



V-1200HDR / V-1200HD RCS Remote Control Guide

Ver. 1.4 and Later

Use your V-1200HD, V-1200HDR, and V-1200 RCS with the latest up to date version. For information on the latest system program and software, check the Roland website (<http://proav.roland.com>).

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Introduction

About the V-1200HDR and V-1200HD RCS

The V-1200HDR is a dedicated controller for remotely operating the V-1200HD. The V-1200HD RCS is a Windows-based program for remotely operating the V-1200HD.

Connecting the V-1200HD to a V-1200HDR unit or a computer in which the V-1200HD RCS is installed and connected to the V-1200HD lets you perform such tasks as switching video and changing settings by remote control.

* For information on how to use the V-1200HDR, please refer to the V-1200HDR Owner's Manual.

Conventions This Manual Uses

This manual is the remote control guide for both the V-1200HDR dedicated controller and V-1200HD RCS remote-control software. Explanations for each specific product are distinguished by the **V-1200HDR** icon or the **V-1200HD RCS** icon.

This manual uses the typographical conventions shown below in order to explain methods of operation in a concise way.

- The controllers are referred to in the text as "V-1200HDR" and "V-1200HD RCS"
- Text enclosed in square brackets ("[]") indicates the name of a button (or dial), such as [AUTO] button or [VALUE] dial.
- Text enclosed in angled brackets ("<>") indicates an on-screen button name, such as <VIDEO>.
- Touching the V-1200HDR's monitor with your finger is referred to as "tapping."
- In this manual, explanations involving dual monitors, control operations and other such topics are explanations for using the V-1200HDR. For operations using V-1200HD RCS, substitute the following for what appears in the text.

V-1200HDR	V-1200HD RCS
Tap the dual monitors.	Click the screen using the mouse.
Slide the PinP inset screen (or other such object).	Drag the PinP inset screen (or other such object) using the mouse.
Turn the AUDIO dial or Z dial.	Drag the dial using the mouse.
Turn the VALUE dial.	Drag the dial using the mouse.
Operate the video fader or the [POSITIONER] stick.	* You can also use [←] and [→] on the computer keyboard to change values. Drag the video fader or the [POSITIONER] stick using the mouse.
Press the button.	Click the button using the mouse. * You can use the computer keyboard to perform the following button operations.

Button name	Keyboard key	Button name	Keyboard key
CUT	SPACE	AUX1-AUX8	Q-I
AUTO	ENTER	AUX9-AUX16	Shift + Q-I
DELEGATION area			
COMPOSITION 1-4	1-4	USER 1, 2	7, 8
AUX 1, 2	5, 6		
Cross-points			
PGM1-PGM8	A-K	PST1-PST8	Z - <
PGM9-PGM16	Shift + A-K	PST9-PST16	Shift + Z - <

About Differences in Displayed Screens

With the V-1200HDR and V-1200HD RCS, there are differences in dual-monitor display of the ROOT MENU screen and the CONTROL SURFACE SETUP screen. The explanations in this manual for dual-monitor display use the screens displayed for the V-1200HDR.

V-1200HDR	V-1200HD RCS
<p>ROOT MENU Screen</p>	<p>ROOT MENU Screen</p> <p>* The screen is for Online Mode.</p>
<p>CONTROL SURFACE SETUP Screen</p>	<p>CONTROL SURFACE SETUP Screen</p>

Preparing V-1200HD RCS

V-1200HD RCS

V-1200HD RCS Operating Environment

Compatible Operating Systems	Windows	Microsoft Windows 7 Service Pack 2
	Mac	OS X 10.9 or later
Processor	Windows	Intel Core 2 Duo or higher, or compatible processor * The compatibility of compatible processors is not assured.
	Mac	Intel Processor
Memory (RAM)	2 GB or more of RAM 64 MB or more of VRAM	
Required Disk Space	200 MB or more	
Display Resolution/Colors	1,920 x 1,280 resolution or higher, Full Color (24-bit) or higher On computers running Windows, the Aero interface must be enabled.	
Other Matters	Connecting to the V-1200HD requires a LAN connection.	

* Operation of V-1200HD RCS on a standard computer that satisfies the conditions just described has been confirmed, but all operation under these conditions is not assured. Please be aware that even under identical conditions, computer-specific differences in design specifications or usage environment might result in differences in processing capacity.

Making the Network Settings on the Computer

The network settings for the computer must be changed when using V-1200HD RCS in the online mode (p. 7).

* No network settings are needed when using V-1200HD RCS in the offline mode (p. 7).

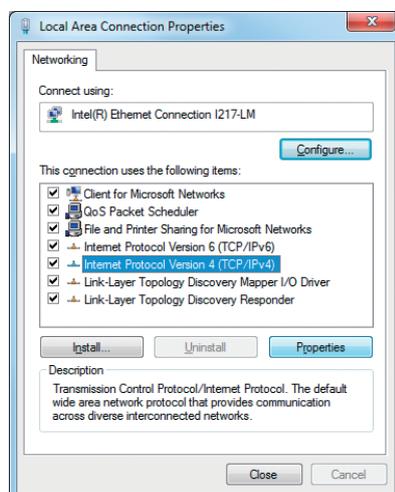
Windows

1. Click Control Panel → “Network and Sharing Center” → “Change adapter settings.”

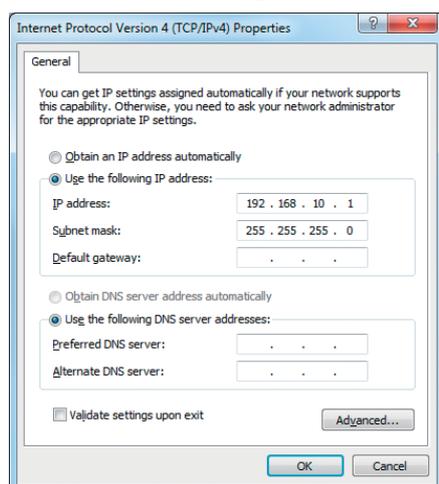
* When Control Panel is in Category View, click Control Panel → “View network status and tasks” → “Change adapter settings.”

2. Right-click the network connection you’re using, then click Properties.

3. Select “Internet Protocol Version 4 (TCP/IPv4)” and click Properties.



4. Select “Use the following IP address” then enter the values shown below and click “OK.”



Obtain an IP address automatically	Unselected
Use the following IP address	Selected
IP address	First :192.168.10.1 Second (*1):192.168.10.2
Subnet mask	255.255.255.0
Default gateway	Blank
Obtain DNS server address automatically	Unselected
Use the following DNS server addresses	Selected
Preferred DNS server	Blank
Alternate DNS server	Blank

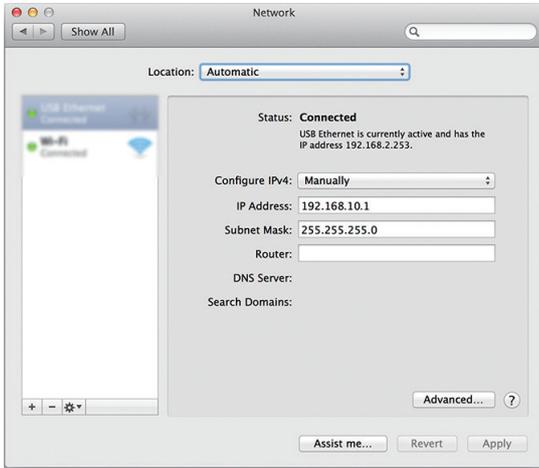
(*1) By using an Ethernet switching hub, you can connect up to two computers on which V-1200HD RCS is installed and set up to the V-1200HD.

When connecting two computers, you must set a different IP address and ID for each computer. Set the IP address for the second computer to “192.168.10.2”

For information on setting the ID, refer to “Connecting Multiple Controllers to the V-1200HD” (p. 9).

Mac

1. Display the Apple menu → “System Preferences” → “Network.”
2. From the list on the left, select the network connection service you’re using.
3. Set the values for the parameters shown below, then click “Apply.”



IPv4 setting	Entered manually
IP address	First :192.168.10.1
	Second (*1) :192.168.10.2
Subnet mask	255.255.255.0
Router	Blank

(*1) By using an Ethernet switching hub, you can connect up to two computers on which V-1200HD RCS is installed and set up to the V-1200HD. When connecting two computers, you must set a different IP address and ID for each computer. Set the IP address for the second computer to “192.168.10.2.” For information on setting the ID, refer to “Connecting Multiple Controllers to the V-1200HD” (p. 9).

V-1200HD RCS Installation and Set up

Windows

1. Download V-1200HD RCS from the Roland website (<http://proav.roland.com/>).
2. Right-click the downloaded compressed file, then click “Expand All.”
A folder containing the expanded contents of the compressed file is created.
* If “Expand all” does not appear, use your preferred archive-expansion program to expand the file.
3. Display the expanded folder.
4. Double-click “Roland_V-1200HD_RCS_Installer.exe” to run the program.
5. Follow the instructions in the setup program to install.
* If a User Account Control prompt appears, click “Yes.”

Mac

1. Download V-1200HD RCS from the Roland website (<http://proav.roland.com/>).
2. Double-click the downloaded compressed file.
The disk-image file (Roland_V-1200HD_RCS(.dmg)) is expanded.
* Depending on your computing setup, the file might be expanded automatically when downloaded.
3. Double-click “Roland_V-1200HD_RCS(.dmg).”
The “V-1200HD RCS” disk is mounted.
4. Drag the “V-1200HDRCS.app” icon from the mounted disk to your application folder.
5. Unmount the “V-1200HD RCS” disk.

Connecting your Computer and the V-1200HD

You use an Ethernet cable to connect the computer on which V-1200HD RCS is installed and set up and the V-1200HD.

* Before you start, make the computer network settings as described on page 5.

1. Start the computer on which V-1200HD RCS is installed.

2. Connect the computer and the V-1200HD using an Ethernet cable.

* Use a Category 5e or higher shielded Ethernet cable for connection. Crossover cables and straight cables are both supported.

* Connect no devices other than the V-1200HD, V-1200HDR units, and computers installed with V-1200HD RCS to the same network.

3. Turn on the power to the V-1200HD.

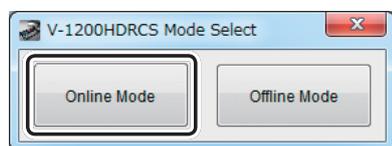
4. Windows

At the computer's "Start" menu, select "All Programs" → "Roland V-1200HD RCS" → "V-1200HD RCS" to start the program.

Mac

In the computer's "Applications" folder, double-click "V-1200HDRCS(.app)" to start the application.

5. Select "Online Mode."



V-1200HD RCS starts.

* For details about the startup modes, refer to "V-1200HD RCS Startup Modes" (p. 7).

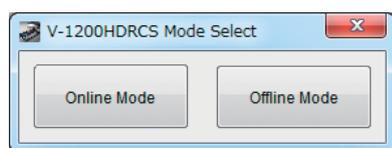
6. Clicking "Online Mode" makes the "LINK" indicator in V-1200HD RCS and the "LINK" indicator on the V-1200HD light up, and the connection is established.

NOTE

If you're using a computer running Windows, then if the Ethernet cable is disconnected and reconnected after communication between the V-1200HD and V-1200HD RCS has been established, communication might fail to be reestablished. If this happens, you can establish communication while the devices are connected by going to the computer's network settings and setting Local Area Connection to "Disable" and then again to "Enable."

V-1200HD RCS Startup Modes

V-1200HD RCS has two startup methods: an online mode and an offline mode.



Online Mode

You select the online mode when actually operating the V-1200HD by remote control.

This does not function unless the computer and the V-1200HD are connected.

Offline Mode

You select the offline mode at times such as when conducting prior training or planning system configuration.

This functions even when the computer and the V-1200HD are not connected.

When in the offline mode, V-1200HD RCS is connected to a V-1200HD simulator that operates internally in V-1200HD RCS.

NOTE

- When V-1200HD RCS has been started in the offline mode, it cannot be used to operate the V-1200HD remotely even if the computer and the V-1200HD are connected.
- The V-1200HD simulator that operates in the offline mode always starts in the default state. Any and all settings made in the V-1200HD simulator are lost when you quit V-1200HD RCS.
 - * Except for a few functions, you can save settings made in the offline mode on the computer. For details, refer to "Saving Setting Values As a File on the Computer" (p. 85).

Deleting V-1200HD RCS

When deleting V-1200HD RCS from the computer, use the following procedure to remove the program.

Windows

1. Click the Windows "Start" button, then click "Control Panel".
2. Click "Uninstall a program" or "Programs and Features".
3. In the list of programs, double-click "Roland V-1200HD RCS".
4. Follow the instructions on the computer to uninstall V-1200HD RCS.

* If a User Account Control prompt appears, click "Yes".

Mac

1. Open the "Applications" folder and drag "V-1200HDRCS(.app)" to Trash.

Connecting the V-1200HDR to the V-1200HD V-1200HDR

To operate the V-1200HD remotely using a V-1200HDR unit, you connect the V-1200HDR and the V-1200HD using an Ethernet cable.

1. Connect the V-1200HDR and the V-1200HD using an Ethernet cable.
2. Turn on the power to the V-1200HD.
3. Turn on the power to the V-1200HDR.
4. The LINK indicator on the V-1200HDR and the LINK indicator on the V-1200HD light up, and a connection is established.

NOTE

- Use a Category 5e or higher shielded Ethernet cable for connection. Crossover cables and straight cables are both supported.
- Connect no devices other than the V-1200HD, V-1200HDR units, and computers installed with V-1200HD RCS to the same network.
- Communication is not established if the V-1200HD and the V-1200HDR are connected after the power has been turned on. If the connection has been made while in this state, communication can be established by resetting the power on just the V-1200HDR.

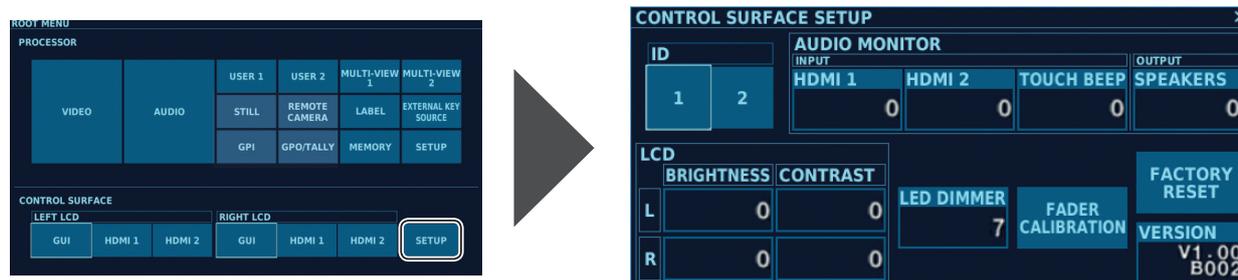
Connecting Multiple Controllers to the V-1200HD

Using an Ethernet switching hub, you can connect up to two controllers (V-1200HDR units or computers on which V-1200HD RCS is installed) to the V-1200HD.

Connecting multiple controllers to the V-1200HD requires setting a different ID on each controller.

- * When connecting two computer on which V-1200HD RCS is installed, in addition to the ID settings, the computers must also each be set to a different IP address. For information on the value of the IP address to set, refer to "Making the Network Settings on the Computer" (p. 5).

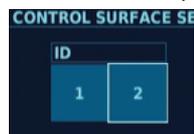
1. Connect the V-1200HD and the two controllers to an Ethernet switching hub.
2. At the "ROOT MENU," go to the CONTROL SURFACE section and tap <SETUP>.



* The screen is for V-1200HDR.

The CONTROL SURFACE SETUP screen appears.

3. At the ID section, tap the ID to set for the controller currently being operated.



4. For the other controller as well, carry out steps 2 and 3 to set the ID.
 - * Be sure to set the IDs to different values for each controller. Correct remote control becomes impossible if identical IDs are used.
5. The LINK indicator on all the controllers and the LINK indicator on the V-1200HD light up, and connections are established.

Requirements for the Switching Hub

The Ethernet switching hub used to connect controllers must satisfy the following conditions.

- 1000BASE-T-compatible switching hub recommended (IEEE 802.3ab, Gigabit Ethernet)
- Must support 100BASE-TX interfaces (IEEE 802.3u, Fast Ethernet)
- Must support full-duplex communication (simultaneous bidirectional communication)

Memo

- Only one hub can be used. Cascade connection is not supported.
- Carefully read the documentation for the switching hub used.

Saving V-1200HD Settings and Controller-specific Settings

You can take V-1200HD setting values that you have changed using a controller, and save them in the V-1200HD's internal memory or on the computer where V-1200HD RCS is installed. Controller-specific settings are also automatically configured separately for each controller. Refer to the following table for the setting values you can save by operating the controllers and the destinations where they are saved.

Controller used	Saved values	Location where saved
V-1200HDR	V-1200HD setting values	V-1200HD internal memory (*1)
	V-1200HDR-specific settings	V-1200HDR internal memory (*2)
V-1200HD RCS (Online mode)	V-1200HD setting values	V-1200HD internal memory (*1)
	V-1200HDRCS-specific settings	Computer where V-1200HD RCS is installed
V-1200HD RCS (Offline mode)	V-1200HD simulator setting values	Computer where V-1200HD RCS is installed (*1)
	V-1200HDRCS-specific settings	Computer where V-1200HD RCS is installed (*2)

(*1) Some functions cannot be saved. For details, refer to "Settings That Cannot Be Saved" elsewhere on this page.

(*2) Some functions cannot be saved. For details, refer to "Specific Settings That Cannot Be Saved" elsewhere on this page.

Saving V-1200HD Setting Values

You can use any of the three following methods to save setting values for the V-1200HD unit operated by remote control. For detailed information on the operation procedures, refer to the explanatory pages for the respective methods of saving.

- Saving to the V-1200HD's internal memory by using the MEMORY screen (p. 81)
- Saving to the V-1200HD's internal memory by using the LAST MEMORY function (p. 81)
- Saving as a file on the computer where V-1200HD RCS is installed (p. 85) **V-1200HD RCS**

* You can save all setting values except those listed in "Settings That Cannot Be Saved" elsewhere on this page.

Settings That Cannot Be Saved

The following information cannot be saved on the V-1200HD or the computer where V-1200HD RCS is installed.

Setting values that cannot be saved in the V-1200HD's internal memory

- The setting values at the "REMOTE CAMERA Screen" (p. 77) and the setting values saved at MEMORY <1>-<8> of the "REMOTE CAMERA screen"
- Settings specific to the V-1200HDR or V-1200HD RCS
 - The state of the dual-monitor menu display
 - Dual-monitor layouts saved at LAYOUT [1]-[4] (p. 84)
 - Setting values at the CONTROL SURFACE section (p. 31)

Setting values that cannot be saved as a file on the computer where V-1200HD RCS is installed

- Setting values saved to MEMORY <1>-<8> at the "MEMORY Screen" (p. 81)
- The setting values at the "REMOTE CAMERA Screen" (p. 77) and the setting values saved at MEMORY <1>-<8> of the "REMOTE CAMERA screen"
- Settings specific to the V-1200HDR or V-1200HD RCS
 - The state of the dual-monitor menu display
 - Dual-monitor layouts saved at LAYOUT [1]-[4] (p. 84)
 - Setting values at the CONTROL SURFACE section (p. 31)

Saving Controller-specific Settings

Controller-specific settings changed at the CONTROL SURFACE section (p. 31) are automatically saved at each respective controller.

V-1200HDR

Controller-specific setting values changed at the CONTROL SURFACE section (p. 31) are automatically saved in the V-1200HDR's internal memory when the power to the V-1200HDR is turned off. The settings are recalled at the next startup.

V-1200HD RCS

Controller-specific setting values changed at the CONTROL SURFACE section (p. 31) are automatically saved on the computer, and are automatically recalled at the next startup.

Specific Settings That Cannot Be Saved

The following specific settings made at other than the CONTROL SURFACE section cannot be saved on the V-1200HDR or on the computer where V-1200HD RCS is installed.

- The state of the dual-monitor menu display
- Dual-monitor layouts saved at LAYOUT [1]-[4] (p. 84)

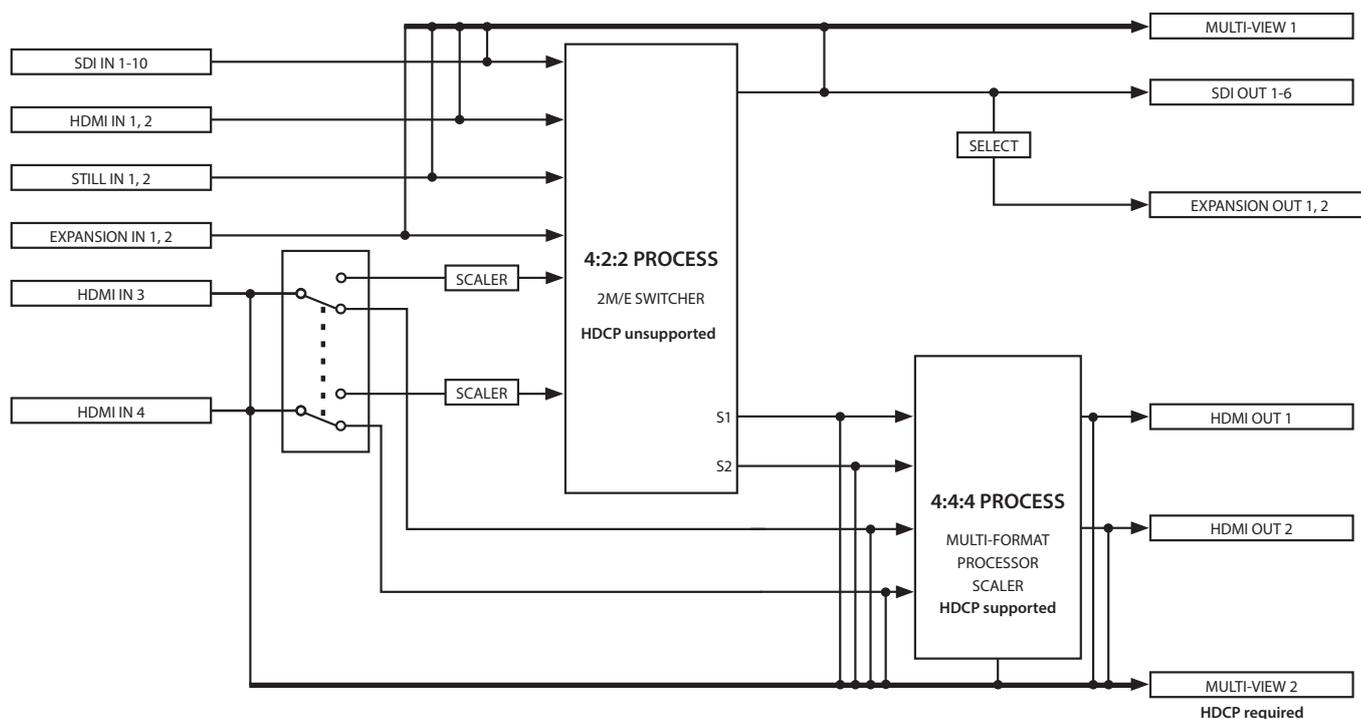
Internal Structure of the V-1200HD

The V-1200HD that you operate remotely using a controller is made up of a 4:2:2 process that works with video formats such as 1080i, and a 4:4:4 process that handles XGA and other computer formats.

With the 4:2:2 process, you can select the switcher configuration, such as 2M/E or 1M/E, and use keyer, picture-in-picture, and other such composition methods.

The 4:4:4 process lets you perform processing of high-quality computer video with no loss in image quality, provides multi-format support using scalars, and can input HDCP-protected video and produce screen-spanning and two-screen video.

The V-1200HD is configured so that output from the 4:2:2 process section is input to the 4:4:4 process section, making possible productions of greater complexity.



* The number of layers and AUX buses that can be used changes according to the combination of M/E setting and the selected format. For more details about these combinations, refer to "Relationship Between the 4:2:2 Process Format and the Number of Selectable Compositions in Each M/E Mode" (p. 14).

* EXPANSION IN 1 and 2 and EXPANSION OUT 1 and 2 can be used when an optionally available expansion interface is installed. For information on how to install the expansion interface and other related matters, refer to the V-1200HD Owner's Manual.

* You can select whether the connection destinations for HDMI IN 3 and HDMI IN 4 are the 4:2:2 process section or the 4:4:4 process section. For information on how to set the connection destinations, refer to "Switching HDMI IN 3, 4 Connection Destinations" (p. 54).

About Copyright Protection (HDCP)

The V-1200HD's 4:4:4 process section supports copyright protection (HDCP).

When all of the following conditions are satisfied, you can input HDCP-applied HDMI signals to the V-1200HD and output HDCP-applied video to a monitor.

- An HDCP-applied HDMI signal is input via either HDMI IN 3 or HDMI IN 4.
- HDMI IN 3 or 4 is connected to the 4:4:4 process (p. 54).
- HDCP is turned on for the 4:4:4 process (p. 58, p. 60).
- An HDCP-compatible HDMI monitor is connected to either HDMI OUT 1 or HDMI OUT 2.

Memo

- By default, HDCP for the 4:4:4 process is set to "off."
- When the HDCP setting for the 4:4:4 process is on, video from HDMI OUT 1 and 2 and HDMI OUT MULTI-VIEW 2 is also output with HDCP applied.

NOTE

- The 4:2:2 process section does not support HDCP. Inputting an HDCP-applied HDMI signal via HDMI IN 1 or 2 is not possible. Inputting an HDCP-applied HDMI signal via HDMI IN 3 or 4 is also impossible when HDMI IN 3 and 4 are connected to the 4:2:2 process section.
- When HDCP is turned on, connect HDCP-compatible monitors to HDMI OUT 1 and 2.
- Connect an HDCP-compatible monitor to HDMI OUT MULTI-VIEW 2.
- Audio in an HDCP-applied HDMI signal cannot be input even when HDCP is turned on in the 4:4:4 process.

About the 4:2:2 Process

With the 4:2:2 process, you can select switcher configurations such as 2M/E and 1M/E, and perform video compositing using keyer, picture-in-picture, and other kinds of composition.

* For details about the various settings for the 4:2:2 process, refer to “4:2:2 Process Settings” (p. 34) and after.

Selectable 4:2:2 Process Formats

With the 4:2:2 process, you select from among the process formats shown below.

Selectable 4:2:2 processing formats	1080i, 1080p • Compliant with SMPTE 274M
-------------------------------------	---

You can input video compatible with the selected process format via the various input connectors.

For example, when the 4:2:2 process format is set to 1080p, the only video format you can input or output is 1080p. (*1)

You use the “XPT ASSIGN Screen” (p. 43) to assign video input via the various connectors to cross-point channels 1 through 16.

(*1) When HDMI IN 3 or 4 is connected to the 4:2:2 process section, video in formats other than the specified 4:2:2 process format can be input via HDMI IN 3 or 4. For details, refer to “HDMI IN 3, 4 Settings” (p. 53).

Memo

For information on how to set the 4:2:2 process format, refer to “FORMAT Screen (4:2:2)” (p. 44).

4:2:2 Process M/E Mode and Composition

With the V-1200HD’s 4:2:2 process, you can use a rich array of “M/E modes” and “compositions” to create a wide variety of productions.

For the M/E modes, different composition and AUX combinations provide a number of patterns.

“Compositions” refer to the layers and keyers used in video compositing, and let you accomplish key compositing, picture-in-picture (PinP), and other kinds of video composition.

About the 4:2:2 M/E Modes

With the 4:2:2 process, you can use the following three M/E modes.

What’s more, each M/E mode provides multiple patterns of composition and AUX combinations.

The respective M/E modes have the following features.

1M/E Mode

This is a simple operation style using 1M/E + 4 keys. Because you can two AUX buses and can also split video and use the mode as a routing switcher, this mode achieves easy use as the main console for performance-hall equipment and the like. In cases when you want to use three or more AUXes, using the composition bus lets you achieve up to six outputs.

1.5M/E Mode

This is the highest-performance operation style, capable of using the PGM and PST rows as the final stage in addition to 1M/E. You can use all four compositions in one M/E. You can freely change the priority of each keyer, and even copy compositions. This mode can achieve such complex operations as taking a scene using base + 4 compositing and transitioning at once to a different source by using WIPE.

2M/E Mode

This provides a standard 2M/E operation style. You can use two keyers with each M/E. The keyers also accommodate swapping priority. Not only is reentry of the video source from M/E 1 to M/E 2 possible, but so is reverse reentry from M/E 2 to M/E 1. You can switch the two M/Es and output them from a single PGM output. The two M/Es can also be output independently, making possible such operations as simultaneous transmission of captions in two different languages.

