Pause]	—	—
[Play]	[Play]	—	—

[Register] tab

Column	Item	Setting item	Default
[Register]	[Recall]	—	—
	[Store]	—	—
	[Misc]	—	—
[Store Select]	[ME1], [ME2]	[OFF], [ON]	[ON]

[Macro Attach] tab

The assignment setting screen is displayed.

[Attach Enable] tab

Column	Item	Setting item	Default
[Panel1]	[ME1], [ME2]	[OFF], [ON]	[OFF]
[Panel2]	[ME1], [ME2]	[OFF], [ON]	[OFF]
[Panel3]	[ME1], [ME2]	[OFF], [ON]	[OFF]

[XPT Panel1] - [XPT Panel3] tabs

The assignment setting screen is displayed.

[KEY PRESET] (secondary menu)

[Register] tab

Column	Item	Setting item	Default
[Recall Sel]	[XPT]	[OFF], [ON]	[OFF]
	[Key Effect]	[OFF], [ON]	[OFF]
	[Key Trans]	[OFF], [ON]	[OFF]
[Long Push]	[Panel]	[Store], [Delete], [Disable]	[Store]

<OPR> button (top menu)**[BUS OPR ME1-2] (secondary menu)****[ME1], [ME2] tabs**

Column	Item	Setting item	Default
—	[A/PGM]	(Assignment setting screen)	[Black]
	[B/PST]	(Assignment setting screen)	[Black]
[Key1], [Key2]	[Fill]	(Assignment setting screen)	[Black]
	[Source]	(Assignment setting screen)	[Black]
[PinP1]	[Fill]	(Assignment setting screen)	[Black]
[PinP2]	[Fill]	(Assignment setting screen)	[Black]

[BUS OPR OTHERS] (secondary menu)**[DSK] tab**

Column	Item	Setting item	Default
[DSK1], [DSK2]	[Fill]	(Assignment setting screen)	[Black]
	[Source]	(Assignment setting screen)	[Black]

[AUX 1-16] tab

Column	Item	Setting item	Default
[AUX1] - [AUX16]	[AUX1] - [AUX16]	(Assignment setting screen)	[Black]

[SOURCE LINK] (secondary menu)**[Key Assign] tab**

The assignment setting screen is displayed.

[VMEM] tab

Column	Item	Setting item	Default
[VMEM]	[Fill]	(Assignment setting screen)	[Black]
	[Source]	(Assignment setting screen)	[Black]

[AUX Bus Link] tab

Column	Item	Setting item	Default
[AUX1-10 Link]	[AUX1/2 Link] - [AUX9/10 Link]	[OFF], [ON]	[OFF]
[AUX11-16 Link]	[AUX11/12 Link] - [AUX15/16 Link]	[OFF], [ON]	[OFF]

[OTHER SETTINGS] (secondary menu)**[Transition] tab**

Column	Item	Setting item	Default
[Time Unit]	[Time Unit]	[Sec/Frame], [Frame]	[Sec/Frame]
[FTB]	[FTB On]	[OFF], [ON]	[OFF]
	[Source]	[Still1], [Still2], [Clip1], [Clip2], [CBGD 1], [CBGD 2], [White], [Black]	[Black]
	[Time]	[00s00f] - [16s39f]	[01s00f]
[AUX Trans]	[AUX1] - [AUX4]	[OFF], [ON]	[OFF]
[Trans Time]	[AUX1] - [AUX4]	[00s00f] - [19s49f]	[01s00f]
[BKGD WIPE]	[N/R Recall]	[Preset], [N], [Fader Dir]	[Fader Dir]
[Pattern Limit]	[Mix Enable]	[OFF], [ON]	[OFF]

[Bus Mode] tab

Column	Item	Setting item	Default
[Bus Mode]	[Bus Mode]	[A/B], [PGM-A/PST-B], [PGM-B/PST-A]	[PGM-A/PST-B]
	[Bus Mode Type]	[Common], [Each]	[Common]
[Each Bus Mode]	[Bus Mode ME1], [Bus Mode ME2]	[A/B], [PGM-A/PST-B], [PGM-B/PST-A]	[PGM-A/PST-B]

[Page Mode] tab

Column	Item	Setting item	Default
[Page Mode]	[2nd Page Button]	[Normal], [Page Lock]	[Normal]
	[3rd Page Button]	[Normal], [Page Lock]	[Normal]
	[Page Mode Type]	[Common], [Each]	[Common]
[2nd Page Each Mode]	[Page Button ME1], [Page Button ME2]	[Normal], [Page Lock]	[Normal]
[3rd Page Each Mode]	[Page Button ME1], [Page Button ME2]	[Normal], [Page Lock]	[Normal]

[Key] tab

Column	Item	Setting item	Default
[Key Source Preset]	[Source Preset]	[Disable], [Enable]	[Enable]
	[Keyer Link]	[Disable], [Enable]	[Disable]

[MENU LOCK] (secondary menu)**[Menu Lock] tab**

Column	Item	Setting item	Default
[Menu Lock]	[BUS OPR ME]	[OFF], [ON]	[OFF]
	[BUS OPR OTHERS]	[OFF], [ON]	[OFF]
	[SOURCE LINK]	[OFF], [ON]	[OFF]
	[OTHER SETTINGS]	[OFF], [ON]	[OFF]