Memo

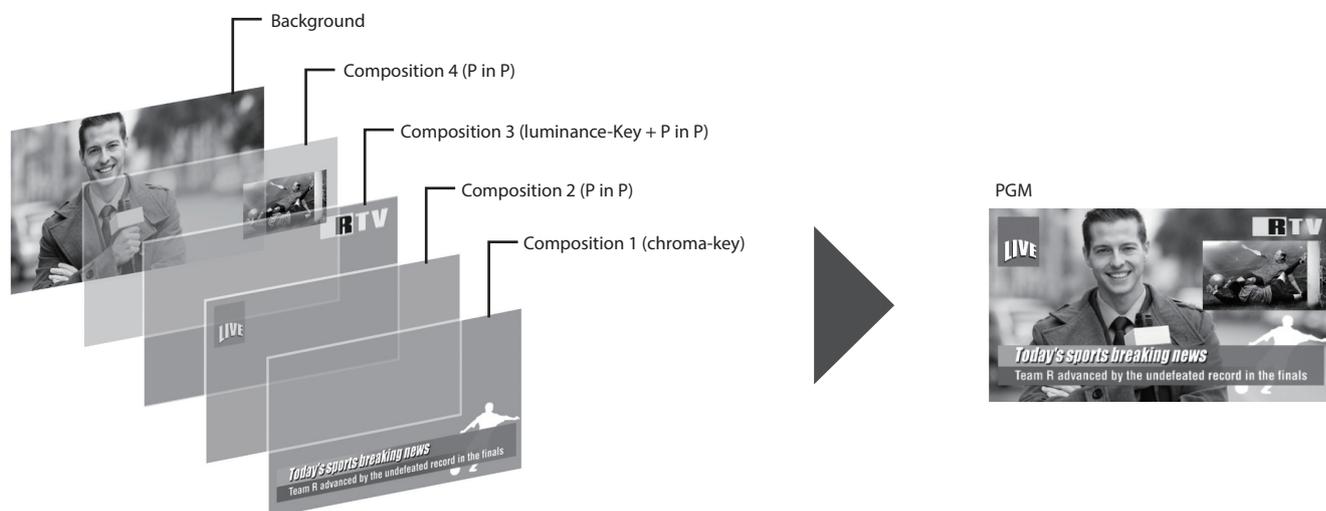
- The number of compositions that you can use with each M/E differs according to the format selected as the 4:2:2 process format. The number of systems that can use self keys, external keys, PinP, and AUX buses also differs depending on the number of compositions that can be used.
- For information on the relationship between the 4:2:2 process format and the number of selectable compositions in each M/E mode, refer to “Relationship Between the 4:2:2 Process Format and the Number of Selectable Compositions in Each M/E Mode” (p. 14).

About Compositions

"Compositions" refer to the layers and keyers used in video compositing, and in the 4:2:2 process, you can use up to four compositions to composite video.

In each composition, you can carry out self-key compositing, picture-in-picture (P in P), and external-key compositing.

The figure below shows a dramatization of composition use when the 4:2:2 process format is set to 1080i and the M/E mode is set to 1.5M/E 4 KEYERS.



In the example above, composition is performed using self keys and PinP.

When carrying out composition using an external key, you select an M/E mode that supports external keys.

For example, when the 4:2:2 process format is set to 1080i and the M/E mode to 1.5M/E 3 KEYERS, the number of usable compositions is three, and in one of the three compositions, you can carry out external-key compositing using two video sources ("KEY" and "FILL").

Memo

- For information on the relationship between the 4:2:2 process format and the number of selectable compositions in each M/E mode, refer to "Relationship Between the 4:2:2 Process Format and the Number of Selectable Compositions in Each M/E Mode" (p. 14).
- You make the settings for key compositing and picture-in-picture at the COMPOSITION screen. For information on the COMPOSITION screen, check out "COMPOSITION Screen" (p. 46).

Relationship Between the 4:2:2 Process Format and the Number of Selectable Compositions in Each M/E Mode

The number of compositions that can use self keys and external keys, the number of AUX buses differs depending on the combination of the selected 4:2:2 process format (p. 44) and the 4:2:2 M/E mode. Refer to the following table for the combinations and numbers.

		4:2:2 process format							
		1080i				1080p			
		M/E mode	Self-key	External-key	AUX	M/E mode	Self-key	External-key	AUX
1 M/E	4 KEYERS 2 AUXS 	4	—	2	2 KEYERS 2 AUXS 	2	—	2	
	3 KEYERS 2 AUXS 	2	1	2	1 KEYSER 2 AUXS 	—	1	2	
	2 KEYERS 2 AUXS 	—	2	2					
1.5 M/E	4 KEYERS 	4	—	—	2 KEYERS 	2	—	—	
	3 KEYERS 	2	1	—	1 KEYSER 	—	1	—	
	2 KEYERS 	—	2	—					
2 M/E	4 KEYERS 	4	—	—	2 KEYERS 	2	—	—	
	3 KEYERS 	2	1	—					
	2 KEYERS 	—	2	—					

* When using an external key, two video sources (“KEY” and “FILL”) are used in a single composition.

Output from the 4:2:2 Process

Video processed by the 4:2:2 process is output to SDI OUT 1 through 6 or the 4:4:4 process in the same format as the 4:2:2 process format. For example, when 1080i has been specified as the 4:2:2 process format, the output video format is also 1080i. To select the output destination, you use “PATCHBAY 1 Screen” (p. 51) or “PATCHBAY 2 Screen” (p. 52).

About the 4:4:4 Process

The 4:4:4 process receives signals from the 4:2:2 process section (S1 and S2) and video from HDMI IN 3 and 4. The 4:4:4 process lets you perform switching, self-key compositing, matrix output, and other processing.

Memo

For details about the various settings for the 4:4:4 process, refer to "4:4:4 Process Settings" (p. 55).

Selectable 4:4:4 Process Formats

In the 4:4:4 process, you select from among the following process formats.

Video passes through an internal scaler before input, which means that you can input video that is in formats other than the selected process format. (*1)

Selectable 4:4:4 processing formats	480i/576i (*2), 480p/576p (*2), 720p, 1080i, 1080p, 1024x768, 1280x720, 1280 x 800, 1366x768, 1280x1024, 1400x1050, 1600x1200, 1920x1080, 1920x1200
-------------------------------------	---

(*1) You can input video in all formats listed in the "Selectable 4:4:4 processing formats" chart above.

(*2) This is 480 when the frame rate is set to 59.94 Hz or 576 when the frame rate is set to 50 Hz.

To set the frame rate, you use the "PROCESSOR SETUP Screen" (p. 82).

Memo

For information on how to set the 4:4:4 process format, refer to "FORMAT Screen (4:4:4)" (p. 63).

M/E Modes in the 4:4:4 Process

The 4:4:4 process lets you use the following three M/E modes.

In the "MATRIX" mode and the "1M/E" mode, you can work with HDCP-applied HDMI signals.

The respective M/E modes have the following features.

SCALER

Use this mode to input a variety of computer outputs to the 4:2:2 process and carry out a wide range of composition.

The HDMI IN 3 and 4 signals undergo scaling and are input to the 4:2:2 process. After arranging a composition in the 4:2:2 process, the output from the 4:2:2 process is scaled and output from HDMI OUT 1 and 2.

- * Working with HDCP-applied HDMI signals is not possible.
- * The configured destination for HDMI IN 3 and 4 is fixed at the 4:2:2 process and cannot be changed.

MATRIX

In this mode, you select a single source from up to four sources—the two 4:2:2 process outputs (S1 and S2) and the video input via HDMI IN 3 and 4—and perform output via HDMI OUT.

You can select the respective video and output seamlessly via HDMI OUT 1 and HDMI OUT 2.

Also, HDMI IN 3 and 4 support RGB 4:4:4, and video of high image quality from a computer or other such source can be output at unchanged quality via HDMI OUT, with no degradation.

- * Input via HDMI IN 3 and 4 that is output from HDMI OUT 1 and 2 does not pass through the 4:2:2 process, and so latency is minimal.
- * Setting HDCP to ON makes it possible to work with HDCP-applied HDMI signals.
- * The connection destinations for HDMI IN 3 and 4 are fixed at the 4:4:4 process and cannot be changed.

1M/E

In this mode, you composite a total of four sources; the two 4:2:2 process outputs (S1 and S2) and the video input via HDMI IN 3 and 4 then output via HDMI OUT.

You can use compositions to perform PinP and keyed compositing against a background video.

Also, HDMI IN 3 and 4 support RGB 4:4:4, and video of high image quality from a computer or other such source can be output at unchanged quality via HDMI OUT, with no degradation.

- * Input via HDMI IN 3 and 4 that is output from HDMI OUT 1 and 2 does not pass through the 4:2:2 process, and so latency is minimal.
- * Setting HDCP to ON makes it possible to work with HDCP-applied HDMI signals.
- * The connection destinations for HDMI IN 3 and 4 are fixed at the 4:4:4 process and cannot be changed.

Memo

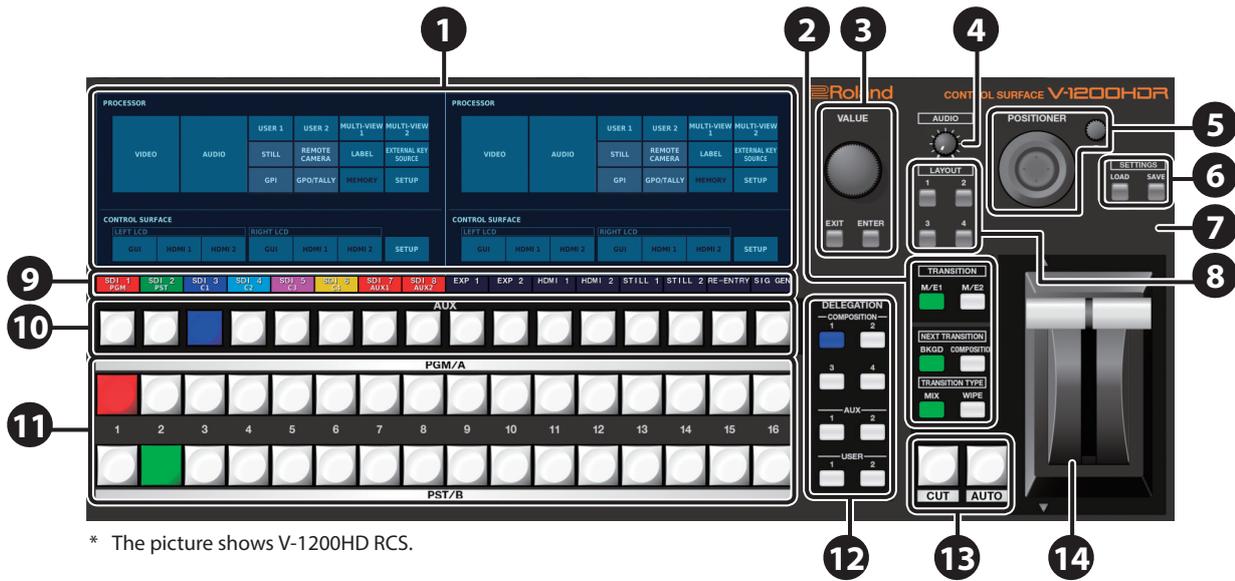
For information on how to make M/E mode settings for the 4:4:4 process, refer to "M/E Screen (4:4:4)" (p. 55).

Output from the 4:4:4 Process

Video processed by the 4:4:4 process is output via HDMI OUT 1 and 2 in the same format as the 4:4:4 process format.

For instance, if 720p is specified as the 4:4:4 process format, the video format output from HDMI OUT 1 and 2 is also 720p.

Control Surface Overview and Functions



* The picture shows V-1200HD RCS.

No.	Name	Description	Page								
1	Dual monitors	<ul style="list-style-type: none"> This displays the menu screen. You can make settings separately for the screens displayed on the left and right monitors. At menu screens, you select menu items and change settings by tapping the monitor directly. <p>* If you tap two or more locations on the touchscreen the unit may be unable to detect the correct location.</p> <p>V-1200HDR</p> <p>This can display video input via the HDMI IN 1 and 2 connectors on the V-1200HDR.</p>	p. 18 p. 82								
2	TRANSITION [M/E1] and [M/E2] buttons	<p>These select "M/E1" or "M/E2" as the bus for switching video using cross points or the video fader. The selected button lights up.</p> <p>* This is effective when the 4:2:2 M/E mode is 1.5M/E or 2M/E.</p>	p. 20								
	NEXT TRANSITION [BKGD] and [COMPOSITION] buttons	<p>These select whether the video switched to next is [BKGD] (background) or [COMPOSITION] (PinP/KEY). The selected button lights up.</p> <p>Memo</p> <p>The COMPOSITION button lights up in the same color as the composition on the COMPOSITION screen (p. 46) for which <NEXT> is set to ON. The following colors are assigned to the compositions.</p> <p>C1 : BLUE C2 : CYAN C3 : MAGENTA C4 : YELLOW</p> <p>You can also select a composition that switches <NEXT> to ON with every press of the [COMPOSITION] button.</p>	p. 20 p. 23								
	TRANSITION TYPE [MIX] and [WIPE] buttons	<p>These select "MIX" or "WIPE" as the effect applied to switched video. The selected button lights up.</p>	p. 20								
3	[VALUE] dial	Use this to change setting values.	p. 18								
	[EXIT] button	Press this to answer "no" to on-screen prompt messages.	—								
	[ENTER] button	Press this to answer "yes" to on-screen prompt messages.	—								
4	[AUDIO] dial	This adjusts the main output from the V-1200HD's audio mixer.	—								
5	[POSITIONER] stick	This controls a remote camera connected to the V-1200HD.	p. 77								
	[Z] dial	Use the [POSITIONER] stick to adjust pan and tilt and the [Z] dial to adjust zoom, focus, and the like.									
6	V-1200HD RCS SETTINGS [LOAD],[SAVE] buttons	These save the setup state of the V-1200HD to the computer, and load a saved file to recall the setup state.	p. 85								
7	PROCESSOR indicators	<p>These indicate the status of the V-1200HD (processor).</p> <table border="1"> <tr> <td>LINK</td> <td>This lights up when a connection between the unit and the V-1200HD is established.</td> </tr> <tr> <td>FAN</td> <td>This flashes if the V-1200HD's cooling fan experiences a problem and stops running.</td> </tr> <tr> <td>DC</td> <td>This lights up when DC power is received from an external power source connected to the V-1200HD</td> </tr> <tr> <td>AC</td> <td>This lights up when AC power is supplied to the V-1200HD's internal power-supply circuit.</td> </tr> </table>	LINK	This lights up when a connection between the unit and the V-1200HD is established.	FAN	This flashes if the V-1200HD's cooling fan experiences a problem and stops running.	DC	This lights up when DC power is received from an external power source connected to the V-1200HD	AC	This lights up when AC power is supplied to the V-1200HD's internal power-supply circuit.	—
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		FAN	This flashes if the V-1200HD's cooling fan experiences a problem and stops running.								
		DC	This lights up when DC power is received from an external power source connected to the V-1200HD								
AC	This lights up when AC power is supplied to the V-1200HD's internal power-supply circuit.										
8	LAYOUT [1]–[4] buttons	These save and call up, as presets, screens to display on the dual monitors.	p. 84								

No.	Name	Description	Page												
9	Cross-point display	<p>This displays cross-point information for input channels.</p> <table border="1"> <tr> <td>Upper row</td> <td> <p>This displays the labels of the input channels. You can use "LABEL Screen" (p. 79) to specify a label display of your choosing.</p> <p>* Changing the label display for a still image is not possible at the LABEL screen. You can use the "STILL MEMORY Screen" (p. 74) to change the label display for a still image.</p> </td> </tr> <tr> <td>Lower row</td> <td> <p>This displays the functions currently assigned to video channels.</p> <ul style="list-style-type: none"> PGM : Output video channel PST : Video channel to output next C1–C4 : Composition (PinP/KEY) source channels AUX1,2 : AUX bus 1 and 2 output channels </td> </tr> <tr> <td>Background color</td> <td> <p>This lights up in the following colors according to the function assigned.</p> <ul style="list-style-type: none"> PGM : RED PST : GREEN C1 : BLUE C2 : CYAN C3 : MAGENTA C4 : YELLOW AUX : RED Unselected : BLACK </td> </tr> </table> <p>Memo</p> <p>When a [USER] button in the DELEGATION area (12) has been selected, this displays cross-point information like that shown below.</p> <table border="1"> <tr> <td>Upper row</td> <td>This displays the name of the assigned function. You can specify a label display of your choosing at the "USER Screen" (p. 69).</td> </tr> <tr> <td>Lower row</td> <td>This is displayed as "USER."</td> </tr> <tr> <td>Background color</td> <td>This lights up in the color specified using "USER Screen" (p. 69).</td> </tr> </table>	Upper row	<p>This displays the labels of the input channels. You can use "LABEL Screen" (p. 79) to specify a label display of your choosing.</p> <p>* Changing the label display for a still image is not possible at the LABEL screen. You can use the "STILL MEMORY Screen" (p. 74) to change the label display for a still image.</p>	Lower row	<p>This displays the functions currently assigned to video channels.</p> <ul style="list-style-type: none"> PGM : Output video channel PST : Video channel to output next C1–C4 : Composition (PinP/KEY) source channels AUX1,2 : AUX bus 1 and 2 output channels 	Background color	<p>This lights up in the following colors according to the function assigned.</p> <ul style="list-style-type: none"> PGM : RED PST : GREEN C1 : BLUE C2 : CYAN C3 : MAGENTA C4 : YELLOW AUX : RED Unselected : BLACK 	Upper row	This displays the name of the assigned function. You can specify a label display of your choosing at the "USER Screen" (p. 69).	Lower row	This is displayed as "USER."	Background color	This lights up in the color specified using "USER Screen" (p. 69).	—
		Upper row	<p>This displays the labels of the input channels. You can use "LABEL Screen" (p. 79) to specify a label display of your choosing.</p> <p>* Changing the label display for a still image is not possible at the LABEL screen. You can use the "STILL MEMORY Screen" (p. 74) to change the label display for a still image.</p>												
Lower row	<p>This displays the functions currently assigned to video channels.</p> <ul style="list-style-type: none"> PGM : Output video channel PST : Video channel to output next C1–C4 : Composition (PinP/KEY) source channels AUX1,2 : AUX bus 1 and 2 output channels 														
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Lower row	This is displayed as "USER."														
Background color	This lights up in the color specified using "USER Screen" (p. 69).														
10	[AUX] buttons	<p>These select the video channels output to the AUX buses (two) and video channels used for composition. They also access assigned user functions.</p> <p>The functions of the [AUX] buttons and the illuminated colors change according to the functioning selected using DELEGATION area buttons (12).</p> <table border="1"> <tr> <td>Color when illuminated</td> <td> <p>These light up in the following colors according to the functioning selected using the buttons in the DELEGATION area.</p> <ul style="list-style-type: none"> COMPOSITION1: BLUE COMPOSITION2: CYAN COMPOSITION3: MAGENTA COMPOSITION4: YELLOW AUX1,2 : RED USER1,2 : Color specified at "USER Screen" (p. 69) <p>* This lights up in green when the color specified at the USER screen is "BLACK."</p> </td> </tr> </table>	Color when illuminated	<p>These light up in the following colors according to the functioning selected using the buttons in the DELEGATION area.</p> <ul style="list-style-type: none"> COMPOSITION1: BLUE COMPOSITION2: CYAN COMPOSITION3: MAGENTA COMPOSITION4: YELLOW AUX1,2 : RED USER1,2 : Color specified at "USER Screen" (p. 69) <p>* This lights up in green when the color specified at the USER screen is "BLACK."</p>	p. 21 p. 29 p. 30										
Color when illuminated	<p>These light up in the following colors according to the functioning selected using the buttons in the DELEGATION area.</p> <ul style="list-style-type: none"> COMPOSITION1: BLUE COMPOSITION2: CYAN COMPOSITION3: MAGENTA COMPOSITION4: YELLOW AUX1,2 : RED USER1,2 : Color specified at "USER Screen" (p. 69) <p>* This lights up in green when the color specified at the USER screen is "BLACK."</p>														
11	Cross-point buttons	<p>These select the video signals to output. The numerical values are the cross-point numbers.</p> <table border="1"> <tr> <td>PGM section (program)</td> <td>This selects the video signal to output to the PGM bus. The selected button lights up in red.</td> </tr> <tr> <td>PST section (preset)</td> <td>This selects the video signal to output next (PST). The selected button lights up in green.</td> </tr> </table>	PGM section (program)	This selects the video signal to output to the PGM bus. The selected button lights up in red.	PST section (preset)	This selects the video signal to output next (PST). The selected button lights up in green.	p. 20								
PGM section (program)	This selects the video signal to output to the PGM bus. The selected button lights up in red.														
PST section (preset)	This selects the video signal to output next (PST). The selected button lights up in green.														
12	DELEGATION area	These change the selection targets for the [AUX] buttons.	—												
	COMPOSITION [1]–[4] buttons	These specify the video sources of the respective compositions as the selection targets for the [AUX] buttons.	p. 21												
	AUX [1] and [2] buttons	These specify the video outputs to AUX bus 1 or 2 as the selection targets for the [AUX] buttons.	p. 29												
	USER [1] and [2] buttons	These specify the user functions assigned to user setting 1 or 2 as the selection targets for the [AUX] buttons.	p. 30												
13	[CUT] button	This switches the video instantly.	p. 20												
	[AUTO] button	This makes the video switch automatically. The transition effect selected using TRANSITION TYPE is applied. (*1)													
14	Video fader	This is a T-bar video fader. You operate the video fader to switch the video. The transition effect selected using TRANSITION TYPE is applied. (*1)	p. 20												

(*1) Advanced settings such transition-effect patterns and transition times are made at the "TRANSITION Screen" (p. 50) and "COMPOSITION Screen" (p. 46).

Basic Operation

Dual-monitor Operations

With a V-1200HDR unit or V-1200HD RCS, you make various settings by manipulating the dual monitors.

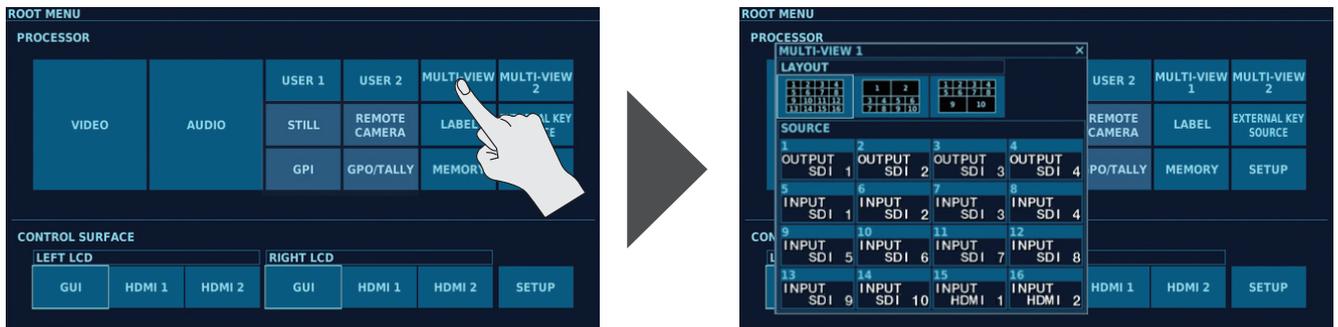
Menu Operations

Menu operations follow the procedure described below.

1. Tap the screen to select a setting item.

The item is confirmed and the next screen appears.

- The start of the menus is the ROOT MENU screen.
- When the menu has several layers, repeat this operation until you reach the desired item to select.
- The following operations return you to the previous screen.
 - Tap near the  button at the top right of the screen.
 - Tap a location on the monitor that is away from the displayed screen, or tap the cross point display.



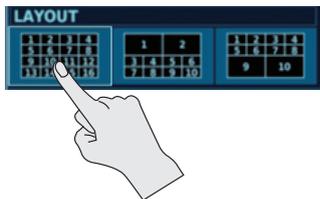
2. Change the setting value.

- With setting items for which you can freely set any value, tapping the setting value displays a red background. Turn the [VALUE] dial to change the value.

In V-1200HD RCS, you can use [←] and [→] on the computer keyboard to change values.



- For on/off setting values, tapping the setting switches it on or off.
- When multiple setting values are displayed using buttons, tap a button to select it.



Memo

When the background of a setting value is displayed in red, tapping the setting again displays the NUMBER INPUT screen (p. 19). You can enter a numerical value by tapping the number keys.

- * The NUMBER INPUT screen is not displayed for items such as those where you enter values that include a decimal point or select text, even if the setting value's background is displayed in red.

At this time, on the V-1200HDR, you can change the setting value only by using the [VALUE] dial.

In V-1200HD RCS, you can use either the [VALUE] dial or [←] and [→] on the computer keyboard to change the value.

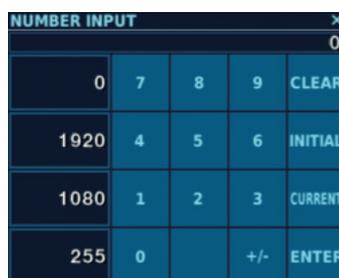
V-1200HDR

- You can change a setting value rapidly by holding down the [ENTER] button and turning the [VALUE] dial.
- Holding down the [ENTER] button and pressing the [EXIT] button returns the currently selected setting to its default value. Continuing to hold down these buttons returns related settings displayed on the same screen to their default values.

Entering Numerical Values

At a setup screen, tapping a setting item for which you can freely set any value displays the setting with a red background. At this time, tapping the setting value a second time displays the NUMBER INPUT screen.

0-9	These input 0-9.
+/-	This switches between + and - for the value to input.
CLEAR	This sets the input value to 0 (zero).
INITIAL	This returns the input value to its default value.
CURRENT	This recalls the value last applied.
ENTER	This applies the entered value. Pressing it a second time exits the screen.



Entering Text

When entering text, the TEXT INPUT screen is displayed.

0-9, A-Z	These input numerical values and letters.
123	This switches between numerical input and text input.
< >	These move the cursor.
CLEAR	This deletes all text.
INITIAL	This returns the input value to its default value.
CURRENT	This recalls the value last applied.
SPACE	This inputs a space.
DELETE	This deletes the character above the cursor.
ENTER	This applies the entered value. Pressing it a second time exits the screen.



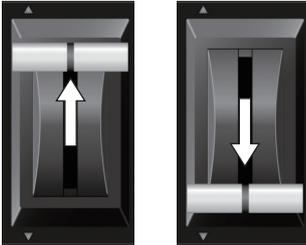
* You can enter up to 8 characters of text.

Switching the Video

You use the cross-point buttons in the PST/B row to select the video you want to output next (standby), preview it, and then switch the video.

1. Move the video fader all the way in one direction.

Before you carry out the transition operation, move the video fader all the way toward either the front or the back.



2. Press the NEXT TRANSITION [BKGD] button, making it light up.

Selecting the [BKGD] button makes the background image change when the video transition takes place.



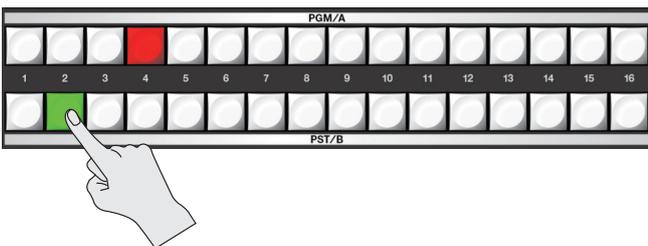
3. Press the TRANSITION TYPE [MIX] or [WIPE] button to select the transition effect.

The selected button lights up.



4. Select the channel you want to output next (standby).

Press a cross-point button in the PST/B row to select the channel you want to display next. Pressing the button makes it light up in green.



5. Switch the output video.

• Switching the Video Using Buttons

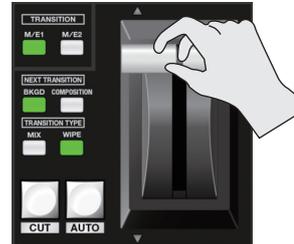
Preview the standby video, and press the [AUTO] button or [CUT] button when you want to make the video transition.

[AUTO] button	The picture changes with the effect set in step 3 applied.
[CUT] button	The picture switches instantly.



• Switching Using the Video Fader

Move the video fader in the direction opposite the direction of movement in step 1. Moving the video fader all the way makes the video change completely.



Memo

- You can change settings for items such as the transition effect "MIX" or "WIPE" pattern set at the "TRANSITION Screen" (p. 50).
Also, you use <TIME> to adjust the time for which the video transition is applied when you operate the [AUTO] button.
- If the video fader is positioned somewhere in the middle of its stroke when a video transition operation starts, the position of the video fader might differ from actual output. In such cases, moving the video fader all the way to either the front or the back lets you accomplish video transition.
- When the 4:2:2 M/E mode (p. 45) is 1.5M/E or 2M/E, you use the TRANSITION [M/E 1] and [M/E 2] buttons to select the bus on which the video is switched.

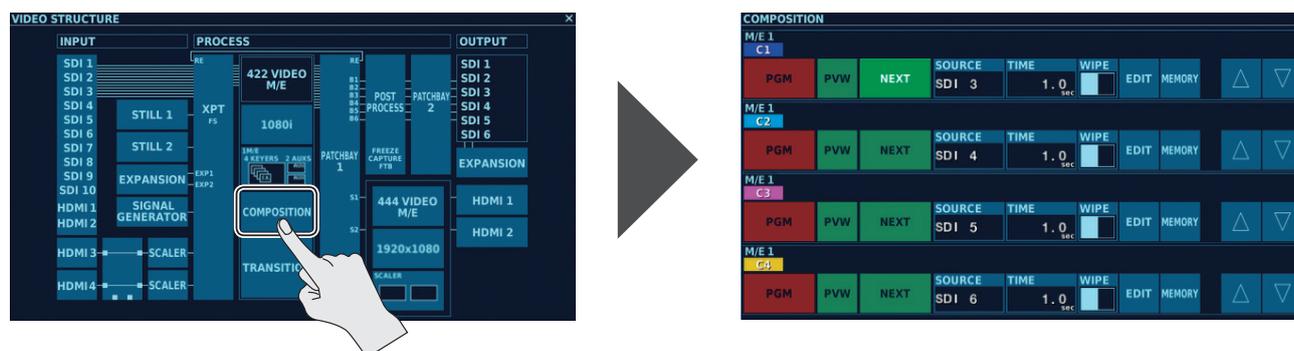


Compositing the Video

This composites video using picture-in-picture (PinP) and keying. Two types of key composition are available: methods using a “self key” (p. 24) and methods using an “external key” (p. 26).

Selecting the Video Sources for Composition

1. Go to the ROOT MENU screen and tap <VIDEO> → <COMPOSITION> at the VIDEO STRUCTURE screen to display the COMPOSITION screen (p. 46).



* The information displayed at the COMPOSITION screen differs according to the 4:2:2 process format and the selected M/E mode. For details, refer to “4:2:2 Process M/E Mode and Composition” (p. 12).

2. Tap <SOURCE> in the composition where you want to assign a source, making the SOURCE screen appear.



3. At the SOURCE screen, select the source to assign to the composition.

You can select the following sources.

Selectable sources	Descriptions
SDI 1–10	SDI inputs 1–10
HDMI 1–4	HDMI inputs 1–4 (*1)
STILL 1, 2	Still images assigned to STILL 1, 2
EXP 1, 2	Input from an expansion interfaces

Selectable sources	Descriptions
RE-ENTRY	Video for which OUTPUT on a patchbay is set to “RE”
SIG GEN	Test pattern
N/A	No assignment

(*1) HDMI 3 and 4 can be selected only when their connection destination is the 4:2:2 process.

Selecting HDMI 3 or 4 when their connection destination is the 4:4:4 process results in output of a black picture.

Memo

You can also use the DELEGATION area COMPOSITION [1] through [4] buttons and [AUX] buttons to change the source to assign.

2 Press an [AUX] button to select the source.

1 Press one of the COMPOSITION [1] through [4] buttons to select the composition (C1 through C4) where you want to assign a source.



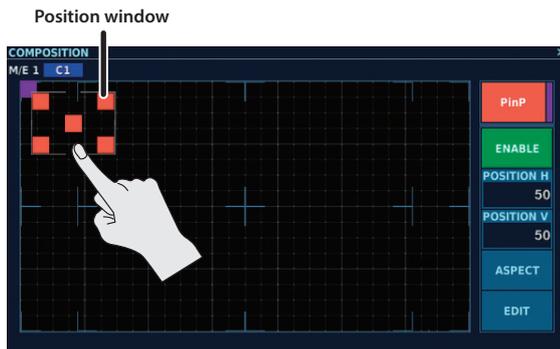
4. Exit the SOURCE screen.

Compositing Using Picture-in-Picture

This display an inset screen on a different background video.

Setting the Position and Size of the Inset Screen

1. Follow the procedure in “Selecting the Video Sources for Composition” (p. 21) to assign the video sources.
2. At the COMPOSITION screen, tap <EDIT> for the composition where you want to make the settings for the inset screen, making the EDIT screen (p. 47) appear.



Mode switch	ENABLE/DISABLE switch
PinP setup mode	PinP enabled
Key setup mode	PinP disabled
If the mode switch is set to <KEY>, tap <KEY> to change to the PinP setup mode.	
This switches between enabling and disabling PinP.	

3. Adjusts the position and size of the inset screen.

Position window	This adjusts the position and size of the inset screen. <ul style="list-style-type: none"> • Sliding the center square adjusts the position. • Sliding the squares at the four corners adjusts the size.
POSITION H	This adjusts the position of the inset screen in the horizontal direction. The setting value indicates the position of the upper left square in the position window.
POSITION V	This adjusts the position of the inset screen in the vertical direction. The setting value indicates the position of the upper left square in the position window.
<ASPECT>	This selects the aspect ratio of the inset screen. Changing the setting makes the inset screen's aspect ratio change automatically.
<EDIT>	Tapping this displays an editing screen for PinP. Here you make advanced settings for picture-in-picture, such as the inset screen's border color and border width.

4. Make the ENABLE/DISABLE switch light up, enabling PinP.

Each tap of the ENABLE/DISABLE switch switches between enabling PinP (lighted) and disabling PinP (dark).

* You can enable both PinP and key composition.

5. When you finish making the settings for the inset screen, exit the EDIT screen to return to the COMPOSITION screen.

Outputting an Inset Screen by Tapping <PGM>

This uses the operation of tapping <PGM> at the COMPOSITION screen to output an inset screen. You can switch the background video while keeping the inset screen always displayed in the foreground.

1. Press one of the [1] through [16] buttons in the PGM/A row to select the background channel.
2. Press the NEXT TRANSITION [BKGD] button, making it light up.
Selecting the [BKGD] button makes the background image change when the video transition takes place.
3. When you finish making the settings for “Setting the Position and Size of the Inset Screen” (p. 22), tap <PGM> at the COMPOSITION screen for the composition you want to output, making it light up.
The composition video is output to PGM, and the inset screen is composited.



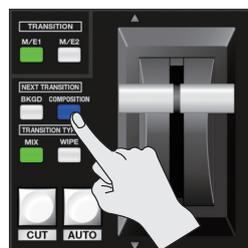
Outputting an Inset Screen by Video Fader and Button Operations

This switches between displaying and hiding the composition video (inset screen) by [CUT] button, [AUTO] button, and video fader take operations.

1. Press one of the [1] through [16] buttons in the PGM/A row to select the background channel.
2. When you finish making the settings for “Setting the Position and Size of the Inset Screen” (p. 22), tap <NEXT> at the COMPOSITION screen for the composition you want to output, making it light up.



3. Press the NEXT TRANSITION [COMPOSITION] button, making it light up.
Selecting the [COMPOSITION] button enables toggling between displaying and hiding the inset screen during a take.



4. Press the TRANSITION TYPE [MIX] or [WIPE] button to select the transition effect used when displaying or hiding the inset screen,
To change the wipe pattern, go to the COMPOSITION screen and tap <WIPE>, then select a wipe pattern.
5. Operate the [CUT] button, [AUTO] button, or video fader to display the inset screen.
6. When you want to hide the inset screen, operate the [CUT] button, [AUTO] button, or video fader a second time.

Compositing Using a Self Key (Luminance Key/Chroma Key)

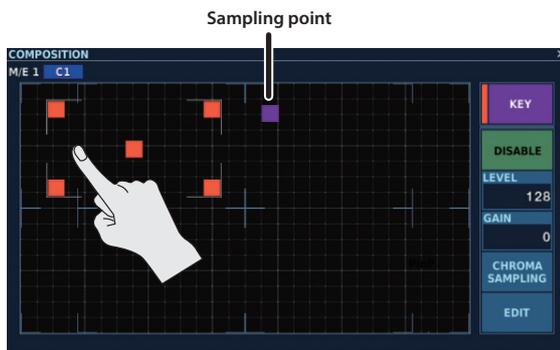
This makes a portion of the video transparent and composites it onto a background video.

Memo

- The number of compositions that can use self keys differs according to the combination of process format and M/E mode. For details, refer to “4:2:2 Process M/E Mode and Composition” (p. 12).
- By default, the setting in effect is to extract green (chroma key). You can use the editing screen for KEY (p. 48) to select a different color.

Making the Settings for Key Composition

1. Follow the procedure in “Selecting the Video Sources for Composition” (p. 21) to assign the video sources.
2. At the COMPOSITION screen, tap <EDIT> for the composition where you want to make the settings for key composition, displaying the “EDIT Screen”(p. 48).



Mode switch		ENABLE/DISABLE switch	
	PinP setup mode		Key composition enabled
	Key setup mode		Key composition disabled
If the mode switch is set to <PinP>, tap <PinP> to change to the key setup mode.		This switches between enabling and disabling key composition.	

3. Make the settings for values such as the degree of extraction for the video to overlay in the foreground and the type of key composition.

Sampling point	This extracts the color at the location where the sampling point is placed when you tap <CHROMA SAMPLING>. You move the sampling point by tapping the desired location on the EDIT screen.
LEVEL	This sets the amount of extraction.
GAIN	This sets the amount of edge blur.
<CHROMA SAMPLING>	Tapping this extracts the color at the location where the sampling point is placed. Using “TYPE” at the KEY screen to select “MANUAL” lets you perform chroma-key composition using the extracted color.
<EDIT>	Tapping this displays the editing screen for KEY. Here you specify the type of key composition (luminance key, chroma key, etc.) and make advanced settings for key composition.

4. Make the ENABLE/DISABLE switch light up, enabling key composition.

Each tap of the ENABLE/DISABLE switch switches between enabling key composition (lighted) and disabling key composition (dark).

* You can enable both PinP and key composition.

5. When you finish making the settings for key composition, exit the EDIT screen to return to the COMPOSITION screen.

Outputting Foreground Video by Tapping <PGM>

This uses the operation of tapping <PGM> at the COMPOSITION screen to output background and foreground video. You can switch the background video while keeping the foreground video always displayed.

1. Press one of the [1] through [16] buttons in the PGM/A row to select the background channel.
2. Press the NEXT TRANSITION [BKGD] button, making it light up.
Selecting the [BKGD] button makes the background image change when the video transition takes place.
3. When you finish making the settings in “Making the Settings for Key Composition” (p. 24), tap <PGM> at the COMPOSITION screen for the composition you want to output, making it light up.

The composition video is output to PGM, and the background picture and foreground video are composited.



Outputting Foreground Video by Video Fader and Button Operations

This switches between displaying and hiding the composition video (foreground video) by [CUT] button, [AUTO] button, and video fader take operations.

1. When you finish making the settings in “Making the Settings for Key Composition” (p. 24), tap <NEXT> at the COMPOSITION screen for the composition you want to output, making it light up.



2. Press the NEXT TRANSITION [COMPOSITION] button, making it light up.

Selecting the [COMPOSITION] button enables toggling between displaying and hiding the foreground video during a take.



3. Press the TRANSITION TYPE [MIX] or [WIPE] button to select the transition effect used when displaying or hiding the foreground video.

To change the wipe pattern, go to the COMPOSITION screen and tap <WIPE>, then select a wipe pattern.

4. Operate the [CUT] button, [AUTO] button, or video fader to display the foreground video.
5. When you want to hide the foreground video, operate the [CUT] button, [AUTO] button, or video fader a second time.

Compositing Using an External Key

External-key composition on the V-1200HD uses two video sources, "FILL" and "KEY," in a single composition. It extracts the fill picture using the key picture, and composites the result onto background video.

Memo

- The number of compositions that can use external keys differs according to the combination of process format and M/E mode. When using an external key, select 2 KEYERS or 3 KEYERS for each M/E mode. Using an external key is not possible when 4 KEYERS is selected. For details, refer to "4:2:2 Process M/E Mode and Composition" (p. 12).

Selecting the Video Sources for Composition

1. Go to the ROOT MENU screen and tap <VIDEO> → <COMPOSITION> at the VIDEO STRUCTURE screen to display the COMPOSITION screen (p. 46).

In cases where you can use an external key, two video sources (FILL and KEY) are used in a single composition.



2. Tap <FILL> or <KEY> for the composition where you want to assign a source, making the SOURCE screen appear.



3. At the SOURCE screen, use "FILL" or "KEY" to select the respective sources to assign.

Memo

- At the "EXTERNAL KEY SOURCE Screen" (p. 79), you can make the settings for the "FILL" and "KEY" combination used in external-key composition. Selecting a source to assign to "FILL" at the SOURCE screen updates the specified combination.
- You can also use the DELEGATION area COMPOSITION [1] through [4] buttons and [AUX] buttons to change the source to assign.

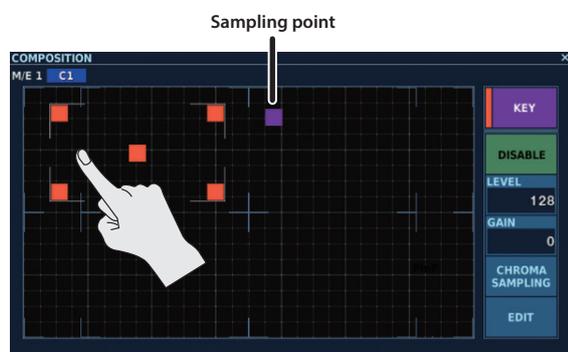
2 Press an [AUX] button to select the source.

1 Press COMPOSITION [1] through [4] buttons to select the sources to assign to "FILL" and "KEY".

- C1 or C4 is assigned to "FILL," and C2 or C4 is assigned to "KEY."

Making the Settings for Key Composition

1. Follow the procedure in “Selecting the Video Sources for Composition” (p. 26) to assign the video sources.
2. At the COMPOSITION screen, tap <EDIT> for the composition where you want to make the settings for key composition, displaying the EDIT screen (p. 48).



Mode switch

PinP PinP setup mode

KEY Key setup mode

If the mode switch is set to <PinP>, tap <PinP> to change to the key setup mode.

ENABLE/DISABLE switch

ENABLE Key composition enabled

DISABLE Key composition disabled

This switches between enabling and disabling key composition.

3. Make the settings for values such as the degree of extraction for the video to overlay in the foreground and the type of key composition.

Sampling point	This extracts the color at the location where the sampling point is placed when you tap <CHROMA SAMPLING>. You move the sampling point by tapping the desired location on the EDIT screen.
LEVEL	This sets the amount of extraction.
GAIN	This sets the amount of edge blur.
<CHROMA SAMPLING>	Tapping this extracts the color at the location where the sampling point is placed. Using “TYPE” at the KEY screen to select “MANUAL” lets you perform chroma-key composition using the extracted color.
<EDIT>	Tapping this displays the editing screen for KEY. Here you specify the type of key composition (luminance key, chroma key, etc.) and make advanced settings for key composition.

4. Make the ENABLE/DISABLE switch light up, enabling key composition.

Each tap of the ENABLE/DISABLE switch switches between enabling key composition (lighted) and disabling key composition (dark).

* You can enable both PinP and key composition.

5. When you finish making the settings for key composition, exit the EDIT screen to return to the COMPOSITION screen.

Outputting Foreground Video by Tapping <PGM>

This uses the operation of tapping <PGM> at the COMPOSITION screen to output background and foreground video. You can switch the background video while keeping the foreground video always displayed.

1. Press one of the [1] through [16] buttons in the PGM/A row to select the background channel.
2. Press the NEXT TRANSITION [BKGD] button, making it light up.
Selecting the [BKGD] button makes the background image change when the video transition takes place.
3. When you finish making the settings in “Making the Settings for Key Composition” (p. 27), tap <PGM> at the COMPOSITION screen for the composition you want to output, making it light up.

The composition video is output to PGM, and the background picture and foreground video are composited.



Outputting Foreground Video by Video Fader and Button Operations

This switches between displaying and hiding the composition video (foreground video) by [CUT] button, [AUTO] button, and video fader take operations.

1. When you finish making the settings in “Making the Settings for Key Composition” (p. 27), tap <NEXT> at the COMPOSITION screen for the composition you want to output, making it light up.



2. Press the NEXT TRANSITION [COMPOSITION] button, making it light up.
Selecting the [COMPOSITION] button enables toggling between displaying and hiding the foreground video during a take.



3. Press the TRANSITION TYPE [MIX] or [WIPE] button to select the transition effect used when displaying or hiding the foreground video.
To change the wipe pattern, go to the COMPOSITION screen and tap <WIPE>, then select a wipe pattern.
4. Operate the [CUT] button, [AUTO] button, or video fader to display the foreground video.
5. When you want to hide the foreground video, operate the [CUT] button, [AUTO] button, or video fader a second time.

Selecting Video Sources to Assign to AUX Buses

When the 1M/E mode is specified as the 4:2:2 M/E mode, you can use two AUX buses.

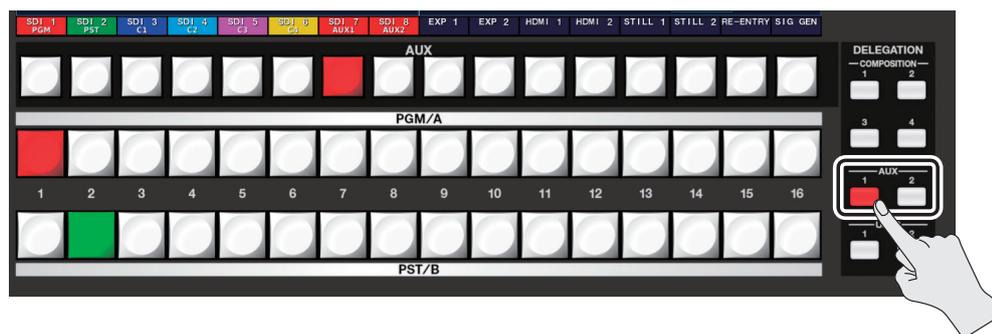
Assigning Video Sources Assigned to a Cross Point to AUX Buses

1. Assign the video sources you want to assign to AUX buses to a cross point.

For information on how to make assignments to a cross point, refer to "XPT ASSIGN Screen" (p. 43).

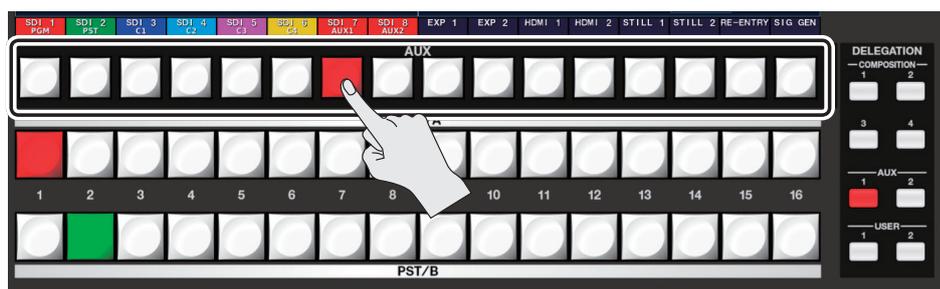
2. Go to the DELEGATION area and press AUX [1] or AUX [2].

The [AUX] buttons function as video-source selection buttons for the AUX buses.



3. Press the [AUX] button for the channel you want to assign to the AUX bus, assigning the video source to the AUX bus.

The [AUX] button for the selected channel lights up in red and the video source is assigned to the AUX bus.



Memo

- You use the "PATCHBAY 1 Screen" (p. 51) to select the output destination for the AUX bus.
- You can also use the user function to assign video sources not assigned to cross points to the AUX 1 and 2 buses. For details about the user functions, refer to "USER Screen" (p. 69).

Using User Functions

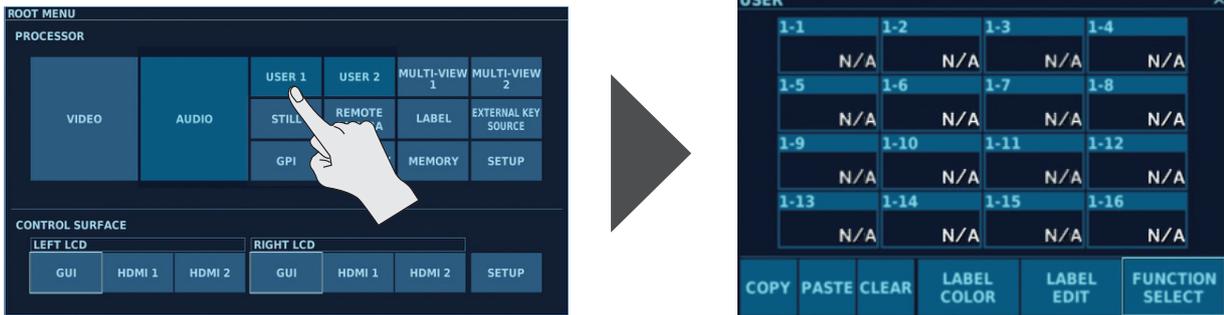
You can assign various functions of the V-1200HD to a user channel, save them, and call them up for use when needed (user functions). You can assign up to 16 user channels each to user settings 1 and 2.

Memo

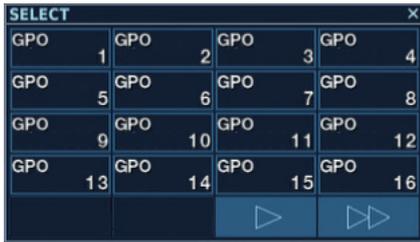
- Only the user functions let you carry out output control for control signals output from the TALLY/GPIO connector. To output a control signal, the “GPO/TALLY Screen” (p. 80) must be used to assign the function.

Saving a User Function

1. Go to the ROOT MENU screen and tap <USER 1> or <USER 2> to display the USER screen.



2. Tap the user channel to which you want to assign the function, making the SELECT screen appear.

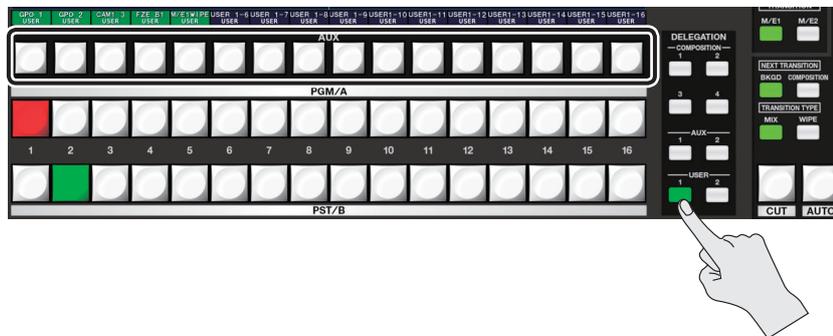


3. At the SELECT screen, tap the function to assign it to the user channel. For details on functions you can assign to user channels, refer to “USER Screen” (p. 69).

Accessing a User Function

This calls up the user function assigned to user setting 1 or 2.

1. Press the USER [1] or [USER 2] button to select the user setting (1 or 2) where the user function you want to access is saved. The cross point display changes to the user channel, and the [AUX] buttons function as buttons for accessing the user channels.



2. Press the [AUX] button for the user channel you want to access, calling up the user function.

The [AUX] button lights up briefly, and the user function is called up. If a function that is switched on and off (FREEZE, for example) has been assigned to the user channel, the [AUX] button lights up when the function is on.

Root Menu

You use the root menu to access the wide range of functions available on the V-1200HD.

If another menu screen is displayed, repeat the procedure described below several times to display the ROOT MENU screen.

- Tap the  button at the upper-right area of the screen.
- Tap a location on the monitor that is away from the displayed screen, or tap the cross point display.



* The screen is for V-1200HDR.

PROCESSOR Section

Here you make settings for the V-1200HD itself.

Name	Description	Page
PROCESSOR		
VIDEO	This displays the VIDEO STRUCTURE screen.	p. 32
AUDIO	This displays the AUDIO STRUCTURE screen..	p. 64
USER 1	This displays the USER screen.	p. 69
USER 2		
MULTI-VIEW 1	This displays the MULTI-VIEW screen.	p. 72
MULTI-VIEW 2		p. 73
STILL	This displays the STILL MEMORY screen.	p. 74
REMOTE CAMERA	This displays the REMOTE CAMERA screen.	p. 77
LABEL	This displays the LABEL screen.	p. 79
EXTERNAL KEY SOURCE	This displays the EXTERNAL KEY SOURCE screen.	p. 79
GPI	This displays the GPI screen.	p. 80
GPO/TALLY	This displays the GPO/TALLY screen.	p. 80
MEMORY	This displays the MEMORY screen.	p. 81
SETUP	This displays the PROCESSOR SETUP screen.	p. 82

CONTROL SURFACE Section

Here you make settings for the V-1200HDR or V-1200HD RCS.

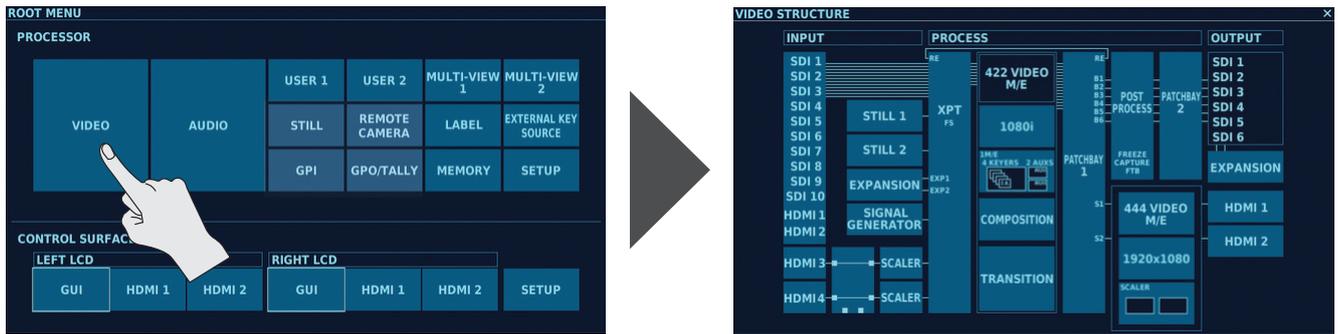
Name	Description	Page		
CONTROL SURFACE				
LEFT LCD	<div style="border: 1px solid black; border-radius: 10px; padding: 2px; display: inline-block; margin-bottom: 5px;">V-1200HDR</div> These select the screens displayed on the V-1200HDR's left and right monitors.	p. 82		
GUI				
HDMI 1				
HDMI 2				
RIGHT LCD				
GUI				
HDMI 1				
HDMI 2				
SETUP			This displays the CONTROL SURFACE SETUP screen.	p. 83

- When video is displayed on the dual monitors, tapping the screen changes the display to the ROOT MENU screen.

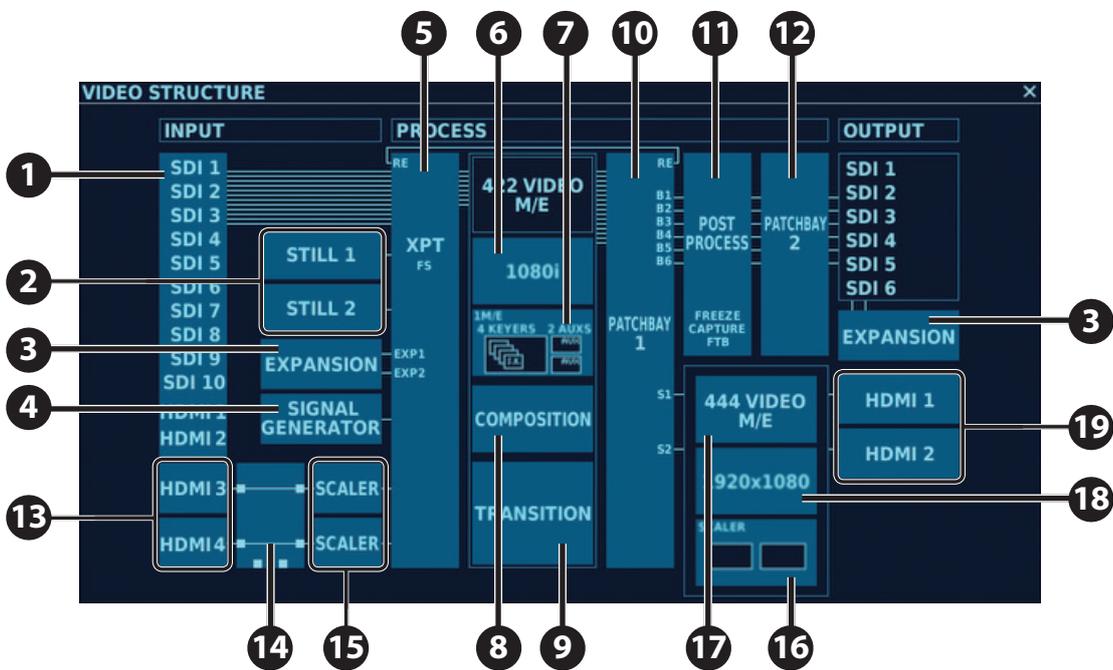
VIDEO STRUCTURE Screen

At the VIDEO STRUCTURE screen, you make video-related settings.