<CBGD> button (top menu)**[CBGD] (secondary menu)****[CBGD] tab**

Column	Item	Setting item	Default
[CBGD1], [CBGD2]	[Wash]	[OFF], [ON]	[OFF]
	[Color Type]	[Dual], [Rainbow]	[Dual]
	[Pattern]	[Sine], [Saw]	[Sine]
	[Move Type]	[Off], [Roll], [Rotation]	[Off]

■ R menu of the [CBGD] tab

R menu	Item	Setting item	Default
[Main Color]	—	(Color palette screen)	—
	[Hue]	[0.0] - [359.9]	[120.0]*1
	[Sat]	[0.0] - [100.0]	[100.0]
	[Lum]	[0.0] - [108.0]	[100.0]
[Sub Color]	—	(Color palette screen)	—
	[Hue]	[0.0] - [359.9]	[0.0]
	[Sat]	[0.0] - [100.0]	[0.0]
	[Lum]	[0.0] - [108.0]	[100.0]
[Rainbow]	[Rainbow Sat]	[0.0] - [100.0]	[100.0]
	[Rainbow Lum]	[0.0] - [108.0]	[100.0]
[Wave]	[Cycle]	[0.0] - [100.0]	[0.0]
	[Phase]	[−180.0] - [180.0]	[0.0]
	[Angle]	[0.0] - [360.0]	[90.0]
	[Speed]	[−50.0] - [50.0]	[1.0]

*1 [CBGD1]: [120.0], [CBGD2]: [0.0]

<PRJ> button (top menu)**[PROJECT] (secondary menu)****[Storage] tab**

Column	Item	Setting item	Default
[Last Load File]	[Media]	—	—
	[Folder Name]	—	—
	[File Name]	—	—
[Last Load Date]	[Date]	—	—
[SD]	[Load]	([SD Recall] screen)	—
	[Save]	([SD Store] screen)	—
	[Misc]	([SD Misc] screen)	—
	[Format]	—	—
[Internal]	[Load]	([Internal Storage Load] screen)	—
	[Save]	([Internal Storage Save] screen)	—
	[Misc]	([Internal Storage Misc] screen)	—
[PC]	[Load]	*1	—
	[Save]	*1	—

*1 The [PC] related items are grayed out on the menu panel. In the [PC] column, the [SD] related items are grayed out.

<MV> button (top menu)**[MV1-2] (secondary menu)****[MV1], [MV2] tabs**

Column	Item	Setting item	Default
[Pattern]	[Split]	[4Split], [5-aSplit], [5-bSplit], [6-aSplit], [6-bSplit], [9Split], [10-aSplit], [10-bSplit], [16Split]	[10-aSplit]
	[Size]	[Fit], [SQ]	[SQ]
	[Assign]	(Assignment setting screen)	—
[MV Frame]	[Frame]	[LUM 0%], [LUM 25%], [LUM 50%], [LUM 75%], [LUM 100%], [Off]	[LUM 75%]
	[Character]	[LUM 0%], [LUM 25%], [LUM 50%], [LUM 75%], [LUM 100%], [Off]	[LUM 75%]
	[Label]	[OFF], [ON]	[ON]
[Tally Box]	[Tally Group1] - [Tally Group4]	[OFF], [ON]	[OFF]
[Tally Label L]	[Tally Group1] - [Tally Group4]	[OFF], [ON]	[OFF]
[Tally Label R]	[Tally Group1] - [Tally Group4]	[OFF], [ON]	[OFF]
[Display]	[Input Status]	[OFF], [ON]	[ON]
	[Marker]	[Off], [4:3], [16:9]	[Off]
	[Marker Size]	[80%] - [100%]	[95%]

<PANEL> button (top menu)**[BUTTON INHIBIT] (secondary menu)****[Panel1], [Panel2], [Panel3] tabs**

The assignment setting screen is displayed.

[XPT ASSIGN] (secondary menu)**[Panel1], [Panel2], [Panel3] tabs**

The assignment setting screen is displayed.

[PANEL CONFIG] (secondary menu)**[ME Change] tab**

Column	Item	Setting item	Default
[Panel1]	[1st Line]	[ME1], [ME2]	[ME1]
	[2nd Line]	[ME1], [ME2]	[ME2]
[Panel2]	[1st Line]	[ME1], [ME2]	[ME1]
	[2nd Line]	[ME1], [ME2]	[ME2]
[Panel3]	[1st Line]	[ME1], [ME2]	[ME1]
	[2nd Line]	[ME1], [ME2]	[ME2]

[BUTTON COLOR] (secondary menu)**[Settings] tab**

Column	Item	Setting item	Default
[Select Button]	[High Tally]	[Red], [Green], [Yellow], [Orange], [ColorGroup1] - [ColorGroup8]	[Red]
	[Low Tally]	[Red], [Green], [Yellow], [Orange], [ColorGroup1] - [ColorGroup8]	[Yellow]
	[Preset (XPT)]	[Red], [Green], [Yellow], [Orange], [ColorGroup1] - [ColorGroup8]	[Green]
	[Preset (Other)]	[Red], [Green], [Yellow], [Orange], [ColorGroup1] - [ColorGroup8]	[Green]
[No Sel ME1] [No Sel ME2]	[XPT]	[Input], [ColorGroup1] - [ColorGroup8]	[Input]
	[Select Panel]	[ColorGroup1] - [ColorGroup8]	[ColorGroup1]
	[BKGD]	[ColorGroup1] - [ColorGroup8]	[ColorGroup1]
	[Key]	[ColorGroup1] - [ColorGroup8]	[ColorGroup1]
[No Sel Other]	[Macro Attach]	[ColorGroup1] - [ColorGroup8]	[ColorGroup1]
	[DSK]	[ColorGroup1] - [ColorGroup8], [AssignableME]	[AssignableME]
	[Common]	[ColorGroup1] - [ColorGroup8]	[ColorGroup1]

[Color Group] tab

Column	Item	Setting item	Default
[Color Group1]	[R]	[0.0] - [1.5]	[1.0]
	[G]	[0.0] - [1.5]	[1.0]
	[B]	[0.0] - [1.5]	[1.0]
[Color Group2]	[R]	[0.0] - [1.5]	[1.0]
	[G]	[0.0] - [1.5]	[1.0]
	[B]	[0.0] - [1.5]	[0.0]
[Color Group3]	[R]	[0.0] - [1.5]	[0.0]
	[G]	[0.0] - [1.5]	[1.0]
	[B]	[0.0] - [1.5]	[1.0]
[Color Group4]	[R]	[0.0] - [1.5]	[0.0]
	[G]	[0.0] - [1.5]	[1.0]
	[B]	[0.0] - [1.5]	[0.0]
[Color Group5]	[R]	[0.0] - [1.5]	[1.0]
	[G]	[0.0] - [1.5]	[0.0]
	[B]	[0.0] - [1.5]	[1.0]
[Color Group6]	[R]	[0.0] - [1.5]	[1.0]
	[G]	[0.0] - [1.5]	[0.0]
	[B]	[0.0] - [1.5]	[0.0]
[Color Group7]	[R]	[0.0] - [1.5]	[0.0]
	[G]	[0.0] - [1.5]	[0.0]
	[B]	[0.0] - [1.5]	[1.0]
[Color Group8]	[R]	[0.0] - [1.5]	[0.0]
	[G]	[0.0] - [1.5]	[0.0]
	[B]	[0.0] - [1.5]	[0.0]

[OTHER SETTINGS] (secondary menu)**[Panel1] - [Panel3] tabs**

Column	Item	Setting item	Default
[Touch Sound]	[Touch Sound]	[OFF], [ON]	[OFF]
	[Register Sound]	[OFF], [ON]	[ON]
	[Error Sound]	[OFF], [ON]	[ON]
[Delegation]	[Menu Panel]	[OFF], [ON]	[ON]
	[Select Panel]	[OFF], [ON]	[ON]
[Saver Time]	[Saver Time]	[Off], [On], [60], [120], [180]	[On]
[Brightness]	[Menu Panel]	[0.6] - [1.3]	[1.0]
	[Select Panel]	[0.7] - [1.3]	[1.0]
	[Source Name]	[0.6] - [1.4]	[1.0]
	[Button Dimmer]	[0.0] - [1.0]	[0.2]
[Network]	[IP Address]	—	[192.168.0.7]*1

*1 [Panel2]: [192.168.0.8], [Panel3]: [192.168.0.9]

[MENU LOCK] (secondary menu)**[Menu Lock] tab**

Column	Item	Setting item	Default
[Menu Lock]	[BUTTON INHIBIT]	[OFF], [ON]	[OFF]
	[XPT ASSIGN]	[OFF], [ON]	[OFF]
	[PANEL CONFIG]	[OFF], [ON]	[OFF]
	[BUTTON COLOR]	[OFF], [ON]	[OFF]
	[OTHER SETTINGS]	[OFF], [ON]	[OFF]

<NAME> button (top menu)**[SDI IN] (secondary menu)****[Panel Name] tab**

Column	Item	Setting item	Default
[SDI IN 1] - [SDI IN 20]	[Type]	[Default], [User]	[Default]
	[Name]	(Text entry screen)	—
	[Color Group]	[ColorGroup1] - [ColorGroup8]	[ColorGroup1]

[MV Name] tab

Column	Item	Setting item	Default
[SDI IN 1] - [SDI IN 20]	[Type]	[Default], [User], [Same as Panel]	[Same as Panel]
	[Name]	(Text entry screen)	—

[IP IN] (secondary menu)**[Panel Name] tab**

Column	Item	Setting item	Default
[IP IN1] - [IP IN8]	[Type]	[Default], [User]	[Default]
	[Name]	(Text entry screen)	—
	[Color Group]	[ColorGroup1] - [ColorGroup8]	[ColorGroup1]

[MV Name] tab

Column	Item	Setting item	Default
[IP IN1] - [IP IN8]	[Type]	[Default], [User], [Same as Panel]	[Same as Panel]
	[Name]	(Text entry screen)	—

[INTERNAL] (secondary menu)**[Panel Name] tab**

Column	Item	Setting item	Default
[Still 1V]/[Still 1K], [Still 2V]/[Still 2K]	[Type]	[Default], [User]	[Default]
	[Name]	(Text entry screen)	—
	[Color Group]	[ColorGroup1] - [ColorGroup8]	[ColorGroup1]
[Clip 1V]/[Clip 1K], [Clip 2V]/[Clip 2K]	[Type]	[Default], [User]	[Default]
	[Name]	(Text entry screen)	—
	[Color Group]	[ColorGroup1] - [ColorGroup8]	[ColorGroup1]
[CBGD 1], [CBGD 2]	[Type]	[Default], [User]	[Default]
	[Name]	(Text entry screen)	—
	[Color Group]	[ColorGroup1] - [ColorGroup8]	[ColorGroup1]
[CBAR]	[Type]	[Default], [User]	[Default]
	[Name]	(Text entry screen)	—
	[Color Group]	[ColorGroup1] - [ColorGroup8]	[ColorGroup1]
[Black]	[Type]	[Default], [User]	[Default]
	[Name]	(Text entry screen)	—
	[Color Group]	[ColorGroup1] - [ColorGroup8]	[ColorGroup1]