1. Tapping <VIDEO> at the ROOT MENU screen displays the VIDEO STRUCTURE screen.



Part Names and Functions



No.	Name	Description	Page
4:2:2 Process			
1	VIDEO INPUT	These adjust video input via SDI IN 1–10 and HDMI IN 1 and 2.	p. 34
2	STILL1,2	These assign still images to STILL 1 and 2 and adjust the brightness, contrast, and other values of assigned still images.	p. 35
3	EXPANSION	This makes various settings for optional expansion interfaces connected to the V-1200HD.	p. 36
4	SIGNAL GENERATOR	This selects a test pattern.	p. 42
5	XPT	This assigns video and still images to cross points.	p. 43
6	FORMAT (4:2:2)	This selects the format used by the 4:2:2 process.	p. 44
7	M/E (4:2:2)	This selects the M/E mode for the 4:2:2 process.	p. 45
8	COMPOSITION	This makes advanced settings for key composition and PinP.	p. 46
9	TRANSITION	This changes the patterns of transition effects and makes advanced settings for wipes.	p. 50
10	PATCHBAY 1	This sets the output destinations for video from the 4:2:2 process.	p. 51
11	POST PROCESS	This applies freezes and black fades to the video buses selected using PATCH BAY 1.	p. 52

No.	Name	Description	Page
12	PATCHBAY 2	This specifies the SDI connector where video from PATCH BAY 1 is output.	p. 52
4:4:4 Process			
13	HDMI 3,4	These adjust the color space and color of video input via HDMI IN 3 and 4.	p. 53
14	HDMI selector switch	This switch the connection destinations for HDMI IN 3 and 4. * When the 4:2:2 process is specified as the connection destination, the "444 VIDEO M/E" mode (p. 55) is set to "SCALER" and cannot be changed. When the 4:4:4 process is specified as the connection destination, you can use "MATRIX" or "1M/E."	p. 54
15	SCALER	These adjust the size, position, and other values of video input via HDMI IN 3 and 4. * These are enabled when the 4:2:2 process is specified as the connection destination for HDMI IN 3 or 4.	p. 54
16	M/E(4:4:4)	These select the 4:4:4 M/E mode. * The connection destinations for HDMI IN 3 and 4 are automatically switched according to the selected 4:4:4 M/E mode.	p. 55
17	444 VIDEO M/E	You use this to make scaler settings, composition settings, set cross points for the 4:4:4 process, and make other such settings. The screen displayed differs according to the selected 4:4:4 M/E mode.	p. 56
18	FORMAT(4:4:4)	This selects the format for the 4:4:4 process.	p. 63
19	HDMI 1,2	These adjust the color space and color of video output from HDMI OUTPUT 1 and 2.	p. 63

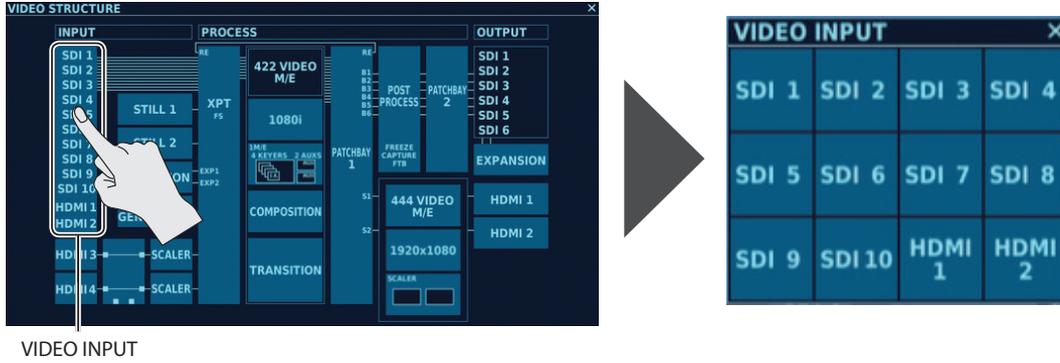
4:2:2 Process Settings

VIDEO INPUT Screen

At the VIDEO INPUT screen, you change the setting values of video enter via SDI IN 1 through 10 and HDMI IN 1 and 2.

* For information on how to change the settings for HDMI IN 3 and 4, refer to "HDMI IN 3, 4 Settings" (p. 53).

1. Tapping <VIDEO INPUT> at the VIDEO STRUCTURE screen displays the VIDEO INPUT screen.



2. Tap the button for the input video whose setting values you want to change.

Tapping a button from <SDI 1> to <SDI 10> displays the SDI INPUT screen.



Tapping <HDMI 1> or <HDMI 2> displays the HDMI INPUT screen.



You can change the setting values within the ranges shown below.

Parameter	Setting value (Values in bold type are factory defaults.)	Description
COLOR CORRECTION		
BRIGHTNESS		This adjusts the brightness.
CONTRAST		This adjusts the contrast.
SATURATION	-128- 0 - +127	This adjusts the color saturation.
RED		This adjusts the red level.
GREEN		This adjusts the green level.
BLUE		This adjusts the blue level.

The following items can be changed only when HDMI 1 or HDMI 2 has been selected.

COLOR SPACE	AUTO , RGB 0-255, RGB 16-235, YCC SD, YCC HD	This selects the color space.
-------------	--	-------------------------------

Memo

The format you can input is displayed at the HDMI INPUT screen.
The displayed format is the same as the setting made for the 4:2:2 process format.
You select the 4:2:2 process format at the "FORMAT Screen (4:2:2)" (p. 44).

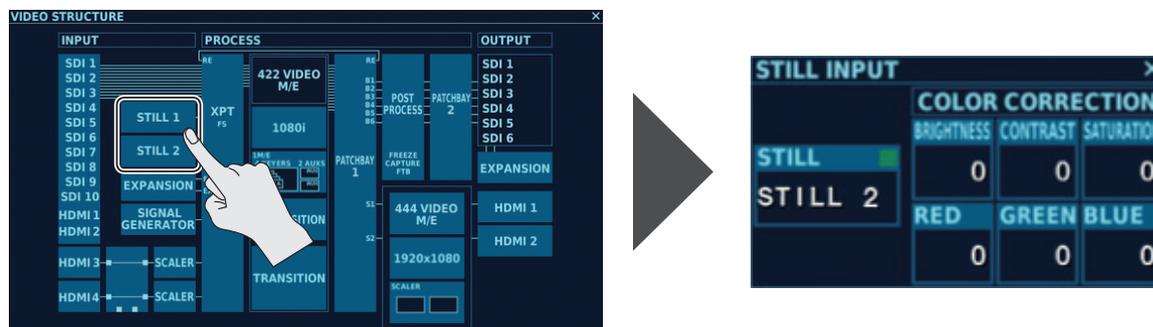


STILL INPUT Screen

At the STILL INPUT screen, you assign still images to STILL 1 and 2 and adjust the contrast and other values of assigned still images.

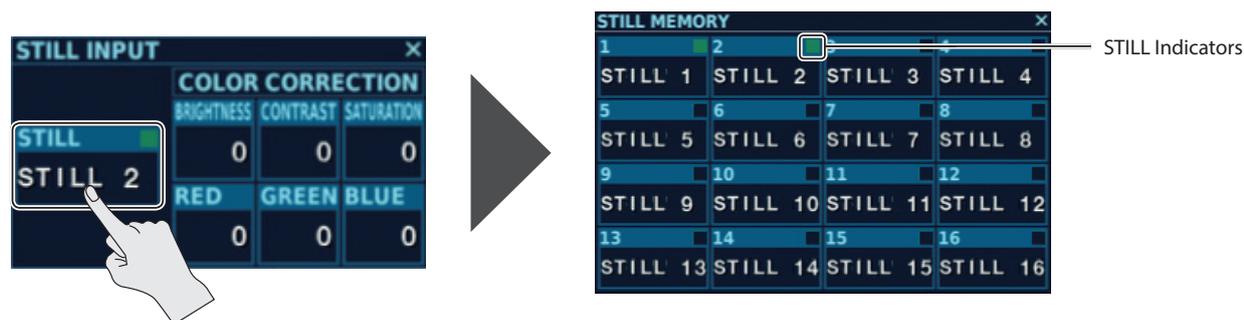
* To assign a still image to STILL 1 or 2, you must either import the still image using the "STILL MEMORY Screen" (p. 74), or capture the still image using the "POST PROCESS Screen" (p. 52) and import it into STILL MEMORY.

1. Tapping <STILL 1> or <STILL 2> at the VIDEO STRUCTURE screen displays the STILL INPUT screen.



Assigning Still Images to STILL 1 and 2

1. Tap <STILL> at the STILL INPUT screen, displaying the STILL MEMORY screen.



2. Select the still image to assign to STILL 1 or STILL 2 by tapping the image.

About the STILL Indicator

The STILL indicator shows the status of each memory on the STILL MEMORY screen.

Illuminated color	Status
Green	A still image has been imported.
Red	A still image is now being imported.
Unlighted	No still image has been imported.

Memo

To output a still image, it must be assigned to a cross point. For information on how to make the assignment, refer to "XPT ASSIGN Screen" (p. 43). When no still image is assigned to STILL 1 or 2, a black picture is displayed.

Adjusting the Color of a Still Image Assigned to STILL 1 or 2

1. You can change setting values within the range shown below by going to the STILL INPUT screen and tapping the respective COLOR CORRECTION parameters.



Parameter	Setting value (Values in bold type are factory defaults.)	Description
COLOR CORRECTION		
BRIGHTNESS		This adjusts the brightness.
CONTRAST		This adjusts the contrast.
SATURATION		This adjusts the color saturation.
RED	-128- 0 - +127	This adjusts the red level.
GREEN		This adjusts the green level.
BLUE		This adjusts the blue level.

EXPANSION Screen

At the EXPANSION screen, you make settings for expansion interfaces installed in the V-1200HD.

For information on expansion interfaces that can be installed in the V-1200HD, check the following Roland website.
<http://proav.roland.com/>

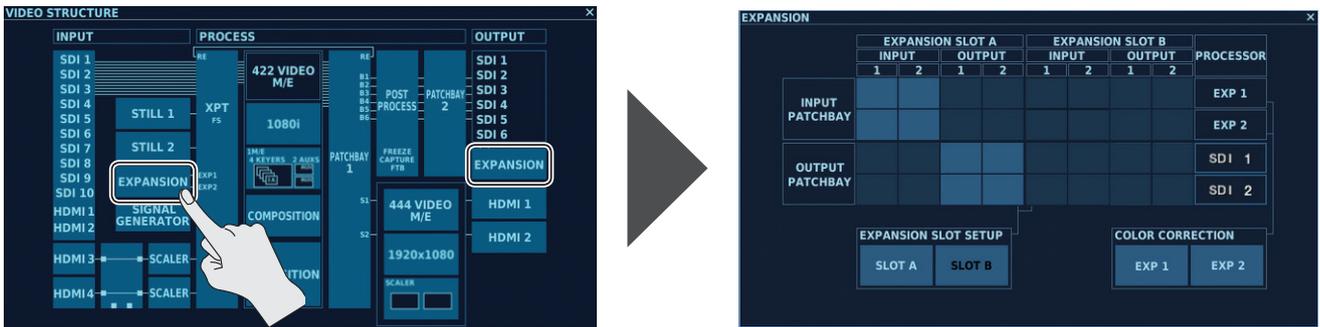
XI-SDI

Installing the XI-SDI in the V-1200HD lets you expand two series of SDI input and output.

* The SDI IN 1 and OUT 1 connectors on the XI-SDI support embedded audio.

1. Tapping <EXPANSION> at the VIDEO STRUCTURE screen displays the EXPANSION screen.

Tapping either of the two <EXPANSION> items displays the EXPANSION screen.



2. At INPUT PATCHBAY, set the input patchbays for the XI-SDI.

Tap INPUT 1 or 2 to select the SDI input on the XI-SDI to send to the EXP 1 or EXP 2 bus on the V-1200HD.

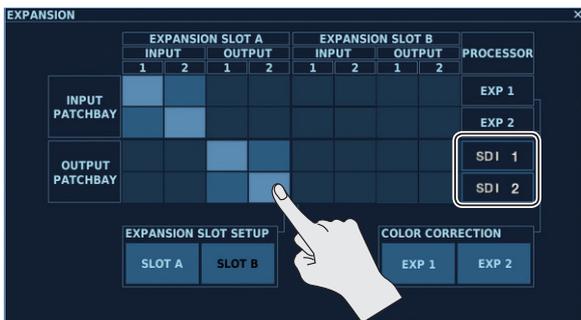
In the example shown below, SDI input 1 on the XI-SDI is sent to the V-1200HD's EXP 1 bus, and SDI input 2 is sent to the EXP 2 bus.



3. At OUTPUT PATCHBAY, set the output patchbays for the XI-SDI.

At OUTPUT PATCHBAY, set the output patchbays for the XI-SDI. Tap OUTPUT 1 or 2 to select the video to output from the XI-SDI. The XI-SDI's SDI output can be assigned to SDI output 1 through 6 on the V-1200HD. Change the SDI output (SDI 1 through SDI 6) assigned with "PROCESSOR:"

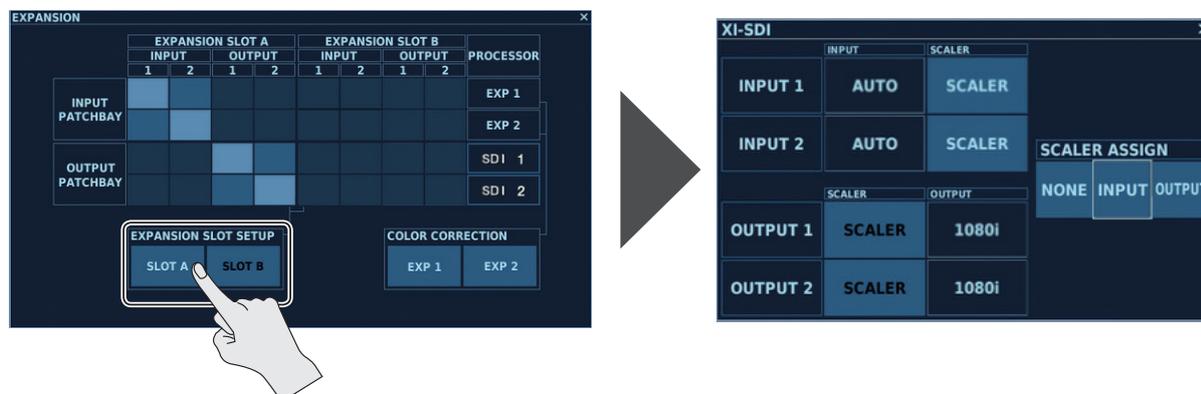
In the example shown below, the V-1200HD's SDI output 1 is output via the SDI OUT 1 connector on the XI-SDI, and SDI output 2 is output via the SDI OUT 2 connector.



XI-SDI Screen

Here you make output format and scaler settings for the XI-SDI.

1. Tapping <SLOT A> or <SLOT B> at the EXPANSION screen displays the XI-SDI screen.



You can change the setting values within the ranges shown below.

Parameter	Setting value (Values in bold type are factory defaults.)	Description
SCALER ASSIGN	INPUT , OUTPUT, NONE	This selects the connector to which to assign the scaler. INPUT: This assigns scalers to input connectors. You can input any video other than the V-1200HD's 4:2:2 process format video. OUTPUT: This assigns scalers to output connectors. You can output any video other than the V-1200HD's 4:2:2 process format video. NONE: No scaler is used. No scaler-caused latency occurs.
INPUT 1 INPUT 2	INPUT	(Format displayed) When "SCALER ASSIGN" is set to "INPUT" "AUTO" is displayed. You can input any video other than the V-1200HD's 4:2:2 process format video. When "SCALER ASSIGN" is set to "OUTPUT" or "NONE" The V-1200HD 4:2:2 process format is displayed. Nothing other than 4:2:2 process format can be input.
	SCALER	Tapping this displays the SCALER screen. Here you adjust the size, position, and other aspects of the video input to the XI-SDI. * This is available when "SCALER ASSIGN" is set to "INPUT"
	TYPE	FULL LETTER-BOX CROP DOT BY DOT MANUAL
		FULL This displays the entire input video adjusted to fill the entire output screen, without maintaining the aspect ratio.
		LETTER-BOX This expands the input video to match the horizontal screen resolution while maintaining the aspect ratio, cutting off the protruding picture at the top and bottom.
		CROP This expands the input video to match the vertical screen resolution while maintaining the aspect ratio, cutting off the protruding picture at the left and right sides.
		DOT BY DOT This performs no scaling.
		MANUAL This performs scaling according to the "SIZE H," "SIZE V," "ZOOM," "POSITION H," "POSITION V" settings.
	SIZE H -9999- 0 - +9999 This sets the horizontal size. Enabled when "TYPE" is set to "MANUAL."	
	SIZE V -9999- 0 - +9999 This sets the vertical size. Enabled when "TYPE" is set to "MANUAL."	
	ZOOM 10- 100 -1000% This sets the zoom ratio. Enabled when "TYPE" is set to "MANUAL."	
	POSITION H -1920- 0 - +1920 This sets the horizontal position. Enabled when "TYPE" is set to "MANUAL."	
	POSITION V -1200- 0 - +1200 This sets the vertical position. Enabled when "TYPE" is set to "MANUAL."	
OUTPUT 1 OUTPUT 2	SCALER	Tapping this displays the SCALER screen. Here you adjust the size, position, and other aspects of the video output from the XI-SDI. For detailed information about the parameters, refer to the "SCALER" table above. * This is available when "SCALER ASSIGN" is set to "OUTPUT"
	OUTPUT	480i/576i, 720p, 1080i , 1080p When "SCALER ASSIGN" is set to "OUTPUT" This selects the output format.
		(Format displayed) When "SCALER ASSIGN" is set to "INPUT" or "NONE" This displays the V-1200HD's 4:2:2 process format. Output is in 4:2:2 process format.

EXP INPUT Screen

Here you adjust the video input to the V-1200HD's EXP 1 and EXP 2 buses.

1. Tapping <EXP 1> or <EXP 2> at the EXPANSION screen displays the EXP INPUT screen.



You can change the setting values within the ranges shown below.

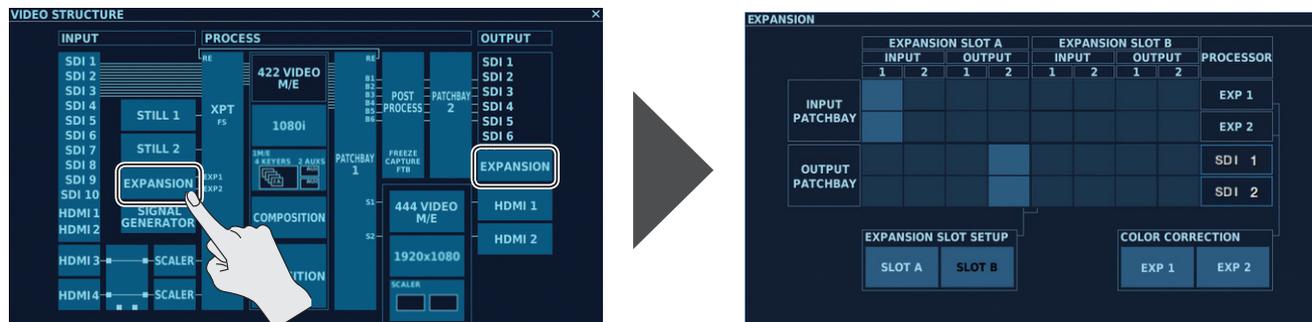
Parameter	Setting value (Values in bold type are factory defaults.)	Description
COLOR CORRECTION		
BRIGHTNESS		This adjusts the brightness.
CONTRAST		This adjusts the contrast.
SATURATION	-128- 0 - +127	This adjusts the color saturation.
RED		This adjusts the red level.
GREEN		This adjusts the green level.
BLUE		This adjusts the blue level.

XI-DVI

Installing the XI-DVI in the V-1200HD lets you expand DVI input and output.

1. Tapping <EXPANSION> at the VIDEO STRUCTURE screen displays the EXPANSION screen.

Tapping either of the two <EXPANSION> items displays the EXPANSION screen.



2. Tapping <SLOT A> or <SLOT B> at the EXPANSION screen displays the XI-DVI screen.

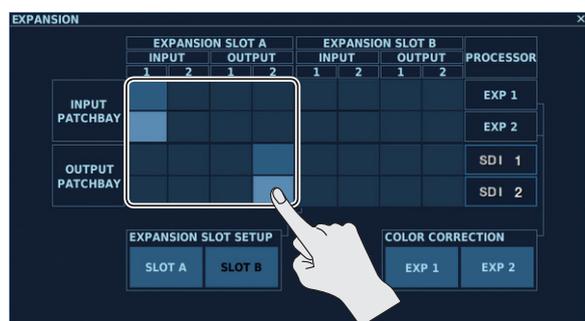


3. Tap <INPUT>, <OUTPUT>, or <IN&OUT> at I/O MODE to select how the connectors on the XI-DVI function (as input or as output).

Setting value	Description
INPUT	Both connectors function as DVI input (DVI-I IN 1 and 2 connectors).
OUTPUT	Both connectors function as DVI output (DVI-D OUT 1 and 2 connectors).
IN&OUT	The two connectors function respectively as DVI input (DVI-I IN 1 connector) and DVI output (DVI-I OUT 2 connector).

- * The connectors on the XI-DVI support the following signals.
- DVI input: Analog RGB, analog component, DVI-D, and HDMI
 - DVI output: DVI-D and HDMI

4. Go back to the EXPANSION screen, and use INPUT PATCHBAY and OUTPUT PATCHBAY to set the input and output patchbays for the XI-DVI.



* The figure at left shows the screen displayed when "I/O MODE" is set to "IN&OUT."

Input Patchbays

Tap INPUT 1 or 2 to select the DVI input on the XI-DVI to send to the EXP 1 or EXP 2 bus on the V-1200HD.

In the example shown in the figure above, input from the DVI-I IN 1 connector on the XI-DVI is sent to the EXP 2 bus on the V-1200HD.

Output Patchbays

Tap OUTPUT 1 or 2 to select the video to output from the XI-DVI. You can assign any of SDI output 1 through 6 on the V-1200HD to DVI output on the XI-DVI. Use "PROCESSOR" to change the assigned SDI output (SDI 1 through SDI 6).

In the example shown in the figure above, SDI output 2 on the V-1200HD is output from the DVI-D OUT 2 connector on the XI-DVI.

XI-DVI Screen

Here you make the settings for the XI-DVI's output format, scaler, and other values.

1. Tapping <SLOT A> or <SLOT B> at the EXPANSION screen displays the XI-DVI screen.



You can change the setting values within the ranges shown below.

Parameter	Setting value (Values in bold type are factory defaults.)	Description
I/O MODE	INPUT, OUTPUT, IN&OUT	This specifies the function of the connectors on the XI-DVI (input or output). INPUT: Both connectors function as DVI input (DVI-I IN 1 and 2 connectors). OUTPUT: Both connectors function as DVI output (DVI-D OUT 1 and 2 connectors). IN&OUT: The two connectors function respectively as DVI input (DVI-I IN 1 connector) and DVI output (DVI-I OUT 2 connector). * The connectors on the XI-DVI support the following signals. • DVI input: Analog RGB, analog component, DVI-D, and HDMI • DVI output: DVI-D and HDMI

When "I/O MODE" is set to "INPUT"

1,2 (connectors)	INPUT	AUTO	The input format is automatically detected. You can input any video other than the V-1200HD's 4:2:2 process format video.		
	SCALER	TYPE	Tapping this displays the SCALER screen. This adjusts the size, position, and other such values of the video input to the XI-DVI.		
			Parameter	Setting value (Values in bold type are factory defaults.)	Description
			FULL	FULL	This selects the scaling type. This displays the entire input video adjusted to fill the entire output screen, without maintaining the aspect ratio.
			LETTER-BOX	LETTER-BOX	This expands the input video to match the horizontal screen resolution while maintaining the aspect ratio, cutting off the protruding picture at the top and bottom.
			CROP	CROP	This expands the input video to match the vertical screen resolution while maintaining the aspect ratio, cutting off the protruding picture at the left and right sides.
			DOT BY DOT	DOT BY DOT	This performs no scaling.
			MANUAL	MANUAL	This performs scaling according to the "SIZE H," "SIZE V," "ZOOM," "POSITION H," "POSITION V" settings.
			SIZE H	-9999- 0 - +9999	This sets the horizontal size. Enabled when "TYPE" is set to "MANUAL."
	SIZE V	-9999- 0 - +9999	This sets the vertical size. Enabled when "TYPE" is set to "MANUAL."		
ZOOM	10- 100 -1000%	This sets the zoom ratio. Enabled when "TYPE" is set to "MANUAL."			
POSITION H	-1920- 0 - +1920	This sets the horizontal position. Enabled when "TYPE" is set to "MANUAL."			
POSITION V	-1200- 0 - +1200	This sets the vertical position. Enabled when "TYPE" is set to "MANUAL."			
OUTPUT	—				
SETUP	Tapping this displays the XI-DVI INPUT screen for making the settings for the video signal to input, the color space, and other values. For details, refer to "XI-DVI INPUT Screen" (p. 41).				

When "I/O MODE" is set to "OUTPUT"

1,2 (connectors)	INPUT	—		
	SCALER	Tapping this displays the SCALER screen. This adjusts the size, position, and other such values of the video output from the XI-DVI. For detailed information about the parameters, refer to the "SCALER" table above.		
	OUTPUT	480i/576i (*1), 480p/576p (*1), 720p, 1080i , 1080p, 1024 x 768 (*2), 1280 x 720 (*2), 1280 x 800 (*2), 1366 x 768 (*2), 1280 x 1024 (*2), 1400 x 1050 (*2), 1600 x 1200, 1920 x 1080, 1920 x 1200	Tapping this displays the FORMAT screen. This selects the output format. (*1) This is 480 when the frame rate is set to 59.94 Hz or 576 when the frame rate is set to 50 Hz. Setting the frame rate is done at the "PROCESSOR SETUP Screen" (p. 82). (*2) When the frame rate setting (p. 82) is 50 Hz, the output refresh rate is 75 Hz.	
	SETUP	Tapping this displays the XI-DVI OUTPUT screen for setting the output mode and color space. For details, refer to "XI-DVI OUTPUT Screen" (p. 41).		

When "I/O MODE" is set to "IN&OUT"

1 (connector)	The parameters are the same as when "I/O MODE" is set to "INPUT."
2 (connector)	The parameters are the same as when "I/O MODE" is set to "OUTPUT."

About Audio Input/Output

With the XI-DVI, you can work with eight audio channels each during input and output of HDMI signals. The audio that is input and output is sent to and received from the V-1200HD as a set comprising 16 channels, and so the assignments are as shown in the table below.

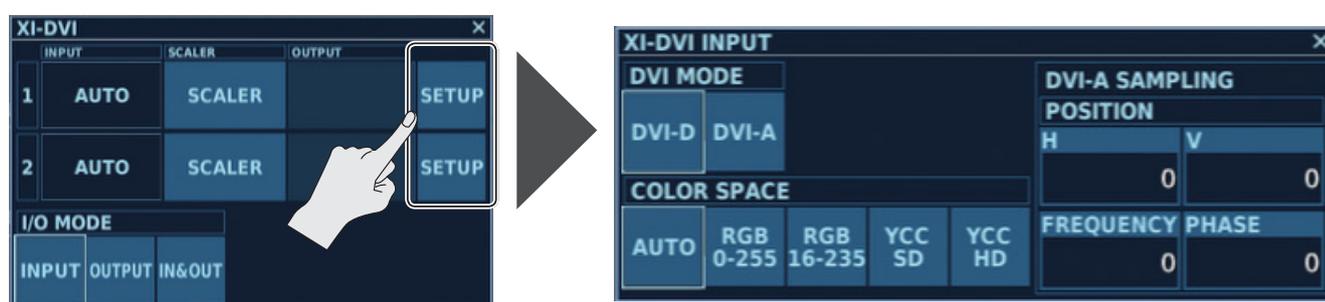
I/O MODE	XI-DVI connector 1	XI-DVI connector 2
INPUT	Input channels 1–8	Input channels 9–16
OUTPUT	Output channels 1–8	Output channels 9–16
IN&OUT	Input channels 1–8	Output channels 1–8

XI-DVI INPUT Screen

Here you adjust the video input to the XI-DVI.

- When I/O MODE is set to <INPUT> or <IN&OUT> at the XI-DVI screen, tapping <SETUP> displays the XI-DVI INPUT screen.