[MV Name] tab

Column	Item	Setting item	Default
[Still 1V]/[Still 1K], [Still 2V]/[Still 2K]	[Type]	[Default], [User], [Same as Panel]	[Same as Panel]
	[Name]	(Text entry screen)	—
[Clip 1V]/[Clip 1K], [Clip 2V]/[Clip 2K]	[Type]	[Default], [User], [Same as Panel]	[Same as Panel]
	[Name]	(Text entry screen)	—
[CBGD 1], [CBGD 2]	[Type]	[Default], [User], [Same as Panel]	[Same as Panel]
	[Name]	(Text entry screen)	—
[CBAR]	[Type]	[Default], [User], [Same as Panel]	[Same as Panel]
	[Name]	(Text entry screen)	—
[Black]	[Type]	[Default], [User], [Same as Panel]	[Same as Panel]
	[Name]	(Text entry screen)	—

[ME] (secondary menu)**[Panel Name] tab**

Column	Item	Setting item	Default
[ME1 PGM]/[ME1 PVW]/[ME1 CLN]/[ME1 KEYPVW], [ME2 PGM]/[ME2 PVW]/[ME2 CLN]/[ME2 KEYPVW]	[Type]	[Default], [User]	[Default]
	[Name]	(Text entry screen)	—
	[Color Group]	[ColorGroup1] - [ColorGroup8]	[ColorGroup1]

[MV Name] tab

Column	Item	Setting item	Default
[ME1 CLN]/[ME1 KEYPVW], [ME2 PGM]/[ME2 PVW]/[ME2 CLN]/[ME2 KEYPVW]	[Type]	[Default], [User], [Same as Panel]	[Same as Panel]
	[Name]	(Text entry screen)	—

[DSK] (secondary menu)**[Panel Name] tab**

Column	Item	Setting item	Default
[DSK PGM1]/ [DSK PVW1]/ [DSK EXT1-1], [DSK EXT1-2], [DSK PGM2]/ [DSK PVW2]/ [DSK EXT2-1], [DSK EXT2-2]	[Type]	[Default], [User]	[Default]
	[Name]	(Text entry screen)	—
	[Color Group]	[ColorGroup1] - [ColorGroup8]	[ColorGroup1]

[MV Name] tab

Column	Item	Setting item	Default
[ME1 PGM]/ [ME1 PVW]/ [DSK PGM1]/ [DSK PVW1]/ [DSK EXT1-1], [DSK EXT1-2], [DSK PGM2]/ [DSK PVW2]/ [DSK EXT2-1], [DSK EXT2-2]	[Type]	[Default], [User], [Same as Panel]	[Same as Panel]
	[Name]	(Text entry screen)	—

[AUX] (secondary menu)**[Panel Name] tab**

Column	Item	Setting item	Default
[AUX1] - [AUX16]	[Type]	[Default], [User]	[Default]
	[Name]	(Text entry screen)	—
	[Color Group]	[ColorGroup1] - [ColorGroup8]	[ColorGroup1]

[MV Name] tab

Column	Item	Setting item	Default
[AUX1] - [AUX16]	[Type]	[Default], [User], [Same as Panel]	[Same as Panel]
	[Name]	(Text entry screen)	—

[MV] (secondary menu)**[Panel Name] tab**

Column	Item	Setting item	Default
[MV1], [MV2]	[Type]	[Default], [User]	[Default]
	[Name]	(Text entry screen)	—
[Clock]	[Type]	[Default], [User]	[Default]
	[Name]	(Text entry screen)	—
	[Color Group]	[ColorGroup1] - [ColorGroup8]	[ColorGroup1]

[MV Name] tab

Column	Item	Setting item	Default
[MV1], [MV2]	[Type]	[Default], [User], [Same as Panel]	[Same as Panel]
	[Name]	(Text entry screen)	—
	[Color Group]	[ColorGroup1] - [ColorGroup8]	[ColorGroup1]
[Clock]	[Type]	[Default], [User], [Same as Panel]	[Same as Panel]
	[Name]	(Text entry screen)	—

<IN OUT> button (top menu)**[SDI IN 1] - [SDI IN 20] (secondary menu)****[Frame Buffer] tab**

Column	Item	Setting item	Default
[SDI IN 1] - [SDI IN 20]	[User Name]	—	—
	[FS]	[OFF], [ON]	[OFF]
	[Freeze]	[OFF], [ON]	[OFF]

[Status] tab

Displays the status of [SDI IN 1] - [SDI IN 20].

[OUT ASSIGN] (secondary menu)**[Address] tab**

Column	Item	Setting item	Default
[IP OUT 1-1] - [IP OUT 1-4], [IP OUT 2-1] - [IP OUT 2-4], [IP OUT 3-1] - [IP OUT 3-4], [IP OUT 4-1] - [IP OUT 4-4]	[Multicast IP/ Unicast IP]	—	—
	[Port]	[1024] - [65000]	[2000]
	[Enable]	[OFF], [ON]	[OFF]

[Assign] tab

The assignment setting screen is displayed.

<CC> button (top menu)**[C/C IN 1-5] - [C/C IN 16-20] (secondary menu)****[SDI IN 1] - [SDI IN 20] tabs**

Column	Item	Setting item	Default
[Operation]	[Enable]	[OFF], [ON]	[OFF]
	[Limit]	[Off], [108], [104], [100]	[Off]
[Process]	[Y-Gain]	[0.0] - [200.0]	[100.0]
	[Pedestal]	[-20.0] - [20.0]	[0.0]
	[C-Gain]	[0.0] - [200.0]	[100.0]
	[Hue]	[0.0] - [359.0]	[0.0]
[Tone1 Black]	[Red]	[-10.0] - [108.0]	[0.0]
	[Green]	[-10.0] - [108.0]	[0.0]
	[Blue]	[-10.0] - [108.0]	[0.0]
	[RGB Link]	[OFF], [ON]	[OFF]
[Tone2 Gray L]	[Red]	[-10.0] - [108.0]	[33.3]
	[Green]	[-10.0] - [108.0]	[33.3]
	[Blue]	[-10.0] - [108.0]	[33.3]
[Tone3 Gray H]	[Red]	[-10.0] - [108.0]	[66.6]
	[Green]	[-10.0] - [108.0]	[66.6]
	[Blue]	[-10.0] - [108.0]	[66.6]
[Tone4 White]	[Red]	[-10.0] - [108.0]	[100.0]
	[Green]	[-10.0] - [108.0]	[100.0]
	[Blue]	[-10.0] - [108.0]	[100.0]
[Matrix R/G]	[R-G]	[-0.60] - [0.60]	[0.00]
	[R-B]	[-0.60] - [0.60]	[0.00]
	[G-R]	[-0.60] - [0.60]	[0.00]
	[G-B]	[-0.60] - [0.60]	[0.00]
[Matrix B]	[B-R]	[-0.60] - [0.60]	[0.00]
	[B-G]	[-0.60] - [0.60]	[0.00]
[Setting]	[Init Target]	[Process], [Tone], [RGB Matrix], [All]	[All]
	[Initialize]	—	—
	[Copy Target]	[SDI IN1] - [SDI IN20]	[SDI IN1]
	[Copy From]	—	—

[C/C OUT 1-6] - [C/C OUT 7-12] (secondary menu)**[SDI OUT 1] - [SDI OUT 12] tabs**

Column	Item	Setting item	Default
[Operation]	[Enable]	[OFF], [ON]	[OFF]
	[Limit]	[Off], [108], [104], [100]	[Off]
[Process]	[Y-Gain]	[0.0] - [200.0]	[100.0]
	[Pedestal]	[-20.0] - [20.0]	[0.0]
	[C-Gain]	[0.0] - [200.0]	[100.0]
	[Hue]	[0.0] - [359.0]	[0.0]
[Tone1 Black]	[Red]	[-10.0] - [108.0]	[0.0]
	[Green]	[-10.0] - [108.0]	[0.0]
	[Blue]	[-10.0] - [108.0]	[0.0]
	[RGB Link]	[OFF], [ON]	[OFF]
[Tone2 Gray L]	[Red]	[-10.0] - [108.0]	[33.3]
	[Green]	[-10.0] - [108.0]	[33.3]
	[Blue]	[-10.0] - [108.0]	[33.3]
[Tone3 Gray H]	[Red]	[-10.0] - [108.0]	[66.6]
	[Green]	[-10.0] - [108.0]	[66.6]
	[Blue]	[-10.0] - [108.0]	[66.6]
[Tone4 White]	[Red]	[-10.0] - [108.0]	[100.0]
	[Green]	[-10.0] - [108.0]	[100.0]
	[Blue]	[-10.0] - [108.0]	[100.0]
[Matrix R/G]	[R-G]	[-0.60] - [0.60]	[0.00]
	[R-B]	[-0.60] - [0.60]	[0.00]
	[G-R]	[-0.60] - [0.60]	[0.00]
	[G-B]	[-0.60] - [0.60]	[0.00]
[Matrix B]	[B-R]	[-0.60] - [0.60]	[0.00]
	[B-G]	[-0.60] - [0.60]	[0.00]
[Setting]	[Init Target]	[Process], [Tone], [RGB Matrix], [All]	[All]
	[Initialize]	—	—
	[Copy Target]	[SDI OUT1] - [SDI OUT12]	[SDI OUT1]
	[Copy From]	—	—

<SYS> button (top menu)**[SYSTEM] (secondary menu)****[Video] tab**

Column	Item	Setting item	Default
[Video Format]	[Video Format]	[2160/59.94p], [2160/50p], [1080/59.94p], [1080/50p], [1080/59.94i], [1080/50i]	—
	[Switcher Mode]	[4K], [Standard]	—
[Output Phase]	[System]	[1H], [0H]	[1H]
	[H-Phase [H]]	[-0.50] - [0.49]	[0.00]
	[V-Phase [Line]]	[-100] - [100]	[0]
[Reference]	[Sync]	[BB], [BB Advanced], [Tri-level sync], [Internal], [ST2059]	[BB]
	[PTP Domain]*1	[0] - [127]	[127]
	[PTP Timeout]*1	[1 sec], [2 sec], [3 sec], [5 sec], [10 sec]	[3 sec]
	[Gen Lock]	—	—
[Latency]	[BKGD]	[Minimum]	[Minimum]
	[Key]	[Minimum]	[Minimum]
	[DSK]	[Minimum]	—

[Network] tab

Column	Item	Setting item	Default
[Network]	[IP Address]	—	[192.168.0.90]
	[Subnet Mask]	—	[255.255.255.0]
	[Default Gateway]	—	—
	[MAC Address]	—	—

*1 Cannot be set when [ST2059] is selected in [Sync].