* When "I/O MODE" is set to "IN&OUT," you tap <SETUP> for connector 1.



You can change the setting values within the ranges shown below.

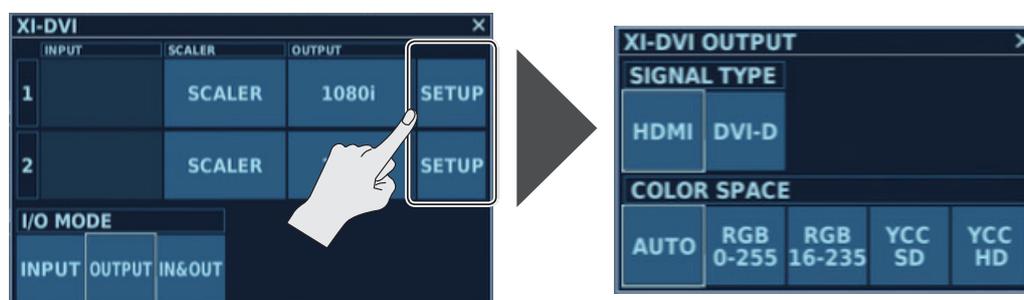
Parameter	Setting value (Values in bold type are factory defaults.)	Description
DVI MODE	DVI-D , DVI-A	This specifies the video signal to input. DVI-D: DVI-D, HDMI DVI-A: Analog RGB, analog component
COLOR SPACE	AUTO , RGB 0-255, RGB 16-235, YCC SD, YCC HD	This selects the color space.
DVI-A SAMPLING * This is available when "DVI MODE" is set to "DVI-A."		
POSITION H	-512- 0 - +511	This sets the horizontal sampling-start location.
POSITION V	-8- 0 - +7	This sets the vertical sampling-start location.
FREQUENCY	-128- 0 - +127	This sets the sampling frequency.
PHASE	0 - +63	This sets the sampling phase.

XI-DVI OUTPUT Screen

Here you adjust the video output from the XI-DVI.

- When I/O MODE is set to <OUTPUT> or <IN&OUT> at the XI-DVI screen, tapping <SETUP> displays the XI-DVI OUTPUT screen.

* When "I/O MODE" is set to "IN&OUT," you tap <SETUP> for connector 2.



You can change the setting values within the ranges shown below.

Parameter	Setting value (Values in bold type are factory defaults.)	Description
SIGNAL TYPE	HDMI , DVI-D	This sets the signal mode to output. * When this is set to "DVI-D," no audio is output.
COLOR SPACE	AUTO , RGB 0-255, RGB 16-235, YCC SD, YCC HD	This selects the color space.

EXP INPUT Screen

Here you adjust the video input to the V-1200HD's EXP 1 and EXP 2 buses.

1. Tapping <EXP 1> or <EXP 2> at the EXPANSION screen displays the EXP INPUT screen.



You can change the setting values within the ranges shown below.

Parameter	Setting value (Values in bold type are factory defaults.)	Description
COLOR CORRECTION		
BRIGHTNESS		This adjusts the brightness.
CONTRAST		This adjusts the contrast.
SATURATION		This adjusts the color saturation.
RED	-128- 0 - +127	This adjusts the red level.
GREEN		This adjusts the green level.
BLUE		This adjusts the blue level.

SIGNAL GENERATOR Screen

At the SIGNAL GENERATOR screen, you select a test pattern and adjust its color.

1. Tapping <SIGNAL GENERATOR> at the VIDEO STRUCTURE screen displays the SIGNAL GENERATOR screen.



You can change the setting values within the ranges shown below.

Parameter	Setting value (Values in bold type are factory defaults.)	Description
PATTERN	MATTE, 75% COLOR BAR , 100% COLOR BAR, RAMP, STEP, HATCH, FRAME	This selects a test pattern.
COLOR *This is enabled when PATTERN is set to "MATTE."		
H	0 -359	This sets the hue for MATTE.
S	0 - 255	This sets the saturation for MATTE.
V	0 - 255	This sets the brightness for MATTE.

Memo

To output a test pattern, it must be assigned to a cross point. For information on how to make the assignment, refer to "XPT ASSIGN Screen" (p. 43).

XPT ASSIGN Screen

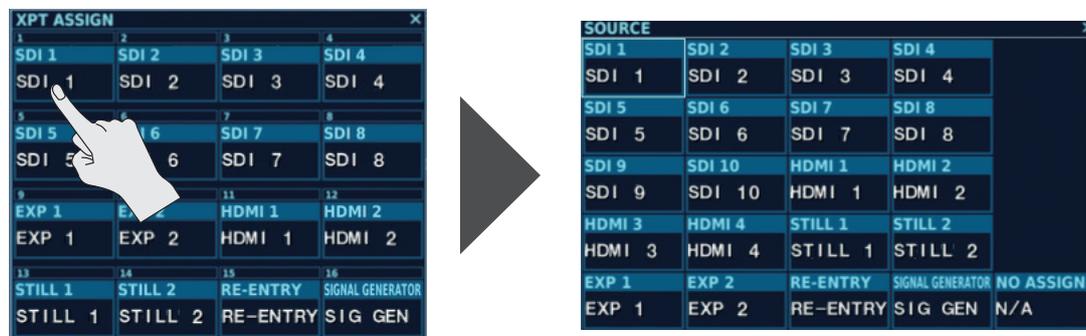
At the XPT ASSIGN screen, you select the video and still images assigned to respective cross points.

1. Tapping <XPT> at the VIDEO STRUCTURE screen displays the XPT ASSIGN screen.



2. Tap the cross point whose assignment you want to change.

The SOURCE screen for the selected cross point appears. Tap the source you want to assign.



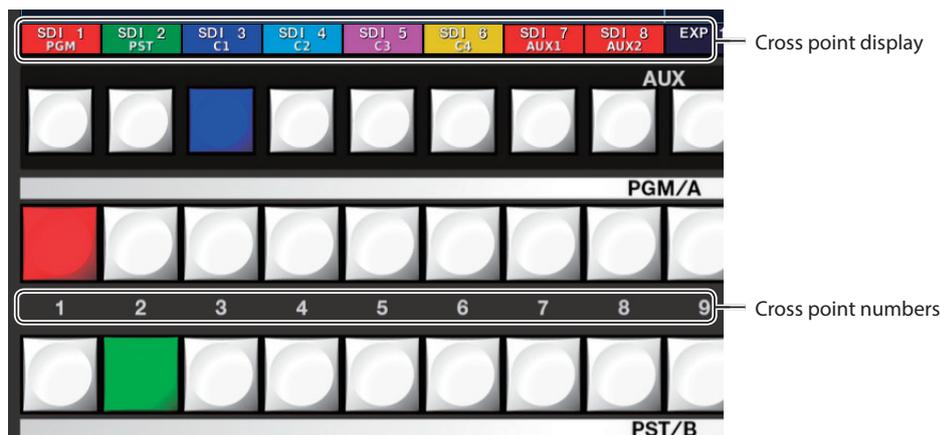
You can assign the following sources to the respective cross points.

Source	Description
SDI 1-10	SDI inputs 1-10
HDMI 1-4	HDMI inputs 1, 2 HDMI inputs 3, 4 * A black picture is displayed when the 4:4:4 process has been specified as the connection destination for HDMI 3 and 4. For information on how to change the connection destinations, refer to "Switching HDMI IN 3, 4 Connection Destinations" (p. 54)
STILL 1, 2	Still images assigned to STILL 1, 2 * When no still image is assigned, a black picture is displayed.
EXP 1, 2	Input from expansion interfaces
RE-ENTRY	Video for which OUTPUT on a patchbay is set to "RE" (p. 51)
SIG GEN	Test pattern
N/A	No assignment

3. Tap the source to assign, thereby selecting it.

Memo

The cross point displays for the channels also change to the assigned source names.

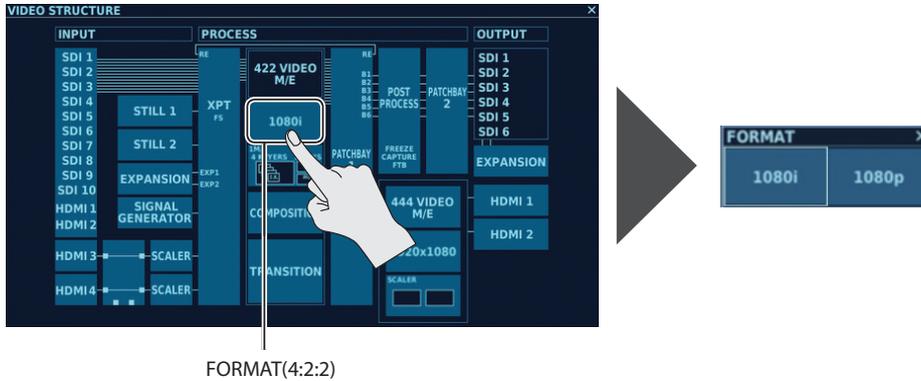


FORMAT Screen (4:2:2)

At the FORMAT screen, you select the 4:2:2 process format.

1. Tapping <FORMAT (4:2:2)> at the VIDEO STRUCTURE screen displays the FORMAT screen (4:2:2).

Tap the format you want to specify as the 4:2:2 process format, thereby selecting it.



FORMAT(4:2:2)

Selectable process formats for the 4:2:2 process	1080i, 1080p • Compliant with SMPTE 274M
--	---

Memo

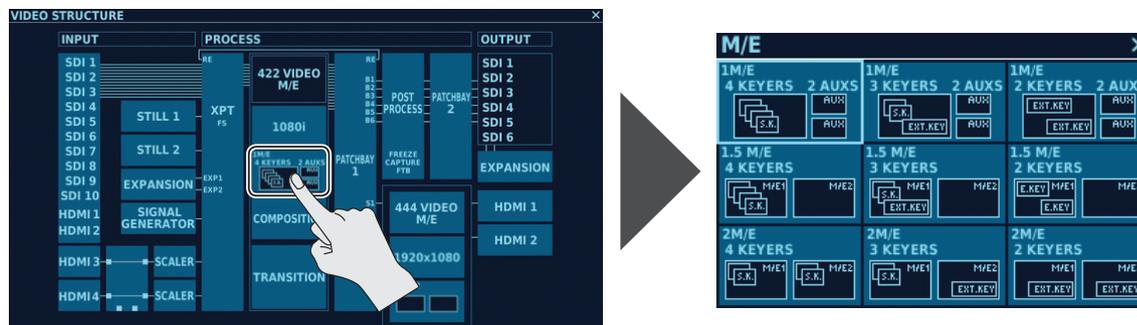
- Only video compatible with the selected process format can be input to SDI IN 1 through 10 and HDMI IN 1 and 2. For example, when 1080p is specified as the 4:2:2 process format, the only video format that can be input is 1080p.
- When HDMI IN 3 or 4 is connected to the 4:2:2 process section, video in formats other than the specified 4:2:2 process format can be input via HDMI IN 3 or 4. For details, refer to "HDMI IN 3, 4 Settings" (p. 53).
- Video in the same format as the 4:2:2 process format is output from SDI OUT 1 to 6. For example, when 1080i is specified as the 4:2:2 process format, the output video format is also 1080i.
- For details about process formats, refer to "Selectable 4:2:2 Process Formats" (p. 12).
- The number of compositions where self key or external key can be used and the number of AUXes differ according to the combination of selected 4:2:2 process format and M/E mode. For details, refer to "M/E Screen (4:2:2)" (p. 45).

M/E Screen (4:2:2)

At the M/E screen, you select the 4:2:2 M/E mode.

1. Tapping <M/E (4:2:2)> at the VIDEO STRUCTURE screen displays the M/E screen (4:2:2).

Tap the 4:2:2 M/E mode you want to set, thereby selecting it.



The number of compositions where self key or external key can be used and the number of AUXes differ according to the combination of selected 4:2:2 process format (p. 44) and 4:2:2 M/E mode.

Refer to the following table for the combinations and numbers.

		4:2:2 process format						
		1080i			1080p			
M/E Mode		Self key	External key	AUX	M/E Mode	Self key	External key	AUX
1 M/E	4 KEYS 2 AUXS 	4	—	2	2 KEYS 2 AUXS 	2	—	2
	3 KEYS 2 AUXS 	2	1	2	1 KEYER 2 AUXS 	—	1	2
	2 KEYS 2 AUXS 	—	2	2				
1.5 M/E	4 KEYS 	4	—	—	2 KEYS 	2	—	—
	3 KEYS 	2	1	—	1 KEYER 	—	1	—
	2 KEYS 	—	2	—				
2 M/E	4 KEYS 	4	—	—	2 KEYS 	2	—	—
	3 KEYS 	2	1	—				
	2 KEYS 	—	2	—				

* For descriptions of the respective M/E modes, refer to “4:2:2 Process M/E Mode and Composition” (p. 12).

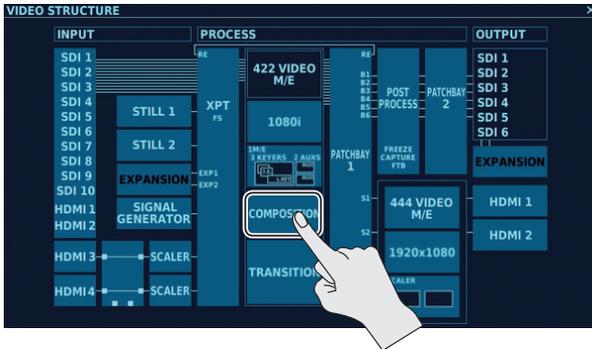
* For information on how to select the 4:2:2 process format, refer to “FORMAT Screen (4:2:2)” (p. 44).

* For information on self keys and external keys, refer to “COMPOSITION Screen” (p. 46).

COMPOSITION Screen

At the COMPOSITION screen you can; control composition output, select the type of key composition, and change the settings for picture-in-picture and other values.

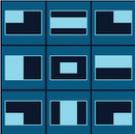
1. Tapping <COMPOSITION> at the VIDEO STRUCTURE screen displays the COMPOSITION screen.



* The screen displayed differs according to the currently selected 4:2:2 M/E mode. The screen in the figure above is displayed when 1M/E 3 KEYSERS has been specified as the M/E mode.

- * The information displayed at the COMPOSITION screen differs according to the 4:2:2 process format and the selected M/E mode.
- * In cases where external key can be used, two video sources (FILL and KEY) are displayed for a single composition.

You can change the setting values within the ranges shown below.

Parameter	Setting value (Values in bold type are factory defaults.)	Description																
C1–C4	—	These display the composition buses used by the respective compositions. * When the 4:2:2 M/E mode is the 1.5M/E mode, C1–C4 are output to the M/E 1 bus. * When the 4:2:2 M/E mode is the 2M/E mode, C1 and C2 are output to the M/E 1 bus, and C3 and C4 are output to the M/E 2 bus.																
PGM	ON (lighted), OFF (dark)	When set to ON, the composition is output to PGM.																
PVW	ON (lighted), OFF (dark)	When set to ON, the composition is output to PVW. Outputting to PVW lets you adjust the inset-screen size and the key before output to PGM.																
NEXT	ON (lighted), OFF (dark)	Compositions set to ON are output to PGM when a take is made using a video fader, the [CUT] button, or the [AUTO] button. * This is enabled when the NEXT TRANSITION [COMPOSITION] button is illuminated. For information on the NEXT TRANSITION [COMPOSITION] button, refer to “Outputting an Inset Screen by Video Fader and Button Operations” (p. 23).																
SOURCE (*1)	SDI 1–10, HDMI 1–4, STILL 1–2, EXP 1–2, RE-ENTRY, SIG GEN, N/A	These select the video source for the respective composition. You can select the following sources. <table border="1" style="width: 100%;"> <thead> <tr> <th>Selectable sources</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>SDI 1–10</td> <td>SDI inputs 1–10</td> </tr> <tr> <td>HDMI 1–4</td> <td>HDMI inputs 1–4 * If HDMI 3 or HDMI 4 is assigned when HDMI IN 3 and 4 are connected to the 4:4:4 process, a black picture is assigned.</td> </tr> <tr> <td>STILL 1, 2</td> <td>Still images assigned to STILL 1, 2 * When no still image is assigned, a black picture is assigned.</td> </tr> <tr> <td>EXP 1, 2</td> <td>Input from expansion interfaces</td> </tr> <tr> <td>RE-ENTRY</td> <td>Video for which OUTPUT on a patchbay is set to “RE” (p. 51)</td> </tr> <tr> <td>SIG GEN</td> <td>Test pattern</td> </tr> <tr> <td>N/A</td> <td>No assignment</td> </tr> </tbody> </table> * You can also use the DELEGATION area COMPOSITION [1] to [4] buttons and [AUX] buttons to change the video source (p. 21).	Selectable sources	Description	SDI 1–10	SDI inputs 1–10	HDMI 1–4	HDMI inputs 1–4 * If HDMI 3 or HDMI 4 is assigned when HDMI IN 3 and 4 are connected to the 4:4:4 process, a black picture is assigned.	STILL 1, 2	Still images assigned to STILL 1, 2 * When no still image is assigned, a black picture is assigned.	EXP 1, 2	Input from expansion interfaces	RE-ENTRY	Video for which OUTPUT on a patchbay is set to “RE” (p. 51)	SIG GEN	Test pattern	N/A	No assignment
Selectable sources	Description																	
SDI 1–10	SDI inputs 1–10																	
HDMI 1–4	HDMI inputs 1–4 * If HDMI 3 or HDMI 4 is assigned when HDMI IN 3 and 4 are connected to the 4:4:4 process, a black picture is assigned.																	
STILL 1, 2	Still images assigned to STILL 1, 2 * When no still image is assigned, a black picture is assigned.																	
EXP 1, 2	Input from expansion interfaces																	
RE-ENTRY	Video for which OUTPUT on a patchbay is set to “RE” (p. 51)																	
SIG GEN	Test pattern																	
N/A	No assignment																	
FILL (*2)	SDI 1–10, HDMI 1–4, STILL 1–2, EXP 1–2, RE-ENTRY, SIG GEN, N/A	This selects the video source assigned to “FILL,” which is used by external key.																
KEY (*2)	SDI 1–10, HDMI 1–4, STILL 1–2, EXP 1–2, RE-ENTRY, SIG GEN, N/A	This selects the video source assigned to “KEY,” which is used by external key.																
TIME	0.0– 1.0 –5.0 sec	This sets the length of time the composition is displayed when the [AUTO] button is used to do a take.																
WIPE		This selects the effect pattern applied when the video fader, or [AUTO] button is used to display a composition. Tapping this displays a list of effect patterns. * This is enabled when TRANSITION TYPE is set to “WIPE.” For details, refer to “Outputting an Inset Screen by Video Fader and Button Operations” (p. 23).																
EDIT	—	Tapping this displays the EDIT screen for making settings for PinP, key composition, and the like. For information on the EDIT screen, refer to “EDIT Screen” (p. 47).																
MEMORY	—	Tapping this displays the MEMORY screen for saving, copying, and performing other such operations on compositions. For information on the MEMORY screen, refer to “MEMORY Screen” (p. 49).																
▽△	—	These change the sequence in which compositions are superimposed. When multiple compositions are overlaid, upper compositions are displayed as higher layers on the COMPOSITION screen.																

(*1) Displayed only when an M/E mode using a self key has been selected.
(*2) Used only when an M/E mode using an external key has been selected.

EDIT Screen

Tapping <EDIT> at a COMPOSITION displays the EDIT screen.

PinP (Picture-in-Picture) Settings

- When making PinP settings, tap the “mode switch” to enter the PinP setup mode.



You can change the setting values within the ranges shown below.

No.	Name	Setting value (Values in bold type are factory defaults.)	Description																																													
1	Position window	—	This sets the position and size of the PinP inset screen. Sliding the center square lets you adjust the position. Sliding the squares at the four corners lets you adjust the size. * You can operate the mode switch when set to PinP. * You can change the “POSITION H” and “POSITION V” values to fine-tune the position.																																													
2	Mode switch	PinP (orange), KEY (violet)	This switches between the PinP mode (orange) and the KEY mode (violet).																																													
3	ENABLE/DISABLE switch	ENABLE (lighted), DISABLE (dark)	This switches between enabling and disabling PinP. PinP can be output when this is set to ENABLE (lighted). * You can change the respective settings for the PinP mode and the key composition mode. * You can also set both PinP and key composition to ENABLE.																																													
4	POSITION H	0– 50 –xx (*1)	This adjusts the horizontal position of the PinP inset screen. The setting value indicates the position of the upper left square in the position window.																																													
5	POSITION V	0– 50 –xx (*1)	This adjusts the vertical position of the PinP inset screen.																																													
6	ASPECT	1:1, 4:3, 3:2, 16:9	This changes the aspect ratio of the PinP inset screen. Selecting an aspect ratio makes the inset screen change automatically.																																													
7	EDIT	<p>This displays the PinP editing screen, where you set the following parameters.</p> <table border="1"> <thead> <tr> <th>Parameter</th> <th>Setting value (Values in bold type are factory defaults.)</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td colspan="3">WINDOW</td> </tr> <tr> <td>POSITION H</td> <td>0–50–xx (*1)</td> <td>This adjusts the horizontal position of the PinP inset screen.</td> </tr> <tr> <td>POSITION V</td> <td>0–50–xx (*1)</td> <td>This adjusts the vertical position of the PinP inset screen.</td> </tr> <tr> <td>SIZE H</td> <td>10–360–1920</td> <td>This adjusts the horizontal size of the PinP inset screen.</td> </tr> <tr> <td>SIZE V</td> <td>10–270–1080</td> <td>This adjusts the vertical size of the PinP inset screen.</td> </tr> <tr> <td>BORDER WIDTH</td> <td>0–4–64</td> <td>This sets the width of the border.</td> </tr> <tr> <td>COLOR H</td> <td>0–359</td> <td>This sets the hue of the border color.</td> </tr> <tr> <td>COLOR S</td> <td>0–255</td> <td>This sets the saturation of the border color.</td> </tr> <tr> <td>COLOR V</td> <td>0–255</td> <td>This sets the brightness of the border color.</td> </tr> <tr> <td colspan="3">VIEW</td> </tr> <tr> <td>AUTO FIT</td> <td>ON (lighted), OFF (dark)</td> <td>When this is set to ON, the aspect ratio and size of the source video displayed with PinP are automatically adjusted to the same aspect ratio and size as PinP.</td> </tr> <tr> <td>POSITION H</td> <td>-1920–0–+1920</td> <td>This adjusts the horizontal position of the source video displayed with PinP. * This is enabled only when “AUTO FIT” is set to OFF.</td> </tr> <tr> <td>POSITION V</td> <td>-1080–0–+1080</td> <td>This adjusts the vertical position of the source video displayed with PinP. * This is enabled only when “AUTO FIT” is set to OFF.</td> </tr> <tr> <td>SIZE</td> <td>10.0–25.0–100.0 %</td> <td>This adjusts the size of the source video displayed with PinP. * This is enabled only when “AUTO FIT” is set to OFF.</td> </tr> </tbody> </table>		Parameter	Setting value (Values in bold type are factory defaults.)	Description	WINDOW			POSITION H	0– 50 –xx (*1)	This adjusts the horizontal position of the PinP inset screen.	POSITION V	0– 50 –xx (*1)	This adjusts the vertical position of the PinP inset screen.	SIZE H	10– 360 –1920	This adjusts the horizontal size of the PinP inset screen.	SIZE V	10– 270 –1080	This adjusts the vertical size of the PinP inset screen.	BORDER WIDTH	0–4–64	This sets the width of the border.	COLOR H	0–359	This sets the hue of the border color.	COLOR S	0–255	This sets the saturation of the border color.	COLOR V	0–255	This sets the brightness of the border color.	VIEW			AUTO FIT	ON (lighted), OFF (dark)	When this is set to ON, the aspect ratio and size of the source video displayed with PinP are automatically adjusted to the same aspect ratio and size as PinP.	POSITION H	-1920–0–+1920	This adjusts the horizontal position of the source video displayed with PinP. * This is enabled only when “AUTO FIT” is set to OFF.	POSITION V	-1080–0–+1080	This adjusts the vertical position of the source video displayed with PinP. * This is enabled only when “AUTO FIT” is set to OFF.	SIZE	10.0– 25.0 –100.0 %	This adjusts the size of the source video displayed with PinP. * This is enabled only when “AUTO FIT” is set to OFF.
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(*1) The maximum value varies according to the size of PinP.

KEY (Key Composition) Settings

1. When making KEY settings, tap the “mode switch” to enter the KEY setup mode.



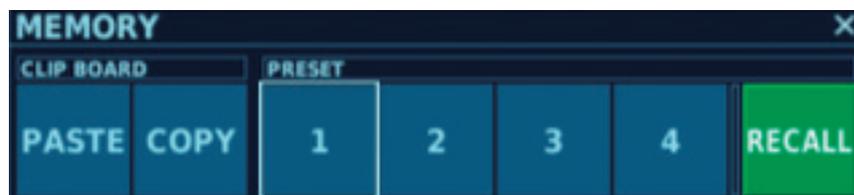
You can change the setting values within the ranges shown below.

No.	Name	Setting value (Values in bold type are factory defaults.)	Description
1	Sampling point	—	Pressing the <CHROMA SAMPLING> button described later in this document extracts the color at the location where the sampling point is placed. You can move the sampling point by tapping the desired location on the EDIT screen. You can also move the sampling point by sliding it. * You can operate the mode switch when set to KEY.
2	Mode switch	PinP (orange), KEY (violet)	This switches between the PinP mode (orange) and the KEY mode (violet).
3	ENABLE/DISABLE switch	ENABLE (lighted), DISABLE (dark)	This switches between enabling and disabling key composition. Key-composited video can be output when this is set to ENABLE (lighted). * You can change the respective settings for the PinP mode and the key composition mode. * You can also set both PinP and key composition to ENABLE.
4	LEVEL	0– 128 –255	This sets the amount of extraction.
5	GAIN	0– 255	This sets the amount of edge blur.
6	CHROMA SAMPLING	—	Tapping this extracts the color at the location where the sampling point is placed. Choosing “MANUAL” as the selection for key-composition type (described later in this document) lets you carry out chroma-key composition using the extracted color.
7	EDIT	This displays the KEY editing screen, where you set the following parameters.	
		Parameter	Setting value (Values in bold type are factory defaults.)
		Description	
	TYPE	LUMINANCE	This selects the type (extraction color) of key compositing.
		WHITE, BLACK	WHITE : This uses a brightness threshold to make white transparent when compositing.
		CHROMA	BLACK : This uses a brightness threshold to make black transparent when compositing.
		BLUE, GREEN , MANUAL	BLUE : This uses a color threshold to make blue transparent when compositing. GREEN : This uses a color threshold to make green transparent when compositing.
		MANUAL	MANUAL : This makes the color extracted using CHROMA SAMPLING or the values set using “HUE,” “SATURATION,” and “VALUE” transparent when compositing.
	HUE	* This is enabled only when TYPE is set to “MANUAL.”	
	CENTER	0– 120 –359	This adjusts the center position for hue.
	WIDTH	0– 10 –359	This adjusts the hue width (range).
	SATURATION	* This is enabled only when TYPE is set to “MANUAL.”	
	CENTER	0– 255	This adjusts the center position for saturation.
	WIDTH	0– 10 –255	This adjusts the saturation width (range).
	VALUE	* This is enabled only when TYPE is set to “MANUAL.”	
	CENTER	0– 255	This adjusts the center position for brightness.
	WIDTH	0– 10 –255	This adjusts the brightness width (range).

MEMORY Screen

Using MEMORY screen, you can save and recall all setting values for respective compositions.

1. Tapping <MEMORY> at a COMPOSITION displays the MEMORY screen.



Name	Description
PASTE	This overwrites the current composition with all setting values of a copied composition.
COPY	This copies all setting values of the current composition.
1-4	When in the RECALL mode Tapping a number recalls all setting values of the composition stored at the preset, overwriting the current composition.
	When in the STORE mode Tapping a number stores all setting values of the current composition at the preset. * Storing setting values at a number where values are already stored overwrites the old data.
RECALL/STORE	This switches between the RECALL mode (green) and the STORE mode (red).

NOTE

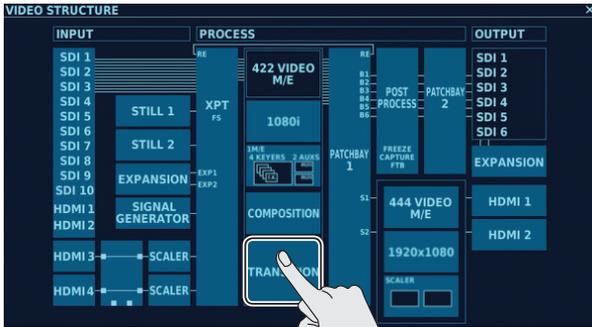
- The values of memory settings are saved internally in the V-1200HD. They are not saved in the controller.
- When V-1200HD RCS is started in the offline mode, data saved in memory is lost when you quit V-1200HD RCS.
 - * You can save the state of settings in the offline mode to the computer. For details, refer to “Saving Setting Values As a File on the Computer” (p. 85).