[BOOT] (secondary menu)**[Boot] tab**

Column	Item	Setting item	Default
[Boot Mode]	—	[Resume], [Initial], [Project]	[Resume]
[Boot Mode Project]	[File Select]	(Project file selection screen)	—
	[Folder Name]	—	—
	[File Name]	—	—
[Initial]	[Initial]	—	—
[Fader Initial]	[Panel1]	—	—
	[Panel2]	—	—
	[Panel3]	—	—

[ME SETTINGS] (secondary menu)**[ME1], [ME2] tabs**

This section uses the items in the [ME1] tab as examples.

The items, setting items, and initial values are the same for the [ME2] tab, with the exception that column labels such as [ME1 PVW] change to reflect the fact that they are [ME2] items.

Column	Item	Setting item	Default
[ME1 PVW]	[Priority Key1]	[1st], [2nd], [3rd], [4th]	[4th]
	[Priority Key2]	[1st], [2nd], [3rd], [4th]	[3rd]
	[Priority PinP1]	[1st], [2nd], [3rd], [4th]	[2nd]
	[Priority PinP2]	[1st], [2nd], [3rd], [4th]	[1st]
	[Chroma PVW]	[Disable], [Enable]	[Disable]
	[Key1], [Key2]	[Off], [Invert], [On], [Auto]	[Auto]
[ME1 KEYPVW]	[PinP1], [PinP2]	[Off], [Invert], [On], [Auto]	[Auto]
	[Chroma PVW]	[Disable], [Enable]	[Enable]
	[Key1], [Key2]	[Off], [On]	[On]
[ME1 CLN]	[PinP1], [PinP2]	[Off], [On]	[On]
	[Key Select]	[Key1], [Key2], [PinP1], [PinP2], [4thPriority], [3rdPriority], [2ndPriority], [1stPriority]	[4th Priority]
	[CLN/KOUT]	[Clean], [Keyout], [Combined]	[Clean]

[DSK SETTINGS] (secondary menu)**[DSK Assign] tab**

Column	Item	Setting item	Default
[DSK Assign]	[DSK PGM1]	[ME1 PGM], [ME2 PGM], [ME1 CLN], [ME2 CLN]	[ME1 PGM]
	[DSK PGM2]	[ME1 PGM], [ME2 PGM], [ME1 CLN], [ME2 CLN]	[ME1 PGM]
	[Assign Mode]	[Common], [Each]	[Common]

[DSK Out1] tab

Column	Item	Setting item	Default
[Priority DSK1-2]	[Priority DSK1]	[1st], [2nd]	[2nd]
	[Priority DSK2]	[1st], [2nd]	[1st]
[DSK PGM1]	[Type]	[PGM]	[PGM]
	[DSK1], [DSK2]	[Off], [Trans]	[Trans]
[DSK PVW1]	[Type]	[PVW(SLAVE)], [PVW]	[PVW(SLAVE)]
	[DSK1], [DSK2]	[On], [Off], [Trans]	[On]
[DSK EXT1-1]	[Type]	[PGM], [PVW], [PVW(SLAVE)], [KEYOUT]	[PVW]
	[DSK1], [DSK2]	[On], [Off], [Trans]	[Trans]
[DSK EXT1-2]	[Type]	[PGM], [PVW], [PVW(SLAVE)], [KEYOUT]	[PVW]
	[DSK1], [DSK2]	[On], [Off], [Trans]	[Trans]

[DSK Out2] tab

Column	Item	Setting item	Default
[Priority DSK1-2]	[Priority DSK1]	[1st], [2nd]	[2nd]
	[Priority DSK2]	[1st], [2nd]	[1st]
[DSK PGM2]	[Type]	[PGM]	[PGM]
	[DSK1], [DSK2]	[Off], [Trans]	[Trans]
[DSK PVW2]	[Type]	[PVW(SLAVE)], [PVW]	[PVW(SLAVE)]
	[DSK1], [DSK2]	[On], [Off], [Trans]	[On]
[DSK EXT2-1]	[Type]	[PGM], [PVW], [PVW(SLAVE)], [KEYOUT]	[PVW]
	[DSK1], [DSK2]	[On], [Off], [Trans]	[Trans]
[DSK EXT2-2]	[Type]	[PGM], [PVW], [PVW(SLAVE)], [KEYOUT]	[PVW]
	[DSK1], [DSK2]	[On], [Off], [Trans]	[Trans]

[PERIPHERAL] (secondary menu)**[Tally] tab**

For some setting items, refer to the information outside of the table.