TRANSITION Screen

At the TRANSITION screen, you can change the pattern of the effect applied during video transitions and make advanced settings for wipes. The way you access the TRANSITION screen and the screen's setting items differ depending on the selected M/E mode.

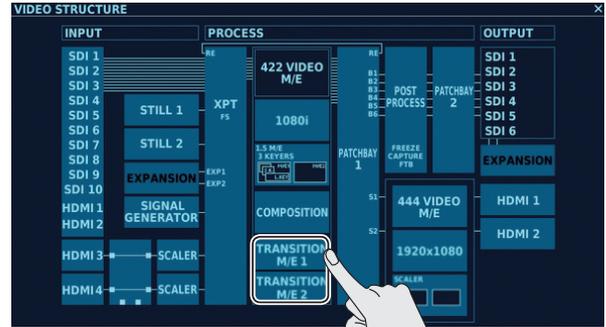
When in the 1M/E Mode

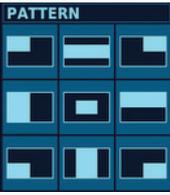
1. Tapping <TRANSITION> at the VIDEO STRUCTURE screen displays the TRANSITION screen.



When in the 1.5M/E or 2M/E Mode

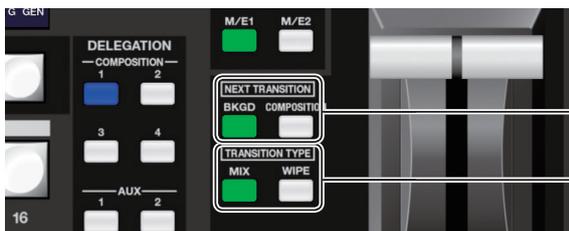
1. Tapping <TRANSITION M/E 1> or <TRANSITION M/E 2> at the VIDEO STRUCTURE screen displays the corresponding TRANSITION screen.



Parameter	Setting value (Values in bold type are factory defaults.)	Description
MIX	* Enabled when "MIX" has been selected using the TRANSITION TYPE selection button. For the location of the TRANSITION TYPE selection buttons, see the figure at the bottom of the page.	
TIME	0.0– 1.0 –5.0 sec	This adjusts the video transition time when the video is switched using the AUTO button.
PATTERN	MIX , FAM, NAM	This selects the mix pattern. MIX: The original picture gradually disappears and switches to the next video. The brightness of the composited video drops near the cross point. FAM: This is an abbreviation of "full additive mix." During the transition, the PGM are PST luminance levels maintained while the video is switched. NAM: This is an abbreviation of "non-additive mix." During the transition, display of the picture starts with the areas of high luminance.
WIPE	* Enabled when "WIPE" has been selected using the TRANSITION TYPE selection button. For the location of the TRANSITION TYPE selection buttons, see the figure at the bottom of the page.	
TIME	0.0– 1.0 –5.0 sec	This adjusts the video transition time when the video is switched using the AUTO button.
PATTERN		This selects the wipe pattern.
DIRECTION	NORMAL , REVERSE, N/R	This selects the wipe direction.
POSITION (*1)	H: -1920– 0 –+1920 V: -1080– 0 –+1080	This sets the wipe start point.
ASPECT (*1)	-1000– 0 –+1000	This sets the aspect ratio of the wipe region.
BORDER WIDTH	0– 4 –64	This sets the width of the border.
COLOR H	0 –359	This sets the hue of the border color.
COLOR S	0– 255	This sets the saturation of the border color.
COLOR V	0– 255	This sets the brightness of the border color.

(*1) You can change this setting value only when 1 M/E is selected as the M/E mode.

* A transition effect set at the TRANSITION screen is enabled when [BKGD] is selected using a NEXT TRANSITION selection button.



NEXT TRANSITION selection buttons

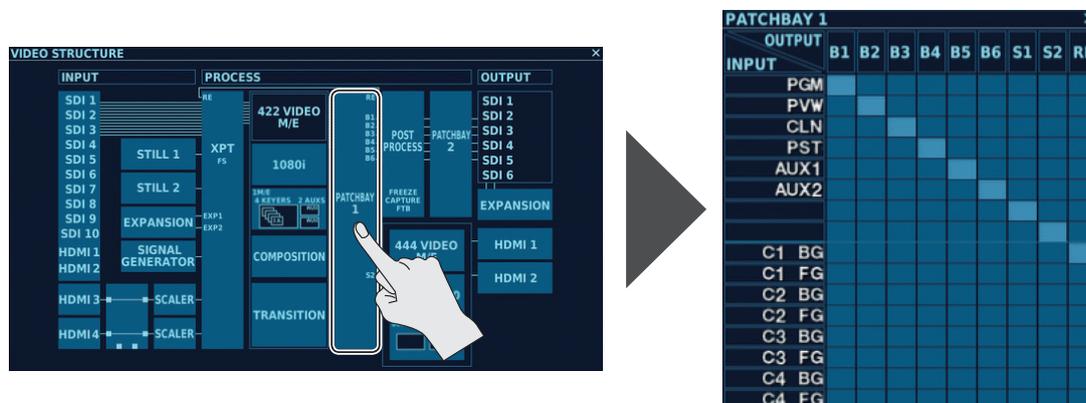
TRANSITION TYPE selection buttons

PATCHBAY 1 Screen

At the PATCHBAY 1 screen, you specify which internal bus is used for output of the video from the 4:2:2 process.

1. Tapping <PATCHBAY 1> at the VIDEO STRUCTURE screen displays the PATCHBAY 1 screen.

The INPUT signals displayed on the PATCHBAY screen vary according to the selected M/E mode.



You change settings by tapping the location where the desired OUTPUT channel and INPUT signal intersect.

Detailed Information on INPUT Signals and OUTPUT Channels

Name	Description	
INPUT		
M/E1 M/E2	PGM	This is the video output from the 4:2:2 process. This is the resulting video after composition and other manipulation performed in the 4:2:2 process.
	PVW	This is the video overlaid with compositions for which "PVW" is set to ON at the COMPOSITION screen, with the source on the selected channel in the PST row as the background.
	CLN	This is the source video on the selected channel in the PGM row.
	PST	This is the source video on the selected channel in the PST row.
	AUX1 (*1)	This is the source video assigned to AUX1.
	AUX2 (*1)	This is the source video assigned to AUX2.
C1-C4	BG	This is video composited using the previous composition. For details, refer to "About BG" below.
	FG	This is source video assigned to respective compositions.
	FILL (*2)	This is source video assigned to FILL by respective compositions.
	KEY (*2)	This is source video assigned to KEY by respective compositions.
OUTPUT		
B1-B6	These are output to POST PROCESS. You use the "PATCHBAY 2 Screen" (p. 52) to select the final output destination after POST PROCESS.	
S1, S2	These are output to the 4:4:4 process.	
RE	This is reset to the 4:2:2 process. You can assign this to a cross point or composition.	

(*1) This is displayed when the 4:2:2 M/E mode is set to the 1 M/E mode.

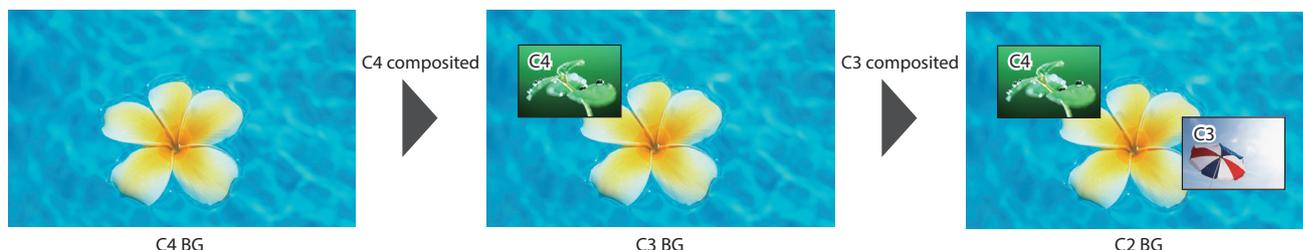
(*2) This is displayed when the number of keyers for the 4:2:2 M/E mode is "2 KEYERS" or "3 KEYERS."

About BG

In the "composition" mixing process, the various compositions are mixed in sequence against background video. (*3)

The "BG" indications for C1 through C4 signify "video composited by the previous composition" in the "composition" mixing process.

The example below illustrates the composition process.



In this example, "C3 BG" is "video in which C4 is composited with the background video."

(*3) The order of composition for C1 through C4 depends on the sequence in which the compositions are arranged at the "COMPOSITION Screen" (p. 46). Composition is performed in sequence, starting from the bottom composition at the COMPOSITION screen and moving upward, with upper compositions overlaid on the ones below.

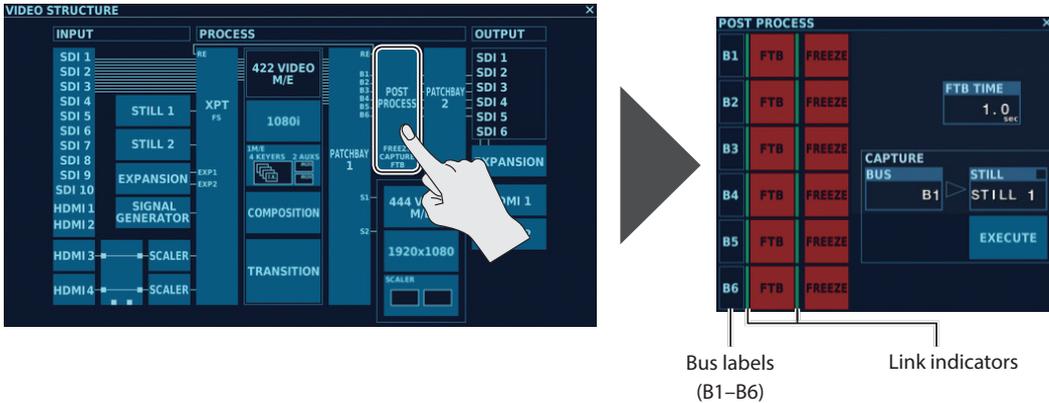
POST PROCESS Screen

At the POST PROCESS screen, you can apply video freezes and black fades to video assigned to B1 through B6 using PATCH BAY 1. You can also capture video and create still images.

NOTE

Still images captured at the POST PROCESS screen and saved in "STILL MEMORY" (p. 74) are deleted when the power to the V-1200HD is turned off.

1. Tapping <POST PROCESS> at the VIDEO STRUCTURE screen displays the POST PROCESS screen.



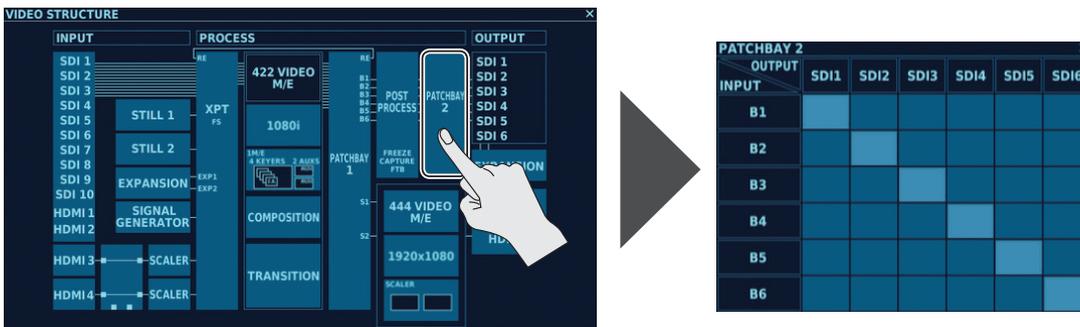
Bus labels (B1–B6) Link indicators

Parameter	Setting value (Values in bold type are factory defaults.)	Description
LINK	ON (lighted), OFF (dark)	Tapping the bus label for multiple buses you want to link makes the link indicators on both sides of "FTB" light up, and the link is set to ON. Tapping "FTB" for any bus for which LINK is set to ON simultaneously also applies the fade on the other linked buses. * For the locations of the bus labels and link indicators, refer to the figure above.
FTB	ON (lighted), OFF (dark)	When this is set to ON, a fade to a black screen lasting the number of seconds set using "FTB TIME" is performed. The FTB text color changes from the fade and changes to white when the fade ends. Tapping <FTB> again while the fade is in progress makes the fade finish instantly.
FREEZE	ON (lighted), OFF (dark)	This freezes output video on a bus set to ON. * You can set only any one single bus to ON. Setting two or more buses to ON is not possible.
FTB TIME	0.0– 1.0 –5.0 sec	This sets the length in time of the fade to a black screen when FTB is tapped.
CAPTURE		
BUS	B1–B6	This selects the video bus for creating a still image.
STILL	STILL 1–STILL 16	For the destination to save the created still image, you select from among STILL 1 to 16 in "STILL MEMORY" (p. 74).
EXECUTE	—	Tapping this creates a still image from the video on the selected bus. * The captured still image is saved by overwriting any existing data stored at the specified destination.

PATCHBAY 2 Screen

At the PATCHBAY 2 screen, you specify which SDI connector is used for output of video from Post Process.

1. Tapping <PATCHBAY 2> at the VIDEO STRUCTURE screen displays the PATCHBAY 2 screen.



You change settings by tapping the location where the desired OUTPUT channel (SDI output connector) and INPUT signal intersect.

HDMI IN 3, 4 Settings

Here you adjust colors, change connection destinations, make scaler settings, and perform other such operations for video input via HDMI IN 3 and 4.

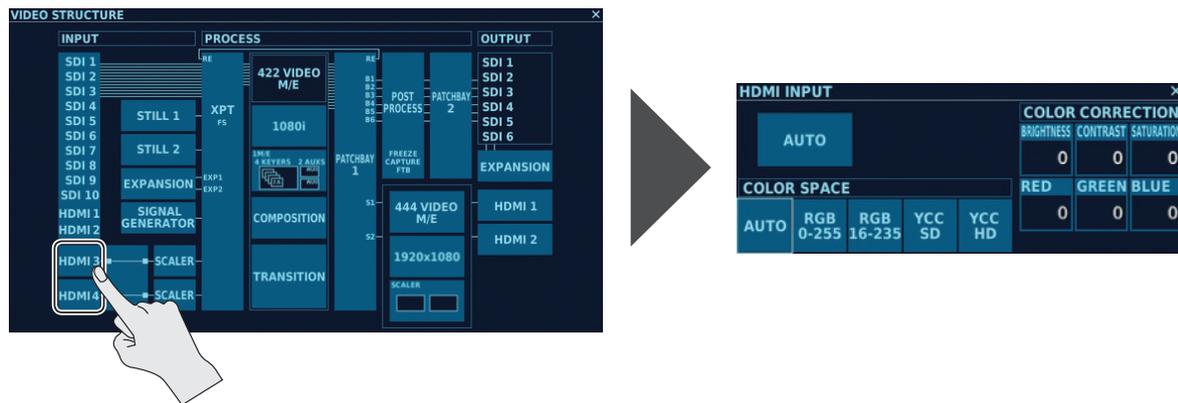
Memo

- Input via HDMI IN 3 and 4 passes through an internal scaler, and so you can input video formats other than the process format specified for the 4:2:2 process or 4:4:4 process.
You can also input video in mutually different formats at the respective HDMI IN 3 and 4 connectors.
For example, even when the specified process format for the 4:2:2 process is 1080i, you can input 1,024 x 768 video via HDMI IN 3 and 1,920 x 1,200 video via HDMI IN 4.
- You can select either the 4:2:2 process section or the 4:4:4 process section as the connection destination for HDMI IN 3 or 4.

HDMI INPUT Screen

At the HDMI INPUT screen, you adjust video input via HDMI IN 3 and 4.

1. Tapping <HDMI 3> or <HDMI 4> at the VIDEO STRUCTURE screen displays the HDMI INPUT screen.



You can change the setting values within the ranges shown below.

Parameter	Setting value (Values in bold type are factory defaults.)	Description
COLOR CORRECTION		
BRIGHTNESS		This adjusts the brightness.
CONTRAST		This adjusts the contrast.
SATURATION	-128- 0 - +127	This adjusts the color saturation. * When the color space of the input signal is YCC, set a value within the range of -128-0.
RED		This adjusts the red level.
GREEN		This adjusts the green level.
BLUE		This adjusts the blue level.
COLOR SPACE	AUTO , RGB 0-255, RGB 16-235, YCC SD, YCC HD	This selects the color space.

Formats Inputtable Via HDMI 3, 4

You can input the following formats via HDMI 3 and 4. The format is detected automatically.

Formats inputtable via HDMI 3, 4	480i/576i (*1), 480p/576p (*1), 720p, 1080i, 1080p, 1024x768, 1280x720, 1280x800, 1366x768, 1280x1024, 1400x1050, 1600x1200, 1920x1080, 1920x1200

(*1) This is 480 when the frame rate is set to 59.94 Hz or 576 when the frame rate is set to 50 Hz.
Setting the frame rate is done at the "PROCESSOR SETUP Screen" (p. 82).

Memo

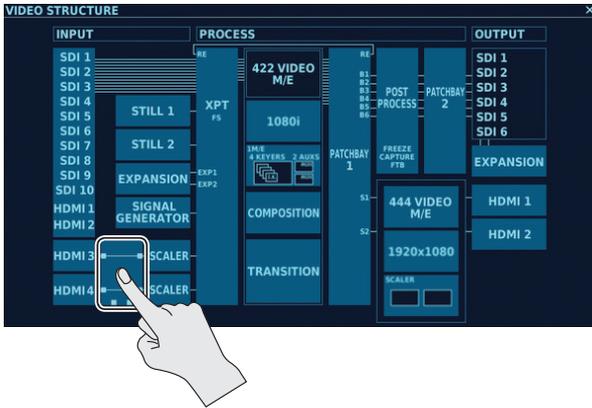
"AUTO" displayed on the HDMI INPUT screen indicates that the format is detected automatically.



Switching HDMI IN 3, 4 Connection Destinations

You can select either the 4:2:2 process or the 4:4:4 process as the connection destination for HDMI IN 3 or 4. Specifying the 4:4:4 process as the connection destination lets you output computer RGB signals at unchanged high image quality, making input and output of HDCP-applied HDMI signals possible.

1. Each tap of <HDMI selector switch> at the VIDEO STRUCTURE screen switches the connection destination to 4:2:2 or 4:4:4.



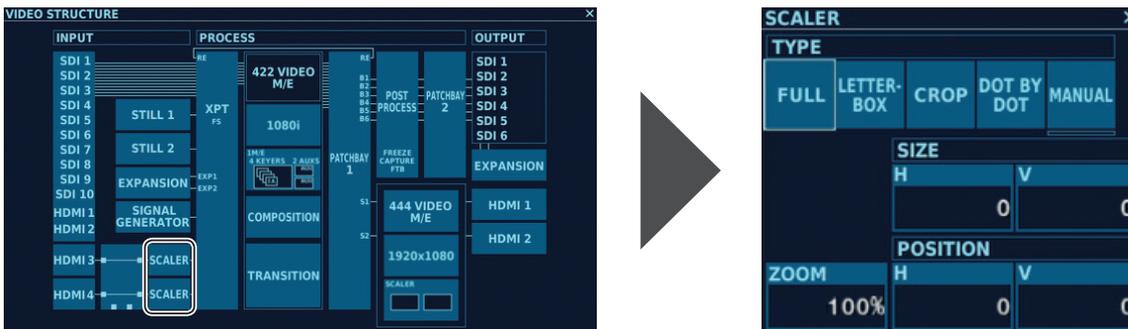
NOTE

- When the 4:2:2 process is specified as the connection destination, inputting copyright-protected (HDCP) signals via HDMI IN 3 and 4 is not possible.
- Even when the 4:4:4 process is specified as the connection destination, further settings must be made to use HDCP-applied HDMI signals. For information on usage conditions and settings for HDCP, refer to "About Copyright Protection (HDCP)" (p. 11).
- When the 4:2:2 process is specified as the connection destination, the "4:4:4 M/E" mode (p. 55) is set to "SCALER" and cannot be changed. When the 4:4:4 process is specified as the connection destination, you can use "MATRIX" or "1M/E."
- If HDMI 3 or HDMI 4 is assigned to SOURCE at the COMPOSITION screen for the 4:2:2 process when HDMI IN 3 and 4 are connected to the 4:4:4 process, a black picture is displayed.

SCALER Screen

At the SCALER screen you can; size, position, and other values for video input via HDMI IN 3 and 4.
 * This is effective when the 4:2:2 process has been specified as the connection for HDMI 3 and 4.

1. Tapping <SCALER> for HDMI IN 3 or HDMI IN 4 at the VIDEO STRUCTURE screen displays the SCALER screen.



You can change the setting values within the ranges shown below.

Parameter	Setting value (Values in bold type are factory defaults.)	Description
TYPE	FULL, LETTER-BOX, CROP, DOT BY DOT, MANUAL	This selects the scaling type.
		FULL This displays the entire input video adjusted to fill the entire output screen, without maintaining the aspect ratio.
		LETTER-BOX This expands the input video to match the horizontal screen resolution while maintaining the aspect ratio, cutting off the protruding picture at the top and bottom.
		CROP This expands the input video to match the vertical screen resolution while maintaining the aspect ratio, cutting off the protruding picture at the left and right sides.
		DOT BY DOT This performs no scaling.
	MANUAL This performs scaling according to the "SIZE H," "SIZE V," "ZOOM," "POSITION H," "POSITION V" settings.	
SIZE H	-9999-0- +9999	This sets the horizontal size. Enabled when "TYPE" is set to "MANUAL."
SIZE V	-9999-0- +9999	This sets the vertical size. Enabled when "TYPE" is set to "MANUAL."
ZOOM	10-100- 1000 %	This sets the zoom ratio. Enabled when "TYPE" is set to "MANUAL."
POSITION H	-1920-0- +1920	This sets the horizontal position. Enabled when "TYPE" is set to "MANUAL."
POSITION V	-1200-0- +1200	This sets the vertical position. Enabled when "TYPE" is set to "MANUAL."

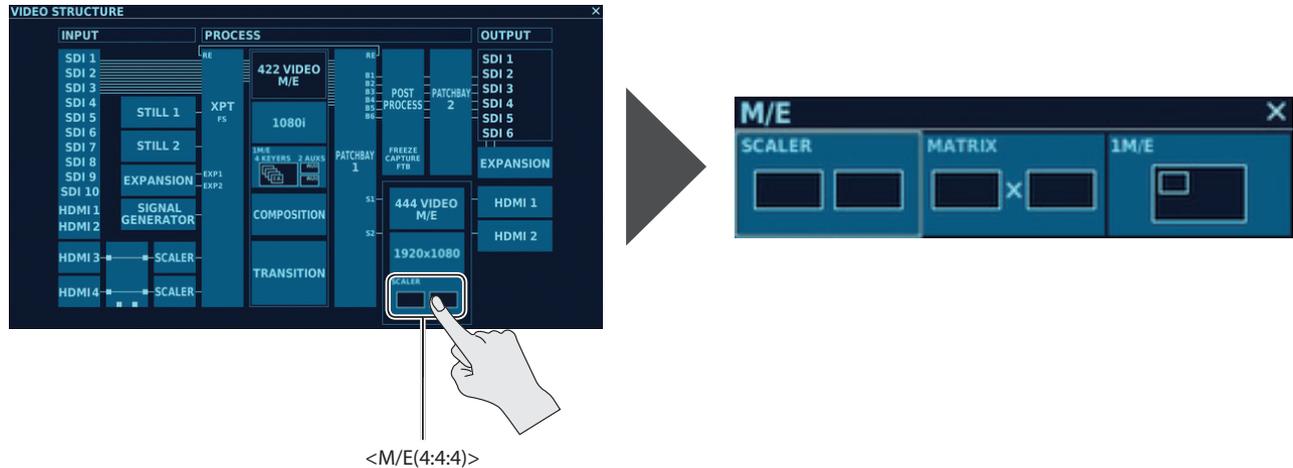
4:4:4 Process Settings

M/E Screen (4:4:4)

At the M/E screen, you select the 4:4:4 M/E mode.

1. Tapping <M/E (4:4:4)> at the VIDEO STRUCTURE screen displays the M/E screen (4:4:4).

Tap the 4:4:4 M/E mode you want to set by selecting it



The 4:4:4 process lets you use the following three M/E modes.

In the “MATRIX” mode and the “1M/E” mode, you can work with HDCP-applied HDMI signals.

The M/E modes have the following features:

SCALER

Use this mode to input a variety of computer outputs to the 4:2:2 process and carry out a wide range of composition.

The HDMI IN 3 and 4 signals undergo scaling and are input to the 4:2:2 process. After arranging a composition in the 4:2:2 process, the output from the 4:2:2 process is scaled and output from HDMI OUT 1 and 2.

- * Working with HDCP-applied HDMI signals is not possible.
- * The configured destination for HDMI IN 3 and 4 is fixed at the 4:2:2 process and cannot be changed.

MATRIX

In this mode, you select a single source from up to four sources—the two 4:2:2 process outputs (S1 and S2) and the video input via HDMI IN 3 and 4—and perform output via HDMI OUT.

You can select the respective video and output seamlessly via HDMI OUT 1 and HDMI OUT 2.

Also, HDMI IN 3 and 4 support RGB 4:4:4, and video of high image quality from a computer or other such source can be output at unchanged quality via HDMI OUT, with no degradation.

- * Input via HDMI IN 3 and 4 that is output from HDMI OUT 1 and 2 does not pass through the 4:2:2 process, and so latency is minimal.
- * Setting HDCP to ON makes it possible to work with HDCP-applied HDMI signals.
- * The connection destinations for HDMI IN 3 and 4 are fixed at the 4:4:4 process and cannot be changed.

1M/E

In this mode, you composite a total of four sources ; the two 4:2:2 process outputs (S1 and S2) and the video input via HDMI IN 3 and 4 then output via HDMI OUT.

You can use compositions to perform PinP and keyed compositing against a background video.

Also, HDMI IN 3 and 4 support RGB 4:4:4, and video of high image quality from a computer or other such source can be output at unchanged quality via HDMI OUT, with no degradation.

- * Input via HDMI IN 3 and 4 that is output from HDMI OUT 1 and 2 does not pass through the 4:2:2 process, and so latency is minimal.
- * Setting HDCP to ON makes it possible to work with HDCP-applied HDMI signals.
- * The connection destinations for HDMI IN 3 and 4 are fixed at the 4:4:4 process and cannot be changed.

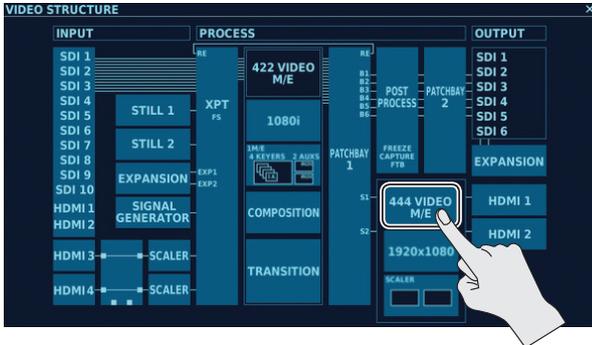
NOTE

The connection destinations for HDMI IN 3 and 4 (p. 54) are automatically switched according to the selected 4:4:4 M/E mode.

444 VIDEO M/E Setup Screen

The 444 VIDEO M/E setup screen that is displayed differs according to the type of 4:4:4 M/E mode that has been specified. Here you make advanced settings for the respective modes, such as the setting for the scaler type, cross-point settings, and PinP settings.

1. Tap <444 VIDEO M/E> at the VIDEO STRUCTURE screen, displaying a setup screen corresponding to the specified 4:4:4 M/E mode.



* The screen displayed differs according to the currently selected 4:4:4 M/E mode. The screen in the figure above is displayed when SCALER has been specified as the M/E mode.

444 VIDEO SCALER Screen

When "SCALER" has been specified as the 4:4:4 M/E mode, tapping <444 VIDEO M/E> displays the 444 VIDEO SCALER screen. At this screen, you can make advanced settings for scalers and cropping, and apply black fade (FTB) to output video.



FORMAT selection button



You can change the setting values within the ranges shown below.