Column	Item	Setting item	Default
[Tally Mode]	[Target]	[OFF], [ON]	[ON]
[Tally Group1 (On-Air)]	[Target A]	Refer to information outside of table* ¹	[DSK PGM1]
	[+Target B], [+Target C], [+Target D]	Refer to information outside of table* ¹	[Off]
	[Color]	[Red]	[Red]
	[+Target E], [+Target F], [+Target G], [+Target H]	Refer to information outside of table* ¹	[Off]
[Tally Group 2]	[Target A]	Refer to information outside of table* ²	[DSK PVW1]
	[+Target B], [+Target C], [+Target D]	Refer to information outside of table* ²	[Off]
	[Color]	[Red], [Green], [Yellow], [Orange]	[Green]
	[+Target E], [+Target F], [+Target G], [+Target H]	Refer to information outside of table* ²	[Off]
[Tally Group3]	[Target A]	Refer to information outside of table* ²	[ME1 PGM]
	[+Target B], [+Target C], [+Target D]	Refer to information outside of table* ²	[Off]
	[Color]	—	[Yellow]
	[+Target E], [+Target F], [+Target G], [+Target H]	Refer to information outside of table* ²	[Off]
[Tally Group4]	[Target A]	Refer to information outside of table* ²	[AUX1]
	[+Target B], [+Target C], [+Target D]	Refer to information outside of table* ²	[Off]
	[Color]	—	[Orange]
	[+Target E], [+Target F], [+Target G], [+Target H]	Refer to information outside of table* ²	[Off]

*¹ [Off], [ME1 PGM], [ME1 CLN], [ME2 PGM], [ME2 CLN], [DSK PGM1], [DSK PGM2], [DSK EXT1-1], [DSK EXT1-2], [DSK EXT2-1], [DSK EXT2-2], [AUX1] - [AUX16]

*² [Off], [ME1 PGM], [ME1 PVW], [ME1 CLN], [ME2 PGM], [ME2 PVW], [ME2 CLN], [DSK PGM1], [DSK PGM2], [DSK PVW1], [DSK PVW2], [DSK EXT1-1], [DSK EXT1-2], [DSK EXT2-1], [DSK EXT2-2], [AUX1] - [AUX16]

[MAINTENANCE] (secondary menu)**[Status] tab**

Column	Item	Setting item	Default
[System Version]	[System Version]	—	—

[Alarm] tab

Column	Item	Setting item	Default
[Main Frame]	[Power 1]	—	—
	[Power 2]	—	—
	[Fan]	—	—
	[Temperature]	—	—
[Alarm Enable]	[Power 1]	[OFF], [ON]	[ON]
	[Power 2]	[OFF], [ON]	[ON]
	[Fan]	[OFF], [ON]	[ON]
	[Temperature]	[OFF], [ON]	[ON]
[Panel1]	[Power 1]	—	—
	[Power 2]	—	—
	[Temperature]	—	—
[Alarm Enable]	[Power 1]	[OFF], [ON]	[ON]
	[Power 2]	[OFF], [ON]	[ON]
	[Temperature]	[OFF], [ON]	[ON]
[Panel2]	[Power 1]	—	—
	[Power 2]	—	—
	[Temperature]	—	—
[Alarm Enable]	[Power 1]	[OFF], [ON]	[ON]
	[Power 2]	[OFF], [ON]	[ON]
	[Temperature]	[OFF], [ON]	[ON]
	[Temperature]	[OFF], [ON]	[ON]
[Panel3]	[Power 1]	—	—
	[Power 2]	—	—
	[Temperature]	—	—
[Alarm Enable]	[Power 1]	[OFF], [ON]	[ON]
	[Power 2]	[OFF], [ON]	[ON]
	[Temperature]	[OFF], [ON]	[ON]
[Log]	[Log File to SD]	[(Save) screen]	—
	[Log File to PC]	[(Save) screen]	—

[Mainte] tab

Column	Item	Setting item	Default
[System Running]	[System]	—	—
[Main Frame Running]	[Power 1]	—	—
	[Power 2]	—	—
	[Fan]	—	—
[Panel1 Connecting]	[Power 1]	—	—
	[Power 2]	—	—
[Panel2 Connecting]	[Power 1]	—	—
	[Power 2]	—	—
[Panel3 Connecting]	[Power 1]	—	—
	[Power 2]	—	—
[Fader Margin]	[Start]	[0] - [2000]	[200]
	[End]	[0] - [2000]	[200]

[Misc] tab

Column	Item	Setting item	Default
[Date]	[Year]	[2000] - [2037]	—
	[Month]	[1] - [12]	—
	[Date]	[1] - [31]	—
	[Get]	—	—
	[Set]	—	—
[Time]	[Hour]	[0] - [23]	—
	[Minute]	[0] - [59]	—
	[Second]	[0] - [59]	—
	[Get]	—	—
	[Set]	—	—

[MENU LOCK] (secondary menu)**[Menu Lock] tab**

Column	Item	Setting item	Default
[Menu Lock]	[SYSTEM]	[OFF], [ON]	—
	[BOOT]	[OFF], [ON]	—
	[ME SETTINGS]	[OFF], [ON]	—
	[PERIPHERAL]	[OFF], [ON]	—
	[MAINTENANCE]	[OFF], [ON]	—
	[SDI OUT]	[OFF], [ON]	—
	[PLUG IN]	[OFF], [ON]	—
	[DSK SETTINGS]	[OFF], [ON]	—

<PLG IN> button (top menu)**[PLUGIN Maint] (secondary menu)****[Configuration] tab**

Column	Item	Setting item	Default
[1] - [30]	[Name]	—	—
	[Enable On Boot]	[OFF], [ON]	—
	[Version]	—	—
	[Delete]	—	—

[Load] tab

Column	Item	Setting item	Default
[Used/Remain]	[Storage Used(B)]	—	—
	[Storage Free(B)]	—	—
	[Program Used(KB)]	—	—
	[Program Free(KB)]	—	—
[1] - [30]	[Name]	—	—
	[Storage Used(B)]	—	—
	[Program Used(KB)]	—	—
	[SD Load]	⟨[SD Load] screen⟩	—
	[Local Load]	⟨[Local Load] screen⟩	—

Glossary

Defined below are the terms used in this manual.