Parameter	Setting value (Values in bold type are factory defaults.)	Description
SCALER	TYPE	FULL, LETTER-BOX, CROP, DOT BY DOT, MANUAL This selects the scaling type.
	SIZE H	-9999- 0 +9999 This sets the horizontal size. Enabled when "TYPE" is set to "MANUAL."
	SIZE V	-9999- 0 +9999 This sets the vertical size. Enabled when "TYPE" is set to "MANUAL."
	ZOOM	10- 100 -1000% This sets the zoom ratio. Enabled when "TYPE" is set to "MANUAL."
	POSITION H	-1920- 0 +1920 This sets the horizontal position. Enabled when "TYPE" is set to "MANUAL."
	POSITION V	-1200- 0 +1200 This sets the vertical position. Enabled when "TYPE" is set to "MANUAL."
CROPPING	DISABLE/ENABLE	DISABLE (dark), ENABLE (lighted) This switches between enabling and disabling cropping. When this is set to ENABLE (lighted), cropping is enabled for video scaling using "SCALER."
	SIZE H	0- 200 -1920 This sets the horizontal size.
	SIZE V	0- 200 -1200 This sets the vertical size.
	POSITION H	0 -1920 This sets the horizontal position.
	POSITION V	0 -1200 This sets the vertical position.
SG	ON (lighted), OFF (dark)	When this is set to ON, the test pattern selected using "SIGNAL GENERATOR" at the 444 VIDEO SCALER screen is output.
FTB	ON (lighted), OFF (dark)	When this is set to ON, a fade to a black screen lasting the number of seconds set using "FTB TIME" is performed. The FTB text color changes to black during the fade and changes to white when the fade ends. Tapping <FTB> again while the fade is in progress makes the fade finish instantly.

Parameter		Setting value (Values in bold type are factory defaults.)	Description
FORMAT		480i/576i (*1), 480p/576p (*1), 720p, 1080i, 1080p, 1024x768, 1280x720, 1280x800, 1366x768, 1280x1024, 1400x1050, 1600x1200, 1920x1080 , 1920x1200	This selects the 4:4:4 process format. * You can also use the "FORMAT Screen (4:4:4)" (p. 63) to change the 4:4:4 process format.
LINK		ON, OFF	When this is set to ON, tapping <FTB> for either HDMI 1 or HDMI 2 applies fade to both channels simultaneously. Also, tapping <SG> for either HDMI 1 or HDMI 2 turns <SG> on for both channels.
SIGNAL GENERATOR	PATTERN	MATTE, 75% COLOR BAR , 100% COLOR BAR, RAMP, STEP, HATCH, FRAME	This selects a test pattern.
	COLOR H	0 -359	This sets the hue for MATTE.
	COLOR S	0- 255	This sets the saturation for MATTE.
	COLOR V	0- 255	This sets the brightness for MATTE.
FTB TIME		0.0- 1.0 -5.0 sec	This sets the length in time of the fade to a black screen when FTB is tapped.

(*1) This is 480 when the frame rate is set to 59.94 Hz or 576 when the frame rate is set to 50 Hz. Setting the frame rate is done at the "PROCESSOR SETUP Screen" (p. 82).

444 VIDEO MATRIX Screen

When "MATRIX" has been specified as the 4:4:4 M/E mode, tapping <444 VIDEO M/E> displays the 444 VIDEO MATRIX screen. At this screen you can; switch output video, change cross-point assignments, and perform other such tasks.



FORMAT selection button

You can change the setting values within the ranges shown below.

Parameter	Setting value (Values in bold type are factory defaults.)	Description
XPT	1-4	This selects which video to output to HDMI 1 or HDMI 2. Tapping a channel switches the output video from HDMI OUT 1 or HDMI OUT 2. The transition effect applied at this time is specified using "TRANSITION" at the 444 VIDEO MATRIX screen.
SG	ON (lighted), OFF (dark)	When this is set to ON, the test pattern selected using "SIGNAL GENERATOR" at the 444 VIDEO MATRIX screen is output.
FTB	ON (lighted), OFF (dark)	When this is set to ON, a fade to a black screen lasting the number of seconds set using "FTB TIME" is performed. The FTB text color changes to black during the fade and changes to white when the fade ends. Tapping <FTB> again while the fade is in progress makes the fade finish instantly.
SETUP	—	Tapping this displays the SETUP screen for making cross-point assignments, scaler settings, and the like. For information on the SETUP screen, refer to "444 VIDEO MATRIX SETUP Screen" (p. 59).
FORMAT * For the location of the FORMAT selection button, refer to the figure above.	480i/576i (*1), 480p/576p (*1), 720p, 1080i, 1080p, 1024x768, 1280x720, 1280x800, 1366x768, 1280x1024, 1400x1050, 1600x1200, 1920x1080 , 1920x1200	This selects the 4:4:4 process format. * You can also use the "FORMAT Screen (4:4:4)" (p. 63) to change the 4:4:4 process format.
HDCP	ON, OFF	This sets HDCP signals ON or OFF. Setting this to ON enables HDCP-applied HDMI signals to be input, and also applies HDCP to the output video sent via HDMI OUT 1 and 2. Setting this to OFF makes input and output of HDCP-protected video impossible. For information on HDCP, refer to "About Copyright Protection (HDCP)" (p. 11) * Audio in an HDCP-applied HDMI signal cannot be input even when HDCP is turned on.
TRANSITION	TIME	0.0- 1.0 -5.0 sec
	PATTERN	CUT , MIX
LINK	ON, OFF	When this is set to ON, the following three functions are interlinked for HDMI 1 and HDMI 2. <ul style="list-style-type: none"> When a cross point for HDMI 1 or HDMI 2 switches to a different channel, the other HDMI cross point is also switched to the same channel. Tapping <FTB> for either HDMI 1 or HDMI 2 applies fade to both channels at the same time. Tapping <SG> for either HDMI 1 or HDMI 2 turns <SG> on for both channels.
SIGNAL GENERATOR	PATTERN	MATTE, 75% COLOR BAR , 100% COLOR BAR, RAMP, STEP, HATCH, FRAME
	COLOR H	0 -359
	COLOR S	0 - 255
	COLOR V	0 - 255
FTB TIME	0.0- 1.0 -5.0 sec	This sets the length in time of the fade to a black screen when FTB is tapped.

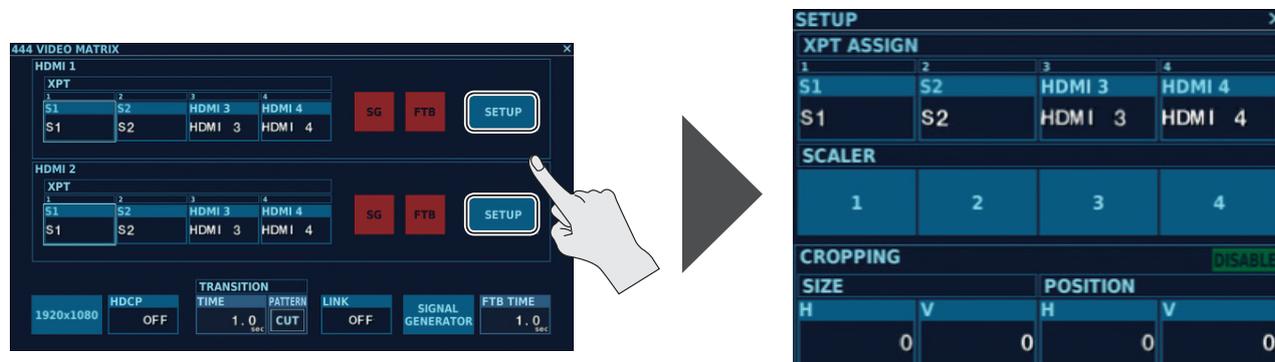
(*1) This is 480 when the frame rate is set to 59.94 Hz or 576 when the frame rate is set to 50 Hz. Setting the frame rate is done at the "PROCESSOR SETUP Screen" (p. 82).

444 VIDEO MATRIX SETUP Screen

Tapping <SETUP> for HDMI 1 or HDMI 2 at the 444 VIDEO MATRIX screen displays the 444 VIDEO MATRIX SETUP screen.

At this screen, you can make scaler settings and cross-point assignments in the 444 VIDEO MATRIX mode.

Tapping SETUP for HDMI 1 lets you change the settings for video output from HDMI OUT 1, and tapping SETUP for HDMI 2 lets you change the settings for video output from HDMI OUT 2.



You can change the setting values within the ranges shown below.

Parameter	Setting value (Values in bold type are factory defaults.)	Description	
XPT ASSIGN1-4	S1, S2, HDMI 3, HDMI 4	This selects the video source to assign to a cross point.	
SCALER 1-4	TYPE	FULL	This selects the scaling type. This displays the entire input video adjusted to fill the entire output screen, without maintaining the aspect ratio.
		LETTER-BOX	This expands the input video to match the horizontal screen resolution while maintaining the aspect ratio, cutting off the protruding picture at the top and bottom.
		CROP	This expands the input video to match the vertical screen resolution while maintaining the aspect ratio, cutting off the protruding picture at the left and right sides.
		DOT BY DOT	This performs no scaling.
		MANUAL	This performs scaling according to the "SIZE H," "SIZE V," "ZOOM," "POSITION H," "POSITION V" settings.
	SIZE H	-9999- 0 -+9999	This sets the horizontal size. * Enabled when "TYPE" is set to "MANUAL."
	SIZE V	-9999- 0 -+9999	This sets the vertical size. * Enabled when "TYPE" is set to "MANUAL."
ZOOM	10- 100 -1000 %	This sets the zoom ratio. * Enabled when "TYPE" is set to "MANUAL."	
POSITION H	-1920- 0 -+1920	This sets the horizontal position. * Enabled when "TYPE" is set to "MANUAL."	
POSITION V	-1200- 0 -+1200	This sets the vertical position. * Enabled when "TYPE" is set to "MANUAL."	
CROPPING	DISABLE/ ENABLE	DISABLE (dark), ENABLE (lighted) This switches between enabling and disabling cropping. When this is set to ENABLE (lighted), cropping is enabled for video scaling using "SCALER."	
	SIZE H	0- 200 -1920 This sets the horizontal size.	
	SIZE V	0- 200 -1200 This sets the vertical size.	
	POSITION H	0 -1920 This sets the horizontal position.	
	POSITION V	0 -1200 This sets the vertical position.	

444 VIDEO 1M/E Screen

When "1M/E" has been specified as the 4:4:4 M/E mode, tapping <444 VIDEO M/E> displays the 444 VIDEO 1M/E screen.

At this screen you can; switch output video, carry out PinP and key compositing, change cross-point assignments, and perform other such tasks.



FORMAT selection button

You can change the setting values within the ranges shown below.

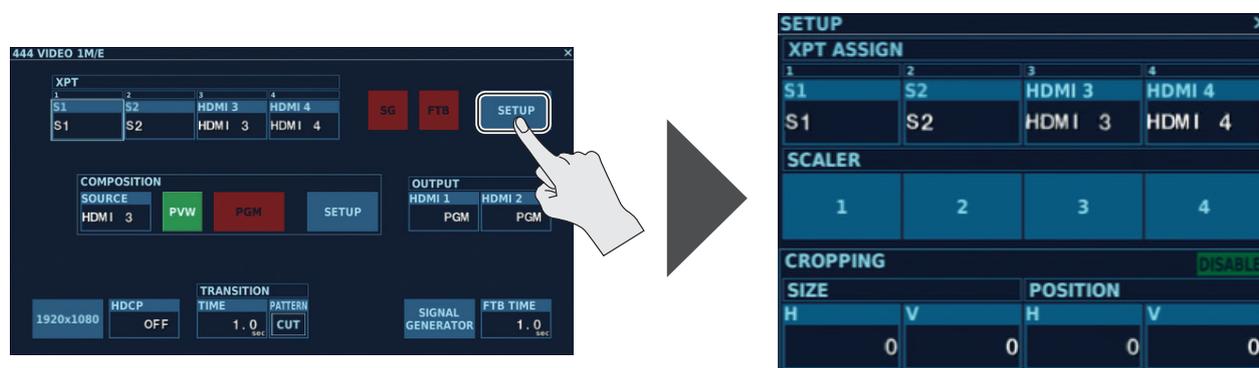
Parameter	Setting value (Values in bold type are factory defaults.)	Description
XPT	1-4	This selects which video to output to HDMI 1 or HDMI 2. Tapping a channel switches the output video from HDMI OUT 1 or HDMI OUT 2. The transition effect applied at this time is specified by "TRANSITION" at the 444 VIDEO 1M/E screen.
SG	ON (lighted), OFF (dark)	When this is set to ON, the test pattern selected using "SIGNAL GENERATOR" at the 444 VIDEO 1M/E screen is output.
FTB	ON (lighted), OFF (dark)	When this is set to ON, a fade to a black screen lasting the number of seconds set using "FTB TIME" is performed. The FTB text color changes to black during the fade and changes to white when the fade ends. Tapping <FTB> again while the fade is in progress makes the fade finish instantly.
SETUP	—	Tapping this displays the SETUP screen for making cross-point assignments, scaler settings, and the like. For information on the SETUP screen, refer to "444 VIDEO 1M/E SETUP Screen" (p. 61).
COMPOSITION	SOURCE	S1, S2, HDMI 3 , HDMI 4
	PVW	ON (lighted), OFF (dark)
	PGM	ON (lighted), OFF (dark)
	SETUP	—
OUTPUT	HDMI 1, HDMI 2	PGM, PVW
FORMAT	480i/576i (*1), 480p/576p (*1), 720p, 1080i, 1080p, 1024x768, 1280x720, 1280x800, 1366x768, 1280x1024, 1400x1050, 1600x1200, 1920x1080 , 1920x1200	This selects the 4:4:4 process format. * You can also use the "FORMAT Screen (4:4:4)" (p. 63) to change the 4:4:4 process format.
HDCP	ON, OFF	This sets HDCP signals ON or OFF. Setting this to ON enables HDCP-applied HDMI signals to be input, and also applies HDCP to the output video sent via HDMI OUT 1 and 2. Setting this to OFF makes input and output of HDCP-protected video impossible. For information on HDCP, refer to "About Copyright Protection (HDCP)" (p. 11) * Audio in an HDCP-applied HDMI signal cannot be input even when HDCP is turned on.
TRANSITION	TIME	0.0- 1.0 -5.0 sec
	PATTERN	CUT , MIX
SIGNAL GENERATOR	PATTERN	MATTE, 75% COLOR BAR , 100% COLOR BAR, RAMP, STEP, HATCH, FRAME
	COLOR H	0-359
	COLOR S	0- 255
	COLOR V	0- 255
FTB TIME	0.0- 1.0 -5.0 sec	This sets the length in time of the fade to a black screen when FTB is tapped.

(*1) This is 480 when the frame rate is set to 59.94 Hz or 576 when the frame rate is set to 50 Hz. Setting the frame rate is done at the "PROCESSOR SETUP Screen" (p. 82).

444 VIDEO 1M/E SETUP Screen

Tapping <SETUP> at the 444 VIDEO 1M/E screen displays the 444 VIDEO 1M/E SETUP screen.

At this screen you can; make cross-point assignments and scaler settings and set other such values in the 444 VIDEO 1M/E mode.

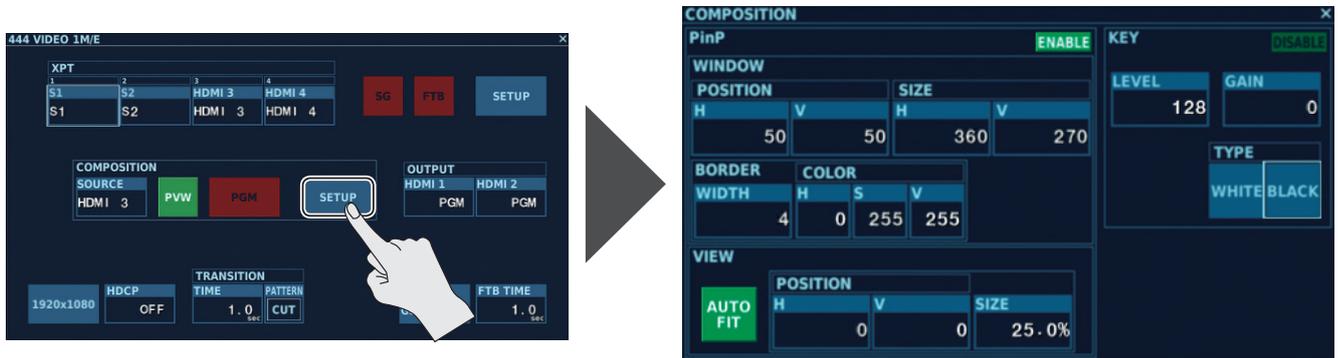


You can change the setting values within the ranges shown below.

Parameter	Setting value (Values in bold type are factory defaults.)	Description
XPT ASSIGN1-4	S1, S2, HDMI 3, HDMI 4	This selects the video source to assign to an XPT.
SCALER 1-4	TYPE FULL , LETTER-BOX, CROP, DOT BY DOT, MANUAL	FULL This displays the entire input video adjusted to fill the entire output screen, without maintaining the aspect ratio.
		LETTER-BOX This expands the input video to match the horizontal screen resolution while maintaining the aspect ratio, cutting off the protruding picture at the top and bottom.
		CROP This expands the input video to match the vertical screen resolution while maintaining the aspect ratio, cutting off the protruding picture at the left and right sides.
		DOT BY DOT This performs no scaling.
		MANUAL This performs scaling according to the "SIZE H," "SIZE V," "ZOOM," "POSITION H," "POSITION V" settings.
		SIZE H -9999- 0 -+9999 This sets the horizontal size. * Enabled when "TYPE" is set to "MANUAL."
SIZE V -9999- 0 -+9999 This sets the vertical size. * Enabled when "TYPE" is set to "MANUAL."		
ZOOM 10- 100 -1000% This sets the zoom ratio. * Enabled when "TYPE" is set to "MANUAL."		
POSITION H -1920- 0 -+1920 This sets the horizontal position. * Enabled when "TYPE" is set to "MANUAL."		
POSITION V -1200- 0 -+1200 This sets the vertical position. * Enabled when "TYPE" is set to "MANUAL."		
CROPPING	DISABLE/ENABLE DISABLE (dark), ENABLE (lighted)	This switches between enabling and disabling cropping. When this is set to ENABLE (lighted), cropping is enabled for video scaling using "SCALER."
	SIZE H 0- 200 -1920 This sets the horizontal size.	
	SIZE V 0- 200 -1200 This sets the vertical size.	
	POSITION H 0 -1920 This sets the horizontal position.	
	POSITION V 0 -1200 This sets the vertical position.	

444 VIDEO 1M/E COMPOSITION Screen

Tapping <SETUP> in the COMPOSITION section of the 444 VIDEO 1M/E screen displays the 444 VIDEO 1M/E COMPOSITION screen. At this screen you can; make settings for PinP and key composition and other such settings in the 444 VIDEO 1M/E mode.



You can change the setting values within the ranges shown below.

Parameter	Setting value (Values in bold type are factory defaults.)	Description
PinP		
ENABLE / DISABLE	ENABLE (lighted) DISABLE (dark)	This switches between enabling and disabling PinP. PinP can be output when this is set to ENABLE (lighted). * You can also set both PinP and key composition to ENABLE.
POSITION H	0- 50 -xx (*1)	This adjusts the horizontal position of the PinP inset screen.
POSITION V	0- 50 -xx (*1)	This adjusts the vertical position of the PinP inset screen.
SIZE H	10- 360 -1920	This adjusts the horizontal size of the PinP inset screen.
SIZE V	10- 270 -1200	This adjusts the vertical size of the PinP inset screen.
BORDER WIDTH	0- 4 -64	This sets the width of the border.
COLOR H	0- 0 -359	This sets the hue of the border color.
COLOR S	0- 255	This sets the saturation of the border color.
COLOR V	0- 255	This sets the brightness of the border color.
VIEW		
AUTO FIT	ON (lighted), OFF (dark)	When this is set to ON, the aspect ratio and size of the source video displayed with PinP are automatically adjusted to the same aspect ratio and size as PinP.
POSITION H	-1920- 0 - +1920	This adjusts the horizontal position of the source video displayed with PinP. * This is enabled only when "AUTO FIT" is set to OFF.
POSITION V	-1080- 0 - +1200	This adjusts the vertical position of the source video displayed with PinP. * This is enabled only when "AUTO FIT" is set to OFF.
SIZE	10.0- 25.0 -100.0 %	This adjusts the size of the source video displayed with PinP. * This is enabled only when "AUTO FIT" is set to OFF.
KEY		
ENABLE / DISABLE	ENABLE (lighted), DISABLE (dark)	This switches between enabling and disabling key composition. Key-composited video can be output when this is set to ENABLE (lighted). * You can also set both PinP and key composition to ENABLE.
LEVEL	0- 128 -255	This sets the amount of extraction.
GAIN	0- 255	This sets the amount of edge blur.
TYPE	WHITE, BLACK	This selects the type (extraction color) of key compositing. WHITE : This uses a brightness threshold to make white transparent when compositing. BLACK : This uses a brightness threshold to make black transparent when compositing.

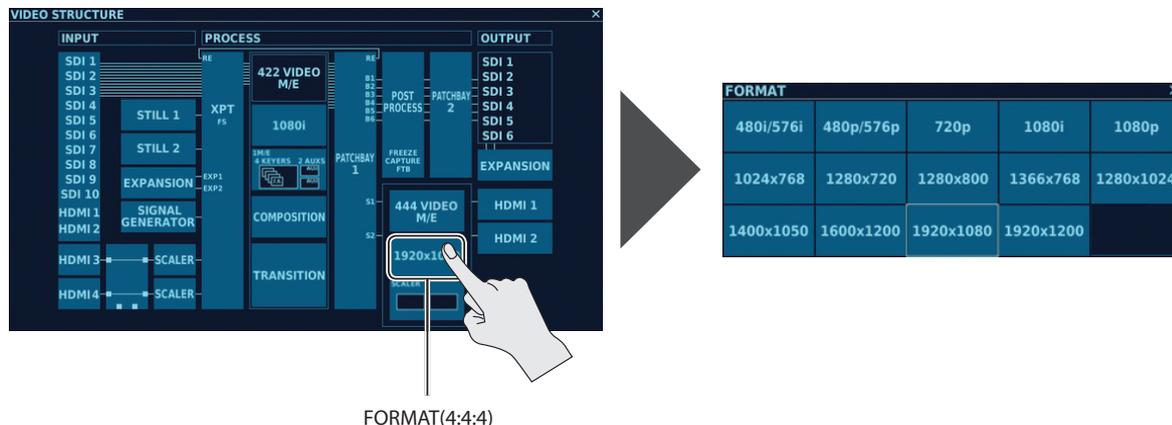
(*1) The maximum value varies according to PinP size.

FORMAT Screen (4:4:4)

At the FORMAT screen (4:4:4), you select the 4:4:4 process format.

1. Tapping <FORMAT 4:4:4> at the VIDEO STRUCTURE screen displays the FORMAT screen (4:4:4).

Tap the format you want to set as the 4:4:4 process format, thereby selecting it.



FORMAT(4:4:4)

Selectable 4:4:4 processing formats	480i/576i (*1), 480p/576p (*1), 720p, 1080i, 1080p, 1024x768, 1280x720, 1280x800, 1366x768, 1280x1024, 1400x1050, 1600x1200, 1920x1080, 1920x1200
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(*1) This is 480 when the frame rate is set to 59.94 Hz or 576 when the frame rate is set to 50 Hz. Setting the frame rate is done at the "PROCESSOR SETUP Screen" (p. 82).

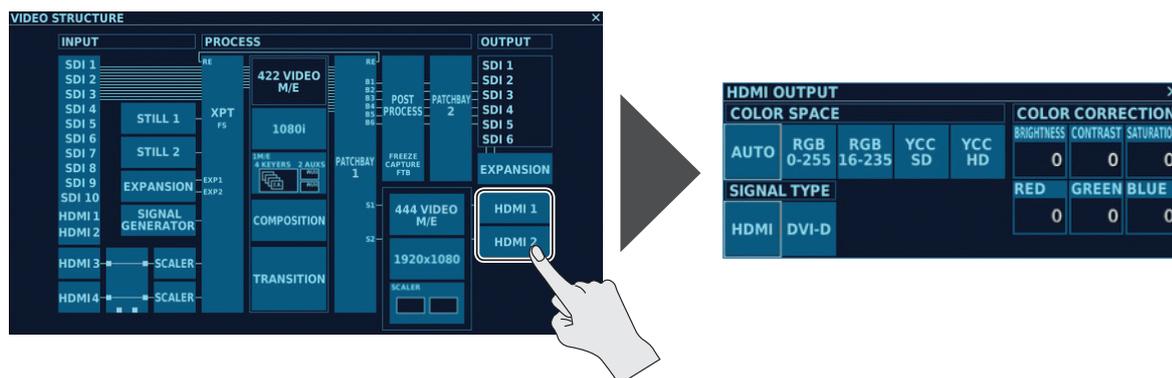
Memo

- For details about process formats, refer to "Selectable 4:4:4 Process Formats" (p. 15).
- You can also set the 4:4:4 process format at the "444 VIDEO M/E Setup Screen" (p. 56)

HDMI OUTPUT Screen

At the HDMI OUTPUT screen, you adjust the output video for HDMI OUTPUT 1 and 2.

1. Tapping <HDMI 1> or <HDMI 2> at the VIDEO STRUCTURE screen displays the HDMI OUTPUT screen.



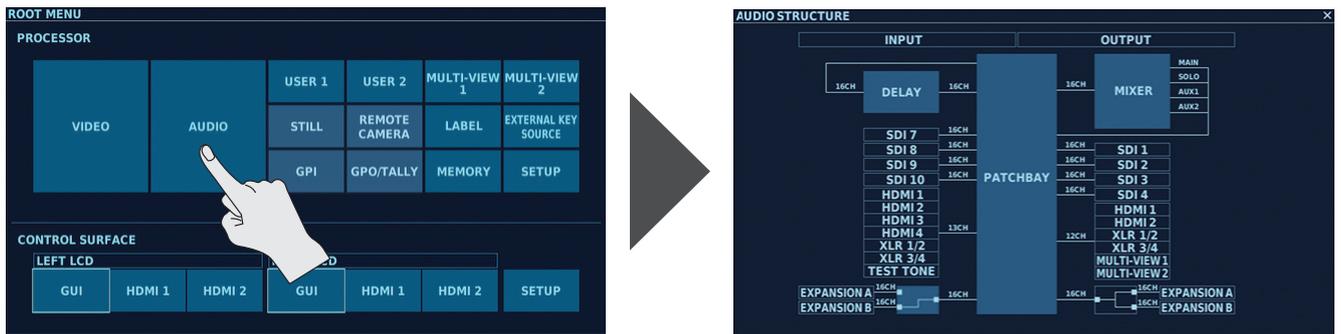
You can change the setting values within the ranges shown below.

Parameter	Setting value (Values in bold type are factory defaults.)	Description
COLOR SPACE	AUTO , RGB 0-255, RGB 16-235, YCC SD, YCC HD	This selects the color space.
SIGNAL TYPE	HDMI , DVI-D	This selects the type of signal output from HDMI OUT 1 and 2.
COLOR CORRECTION		
BRIGHTNESS		This adjusts the brightness.
CONTRAST		This adjusts the contrast.
SATURATION		This adjusts the color saturation.
RED	-128-0- +127	This adjusts the red level.
GREEN		This adjusts the green level.
BLUE		This adjusts the blue level.

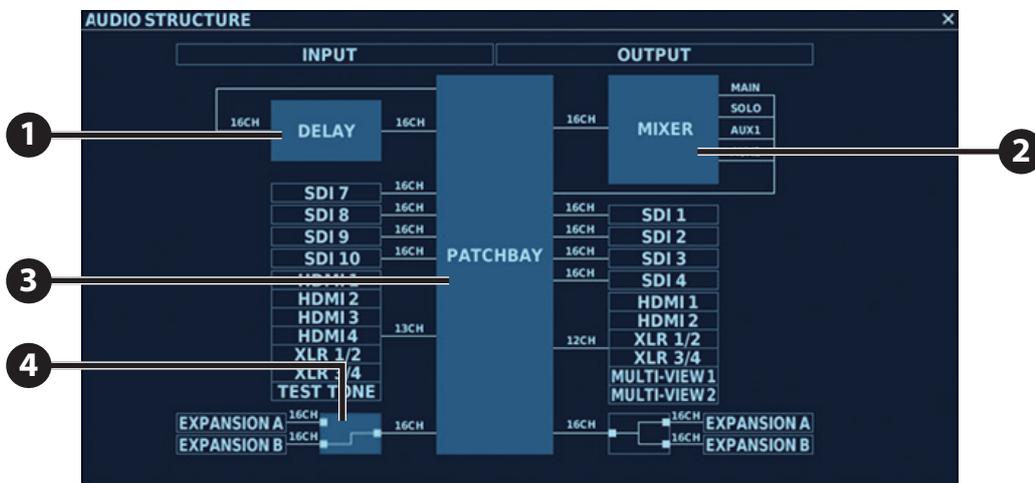
AUDIO STRUCTURE Screen

The AUDIO STRUCTURE screen is where you make audio-related settings.