Word	Explanation
AB Bus AB Bus system	A bus control mode. By executing a transition, the A bus and B bus signals are output to the program images alternately.
Ancillary Data	The auxiliary data other than the video signals, which is transmitted inside the data stream of the video serial interface. The data superimposed on the vertical blanking period is referred to as the V ancillary data (VANC).
AUX (Auxiliary Bus)	A spare bus which can be switched by signals other than the main line output signals.
BB (BlackBurst)	The black burst signal. A composite signal of full-screen black level which is used as the reference signal for Genlock.
Border	The area or margin that is added to the edge of a wipe or key. Its width and color can be adjusted. The defocusing of the area around a border is referred to as the soft effect.
Chroma Key	This refers to the function for creating the key signals based on the color information of the video signals and combining the keys.
Clip	Moving image memory of the video memory (VMEM)
Key Clip	The threshold level of the luminance when key signals are created from a key source.
CBGD (Color Background)	The signals which are output from the internal color generator and used as the background image.
Cut	This refers to the effect where the display is instantly switched to the next image.
Density	A parameter which is used to adjust the density of the key signals.
DSK (Downstream Key)	This refers to the key combination process which is performed at the end of the mix effect. The key is always combined with the foremost image.
DVE (Digital Video Effect)	This refers to the transition patterns accompanying size reductions or slide effects.
Embedded Audio	This refers to the audio data packets which are transferred inside the data stream of the video serial interface.
Flip Flop Flip Flop system (PGM/PST system)	A bus control mode. The signals selected by the program bus are always output as the program images. By executing a transition, the program bus and preset bus signals are switched over.
Frame Synchronizer	The function which matches the synchronization of non-synchronized video input signals.
Freeze	The function which freezes the video signal.
FTB (Fade to Black)	This is the effect where the background image is faded out to the black screen.
Genlock	The function for synchronizing the video signals using an external sync signal as the reference.
GPI (General Purpose Interface)	Interface signals which control auto transition from an external source.
Hue	The color tone of the video signals.
IRE	A unit used for video signal levels. The setup level (black level) of the signals is expressed as 0 IRE, 7.5 IRE, etc.
Key Edge	The border or shadow added to the edges of keys.
Key Fill	The signal that uses key composition processing to fill in the areas left blank by the key signals.
Key Gain	A parameter which is used to adjust the amplitude of the key signals.
Key Invert	The function which inverts the key signals.
Key Mask	The function that specifies the area for key composition using the box pattern, etc. When only part of the area of the key signals is used, key composition is executed with the unnecessary area masked.
Key Source	The video signals for creating the key signals.
Line Synchronizer	The function to automatically adjust the input video signal phase to the horizontal synchronization reference signal phase.
Linear Key	The function which combines keys using monochrome key signals with gradations in its outlines as a reference.
Lum (Luminance)	The brightness portion of the video signals.
Luminance Key	The function which creates key signals based on the luminance (brightness) information of the video signals to combine keys.
ME (Mix Effect)	A video effect device which combines a number of video signals to create mix, wipe, key and other video signals.
Mix	The picture-changing effect produced by overlapping one image with the next. It is also referred to as "dissolve".
MultiView Display	This function combines multiple sources and displays them on one screen. PGM, PVW, and the input source can be previewed at the same time on a single screen.
PVW (Preview)	The function for checking ahead of time the image which will be output after the next transition. The image is output from the PVW line.
PGM (Program Bus)	The bus which always carries the program output signals.
PST (Preset Bus)	The bus which carries the program output signals after the next background transition.
RS-422	A serial interface standard. It is the interface used to control the switcher from an editor or other external device.
Sat (Saturation)	This refers to the saturation (intensity of the color chrominance level) of video signals.
Self Key	The function that creates key signals from key fill signals for combining keys.
Setup Data	The memory in which the control panel statuses can be saved and recalled. The button selection statuses as well as the border, color and other setting information can be saved in this memory.
Still	Still image memory of the video memory (VMEM).

Chapter 11 Appendix — Glossary

Word	Explanation
Tally	The signal which outputs the program output statuses of the input signals to an external device. The LED that indicates the program output status on the control panel is also referred to as tally.
Transition	A function that switches from one image to another. Wipe, mix and other effects are available for the images during switching.
Tri-level Sync	The sync signal used for HD formats.
Trimming	This is the function that eliminates the unnecessary parts at the top, bottom, left and/or right of the images which are combined using the Resizer function.
Video Memory	This is the memory in which the images (still images and moving images) with key signals can be stored.
Wipe	A video effect in which one image is gradually replaced by another as the boundary between the two is moved using a preselected pattern.

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