1. Tapping <AUDIO> at the ROOT MENU screen displays the AUDIO STRUCTURE screen.



Part Names and Functions

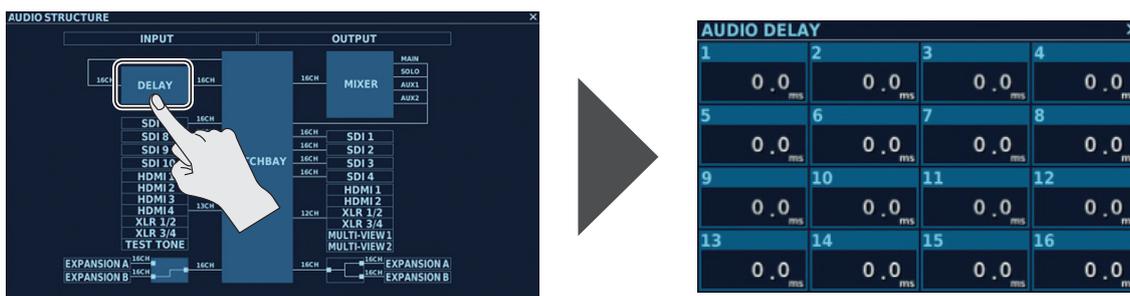


No.	Name	Description	Page
1	DELAY	This adjusts delay.	p. 64
2	MIXER	This adjusts volume level and the equalizer.	p. 65
3	PATCHBAY	This sets the output destinations for audio input.	p. 67
4	EXPANSION selector switch	This selects the expansion slot connected to the patchbay.	—

AUDIO DELAY Screen

At the DELAY screen, you adjust the delayed of delay applied to the patchbay.

1. Tapping <DELAY> at the AUDIO STRUCTURE screen displays the AUDIO DELAY screen.



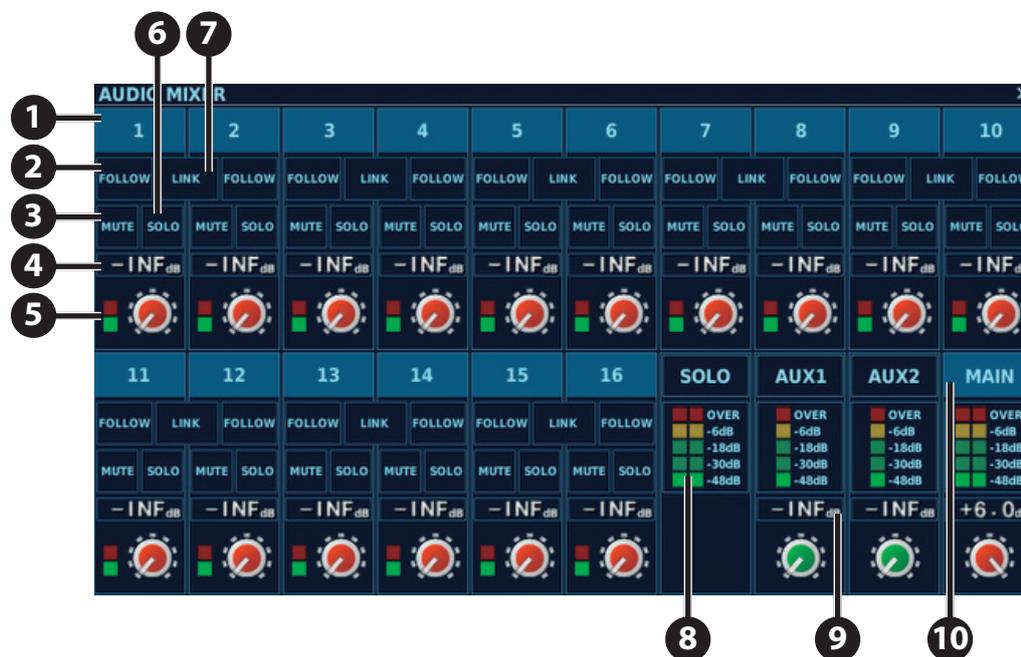
You can change the setting values within the ranges shown below.

Channel	Setting value (Values in bold type are factory defaults.)	Description
1–16	0.0 –500.0 ms	This adjusts the amount of delay in a range of 0.0 ms to 500.0 ms.

AUDIO MIXER Screen

At the AUDIO MIXER screen, you perform such operations as adjusting the volume levels of the respective audio streams input to MIXER and adjusting the equalizer.

1. Tapping <MIXER> at the AUDIO STRUCTURE screen displays the AUDIO MIXER screen.



You can change the setting values within the ranges shown below.

No.	Name	Setting value (Values in bold type are factory defaults.)	Description
1	1-16	Tapping one of these displays the AUDIO MIXER CHANNEL screen for setting pan, effects, and other values for the respective audio channel. For information on the AUDIO MIXER CHANNEL screen, refer to "AUDIO MIXER CHANNEL Screen" (p. 66).	
2	FOLLOW	ON, OFF	This switches Audio Follow on and off.
3	MUTE	ON, OFF	This switches mute on and off.
4	Audio level display	-INF - +6.0 dB	This displays the audio level. After tapping to select, you can use the <VALUE> control to change the value.
5	Audio level indicator	—	This displays the input status of the audio signal. This lights up in green when input higher than a specific level is received. It lights up in red when input is excessively high.
6	SOLO	ON, OFF	This switches solo on and off. Audio on a channel where solo is set to ON is mixed and sent to the SOLO bus.
7	LINK	ON, OFF	This connects adjacent channels using stereo link, which lets you set various parameters to the same settings for both. This is convenient when you're dealing with stereo sources.
8	Audio level meter	—	This displays the output levels of the respective buses.
9	Audio level displays (AUX1, AUX2, and MAIN)	-INF - +6.0 dB	These display the audio levels of the respective buses. After tapping to select, you can use the <VALUE> control to change the value.
10	MAIN	Tapping this displays the AUDIO MIXER MAIN screen for making effect settings for the MAIN bus. For information on the AUDIO MIXER MAIN screen, refer to "AUDIO MIXER MAIN Screen" (p. 67).	

About Audio Follow

You can link video output and audio-channel output when a video-switch operation is performed.

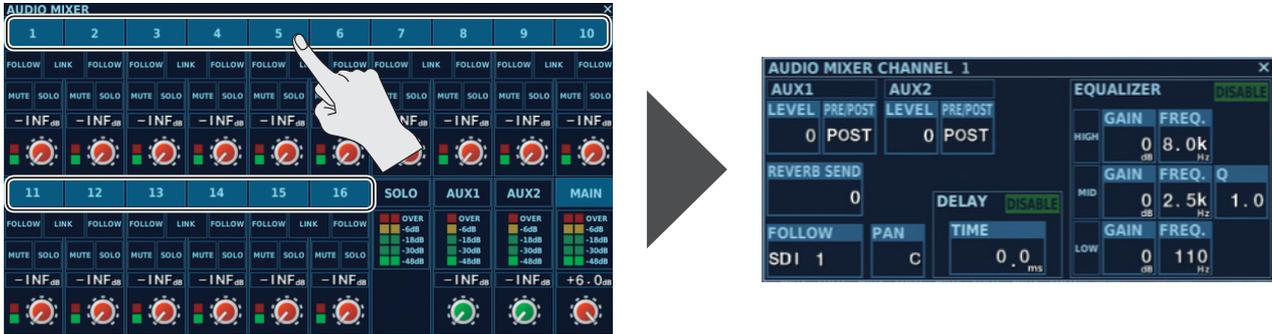
This function is called "Audio Follow."

When outputting the video sources set using the various audio channels to PGM, the audio levels of the audio channels rise in tandem with the video. When not outputting the video sources set using the various audio channels to PGM, the audio levels of the audio channels fall in tandem with the video.

AUDIO MIXER CHANNEL Screen

At the AUDIO MIXER CHANNEL screen, you make settings for pan, effects, and the like for the audio channels.

1. Tapping a selection from <1> to <16> at the AUDIO MIXER screen displays the AUDIO MIXER CHANNEL screen for the respective audio channel.



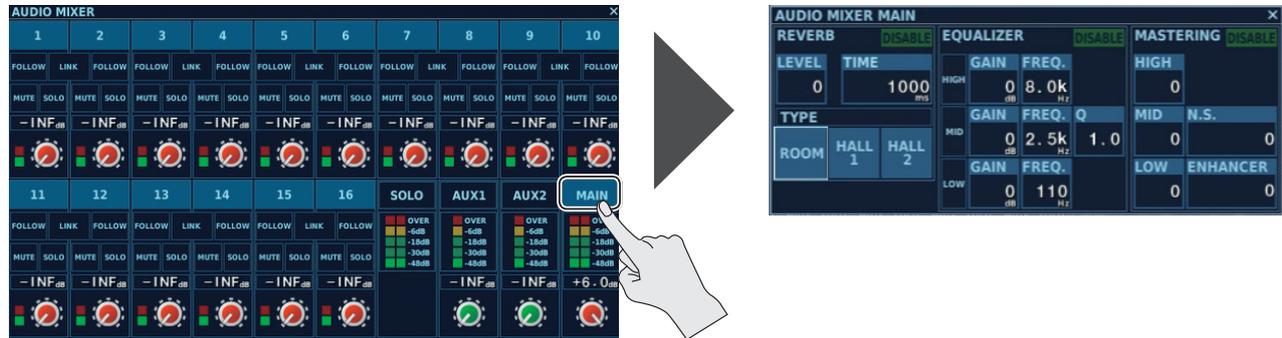
You can change the setting values within the ranges shown below.

Parameter	Setting value (Values in bold type are factory defaults.)	Description
AUX1/2 LEVEL	0 -127	This adjusts the audio level sent to the AUX1 or AUX2 bus.
AUX1/2 PRE/POST	PRE, POST	PRE: This sends the audio from before reaching the fader to the AUX bus. POST: This sends the audio from after the fader to the AUX bus.
REVERB SEND	0 -127	This adjusts the send level to reverb.
FOLLOW	SDI 1 -10, HDMI 1-4, STILL 1-2, EXP1-2, RE-ENTRY, SIG GEN, N/A	This selects the video source to use for Audio Follow. * For more information on Audio Follow, refer to "About Audio Follow" (p. 65).
PAN	L-C-R	This adjusts pan.
DELAY		
ENABLE/DISABLE	ENABLE (lighted), DISABLE (dark)	This switches delay between enabled and disabled. Delay is enabled when this is set to ENABLE (lighted).
TIME	0.0 -500.0 ms	This adjusts the delay time.
EQUALIZER		
ENABLE/DISABLE	ENABLE (lighted), DISABLE (dark)	This switches the equalizer between enabled and disabled. The equalizer is enabled when this is set to ENABLE (lighted).
GAIN (HIGH/MID/LOW)	-15- 0 - +15 dB	This adjusts the gain for the respective frequencies.
FREQ (HIGH/MID/LOW)	HIGH 700 Hz- 8.0 kHz -11 kHz MID 20.0 Hz- 2.5 kHz -10 kHz LOW 55 Hz- 110 Hz -800 Hz	This adjusts the center frequency for the respective frequency bands.
Q (MID)	0.5- 1.0 -16.0	This adjusts Q (impedance)

AUDIO MIXER MAIN Screen

At the AUDIO MIXER MAIN screen, you make effect settings for the MAIN bus.

1. Tapping <MAIN> at the AUDIO MIXER screen displays the AUDIO MIXER MAIN screen.



You can change the setting values within the ranges shown below.

Parameter	Setting value (Values in bold type are factory defaults.)	Description
REVERB		
ENABLE/DISABLE	ENABLE (lighted), DISABLE (dark)	This switches reverb between enabled and disabled. Reverb is enabled when this is set to ENABLE (lighted).
LEVEL	0 –127	This adjusts the reverb level.
TIME	100– 1000 –5000 ms	This adjusts the reverb time.
TYPE	ROOM , HALL1, HALL2	This selects the reverb type.
EQUALIZER		
ENABLE/DISABLE	ENABLE (lighted), DISABLE (dark),	This switches the equalizer between enabled and disabled. The equalizer is enabled when this is set to ENABLE (lighted).
GAIN (HIGH/MID/LOW)	-15– 0 – +15 dB	This adjusts the gain for the respective frequencies.
FREQ (HIGH/MID/LOW)	HIGH 700 Hz– 8.0 kHz –11 kHz MID 20.0 Hz– 2.5 kHz –10 kHz LOW 55 Hz– 110 Hz –800 Hz	This adjusts the center frequency for the respective frequency bands.
Q (MID)	0.5– 1.0 –16.0	This adjusts Q (impedance)
MASTERING		
ENABLE/DISABLE	ENABLE (lighted), DISABLE (dark)	This switches mastering between enabled and disabled. MASTERING is enabled when this is set to ENABLE (lighted).
HIGH	0 –127	This suppresses high-frequency distortion and adjusts the sound to have sustained tones.
MID	0 –127	This suppresses midrange distortion and adjusts the sound to have distinct tones.
LOW	0 –127	This suppresses low-frequency distortion and adjusts the sound to have stable tones.
N.S.	0 –127	This adjusts the degree of application of the noise suppressor.
ENHANCER	0 –127	This adjusts the degree of application of the enhancer.

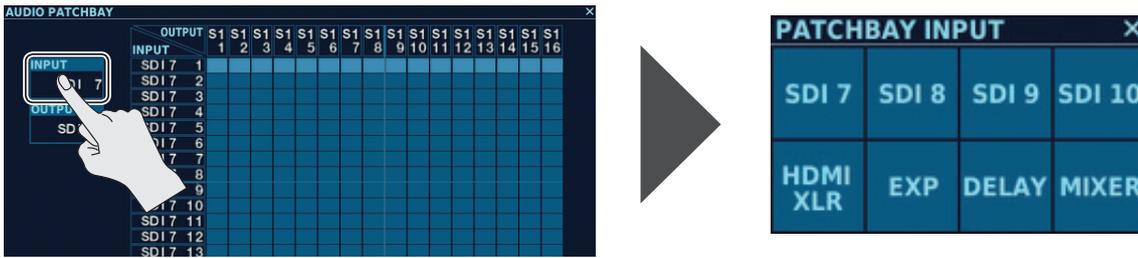
AUDIO PATCHBAY Screen

At the AUDIO PATCHBAY screen, you specify the output destinations for audio streams input to the patchbay.

1. Tapping <PATCH BAY> at the AUDIO STRUCTURE screen displays the AUDIO PATCHBAY screen.



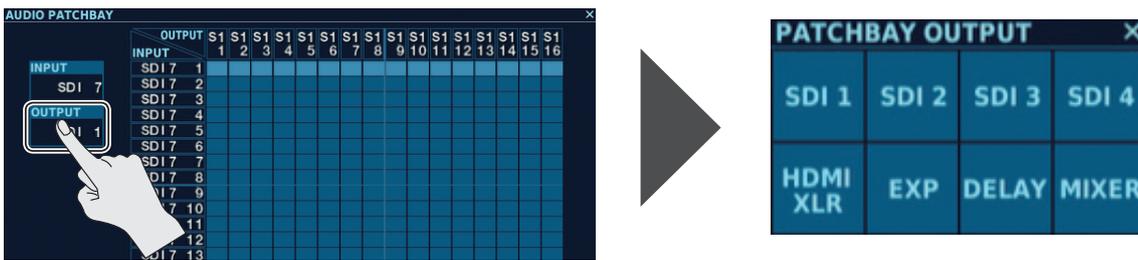
2. Tapping <INPUT> at the AUDIO PATCHBAY screen displays the PATCHBAY INPUT screen.



You select the group that contains the audio signal whose output destination you want to change. You can select from among the following groups.

Group name	Audio signals	Description
SDI 7-SDI 10	SDI 7-1- SDI 10-16	Audio input via the SDI IN 7 through 10 connectors.
HDMI/XLR	HDMI 1-1- HDMI 4-2, XLR1-4, TEST TONE	Audio input via the HDMI IN and AUDIO IN connectors. The V-1200HD's internal signal generator is connected to TEST TONE. * When HDCP for the 4:4:4 process is switched on, audio cannot be input via HDMI IN 3 or 4. Also, audio on HDCP-applied HDMI signals cannot be input into the V-1200HD.
EXP	EXP 1-16	Audio input via expansion slot A or B. * You use the EXPANSION selector switch to select the expansion slot to use for input.
DELAY	DELAY 1-16	The audio output from DELAY.
MIXER	MAIN L, R AUX 1, 2 SOLO L, R	The audio output from MIXER.

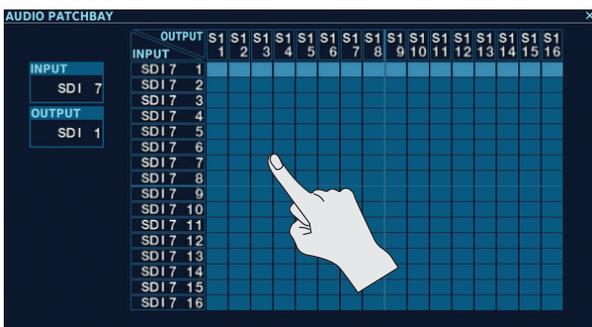
3. Tapping <OUTPUT> at the AUDIO PATCHBAY screen displays the PATCHBAY OUTPUT screen.



You select the group to set as the output destination. You can select from among the following groups.

Group name	Output destination	Description
SDI 1-SDI 4	S1-1- S4-16	Output is made via the SDI OUT 1 through 4 connectors.
HDMI/XLR	H1-1- H2-2	Output is made via the HDMI OUT 1 and 2 connectors.
	X1-X4	Output is made via the AUDIO OUT connectors.
	MV11-MV22	Output is made via the MULTI-VIEW 1 and 2 connectors.
EXP	EX 1-16	Output is made via expansion slots A and B. Expansion interface audio is output via the channel 1 through 16 connectors for which output is possible.
DELAY	DL 1-16	Output is sent to DELAY.
MIXER	MX 1-16	Output is sent to MIXER.

4. Tap the location where the desired output destination and the input signal intersect to change the setting for the output destination.



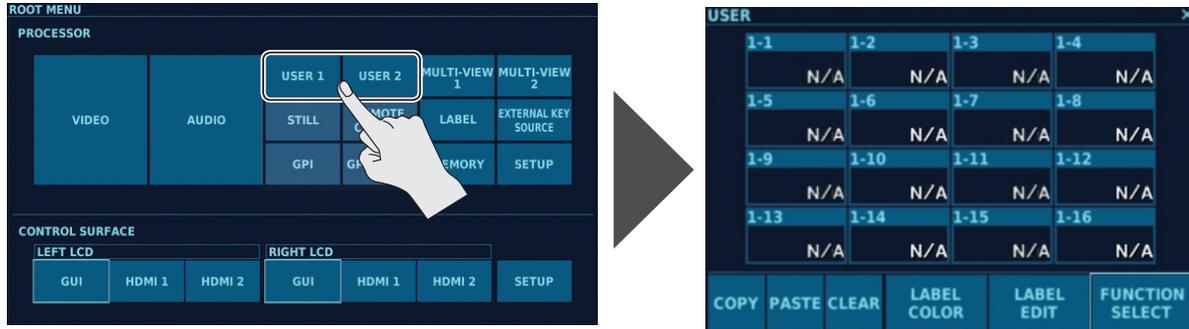
Other Features

USER Screen

At the USER screen, you can select functions to assign to USER channels, change label colors, and change label displays.

* Functions assigned to USER channels are output using [AUX] buttons. For details, refer to “Using User Functions” (p. 30).

1. At the ROOT MENU screen, tap <USER 1> or <USER 2> to display the USER screen.



Assigning a Function

You can assign functions to USER 1-1 through 1-16 and USER 2-1 through 2-16.

Assigning functions lets you access a variety of functions by using AUX buttons, such as operating external devices and selecting cross points for the 4:4:4 process.

1. At the USER screen, tap <FUNCTION SELECT>.
2. Tap the USER channel to assign the function to.



The SELECT screen appears.

You can change the page by tapping the following buttons.



3. Tap the function to assign.

You can assign the following functions to USER channels.

Function name	Description
N/A	No function is assigned.
GPO 1-16	These short the respective output pins on the V-1200HD's TALLY/GPIO connector to COM. * To select the functions to allocate to the respective TALLY/GPIO connector pins, you use the "GPO/TALLY Screen" (p. 80). * For the specifications of the TALLY/GPIO connector, refer to "V-1200HD Connector Specifications" (p. 89).
CAMERA 1-1-7-8	These specify the number of a remote camera and a memory number. For example, specifying CAMERA 3-8 performs control when CAMERA 3 and MEMORY 8 have been specified at the "REMOTE CAMERA Screen" (p. 77).
CAMERA 1-7 SELECT	These select the remote camera of the specified number. You can operate the selected camera remotely using the [Z] dial and the [POSITIONER] stick.
FTB B1-B6	These apply a black fade to the video on the specified bus.
FREEZE B1-B6	These freeze the video on the specified bus.
STILL 1-1-2-16	These select a still image to assign to STILL 1 or STILL 2 from among STILL MEMORY 1-16. For example, specifying STILL 2-16 assigns the still image loaded into STILL MEMORY 16 to STILL 2.
444 XPT 1-1- 2-4	These switch cross points for the 4:4:4 process. For example, when the 4:4:4 M/E mode is MATRIX, specifying 4:4:4 XPT 1-4 causes cross point 4 of HDMI OUT 1 to be selected at the 444 VIDEO MATRIX screen. * When the 4:4:4 M/E mode is SCALER, these perform no operation.
444 SG 1,2	* When the 4:4:4 M/E mode is 1M/E, 444 XPT 2-1 - 2-4 perform no operation. These perform ON/OFF switching of the SIGNAL GENERATORS for the 4:4:4 process. * When the 4:4:4 M/E mode is 1M/E, 444 SG 2 performs no operation.

Function name		Description
444 FTB 1,2		These perform ON/OFF switching of the FTB for the 4:4:4 process. * When the 4:4:4 M/E mode is 1M/E, 444 FTB 2 performs no operation.
444 LINK		These perform ON/OFF switching of the LINK for the 4:4:4 process. * When the 4:4:4 M/E mode is 1M/E, this performs no operation.
444 MIX		These perform MIX/CUT switching of the TRANSITION PATTERN for the 4:4:4 process. * When the 4:4:4 M/E mode is SCALER, this performs no operation.
444 CMP S1-HDMI 4		These switch the COMPOSITION SOURCE for the 4:4:4 process. * These are active only when the 4:4:4 M/E mode is 1M/E.
444 CMP PGM,PVW		These perform ON/OFF switching of COMPOSITION PGM and PVW for the 4:4:4 process. * These are active only when the 4:4:4 M/E mode is 1M/E.
M/E1	PGM SDI 1-10 PGM HDMI 1-4 PGM STILL 1, 2 PGM EXP 1, 2 PGM RE-ENT PGM SIG-GEN	These select the video source to output to the M/E 1 PGM bus for the 4:2:2 process. You can output video sources that are not assigned to cross points.
	PGM NONE	This outputs no video source to the M/E 1 PGM bus for the 4:2:2 process.
	PST SDI 1-10 PST HDMI 1-4 PST STILL 1, 2 PST EXP 1, 2 PST RE-ENT PST SIG-GEN	These select the video source to output to the M/E 1 PST bus for the 4:2:2 process. You can output video sources that are not assigned to cross points.
	PST NONE	This outputs no video source to the M/E 1 PST bus for the 4:2:2 process.
	CUT	This switches the video on the M/E 1 PGM bus and M/E 1 PST bus for the 4:2:2 process using a CUT.
	MIX	This switches the video on the M/E 1 PGM bus and M/E 1 PST bus for the 4:2:2 process using a MIX
	WIPE	This switches the video on the M/E 1 PGM bus and M/E 1 PST bus for the 4:2:2 process using a WIPE
	PGM SDI 1-10 PGM HDMI 1-4 PGM STILL 1, 2 PGM EXP 1, 2 PGM RE-ENT PGM SIG-GEN	These select the video source to output to the M/E 2 PGM bus for the 4:2:2 process. You can output video sources that are not assigned to cross points.
	PGM NONE	This outputs no video source to the M/E 2 PGM bus for the 4:2:2 process.
	M/E2 (*1)	PST SDI 1-10 PST HDMI 1-4 PST STILL 1, 2 PST EXP 1, 2 PST RE-ENT PST SIG-GEN
	PST NONE	This outputs no video source to the M/E 2 PST bus for the 4:2:2 process.
	CUT	This switches the video on the M/E 2 PGM bus and M/E 2 PST bus for the 4:2:2 process using a CUT.
	MIX	This switches the video on the M/E 2 PGM bus and M/E 2 PST bus for the 4:2:2 process using a MIX
	WIPE	This switches the video on the M/E 2 PGM bus and M/E 2 PST bus for the 4:2:2 process using a WIPE
C1-C4	SDI 1-10 HDMI 1-4 STILL 1, 2 EXP 1, 2 RE-ENT SIG-GEN	These select the video sources assigned to respective compositions. You can assign even video sources not assigned to cross points to the respective compositions.
	NONE	This assigns no video source to the respective composition.
	NEXT (*2)	This performs ON/OFF switching of NEXT for the respective composition.
	MEMORY 1-4 (*2)	These perform RECALL operations for PRESET 1-4 at the MEMORY screen for the respective composition.
	PGM (*2)	This performs ON/OFF switching of PGM for the respective composition.
	PVW (*2)	This performs ON/OFF switching of PVW for the respective composition.
	MIX (*2)	This outputs the respective composition to the PGM bus with a MIX transition effect. (*3)
	WIPE (*2)	This outputs the respective composition to the PGM bus with a WIPE transition effect.
AUX1,AUX2(*4)	SDI 1-10 HDMI 1-4 STILL 1, 2 EXP 1, 2 RE-ENT SIG-GEN	These switch the sources to assign to the respective AUX buses. * You can assign even video not assigned to a cross point to the AUX buses.
	NONE	This assigns no source.

(*1) This performs no operation when the 4:2:2 M/E mode is the 1 M/E mode.

(*2) When you're controlling a composition that uses an external key, assign a FILL-side composition number (C1 or C3).
Assigning a KEY-side composition number makes control of the composition ineffective.

(*3) When the 4:2:2 M/E mode is the 1.5M/E mode, C1 through C4 are output to the M/E 1 PGM bus.

When the 4:2:2 M/E mode is the 2M/E mode, C1 and C2 are output to the M/E 1 PGM bus, and C3 and C4 are output to the M/E 2 PGM bus.

(*4) This functions only when the 4:2:2 M/E mode is the 1 M/E mode.

Changing Label Displays

You can change a label display by tapping <LABEL EDIT>. Changing a label display changes the label display on the menu screen and in the “Cross-point display” (p. 17).

1. At the USER screen, tap <LABEL EDIT>.
2. Tap the USER channel of the label display to change.



The TEXT INPUT screen appears.

3. Change the label display.

Changing Label Color

You can change a label color by tapping <LABEL COLOR>. Changing a label color changes the label color in the “Cross-point display” (p. 17) and the changes the color in which the [AUX] button lights up.

* When “BLACK” has been selected, the [AUX] button lights up in green.

1. At the USER screen, tap <LABEL COLOR>.
2. Tap the USER channel of the label color to change, then change the label color.



Selectable label colors	RED, GREEN, BLUE, CYAN, MAGENTA, YELLOW, BLACK
-------------------------	--

Using COPY, PASTE, and CLEAR

You can copy and initialize the content of USER channels by using <COPY>, <PASTE>, and <CLEAR>.

Copying

1. At the USER screen, tap <COPY>, then tap the USER channel you want to copy.

The function, label display, and label color assigned to the tapped USER channel are copied.

Pasting

1. At the USER screen, tap <PASTE>, then tap the USER channel where you want to paste the copied data.

The copied data is pasted to the tapped USER channel.

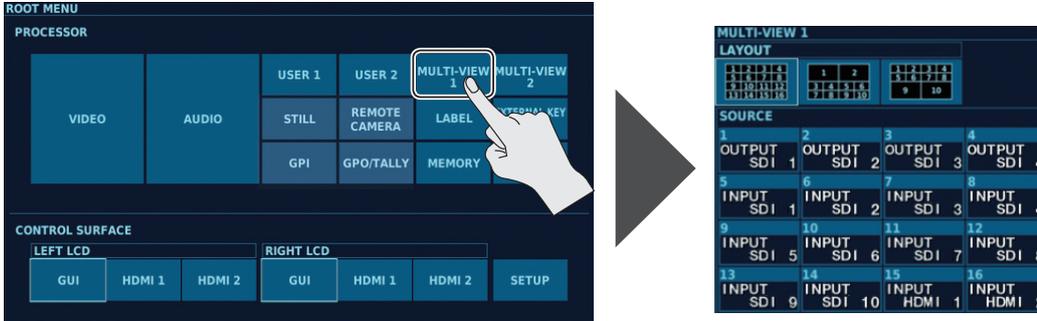
Initializing

1. At the USER screen, tap <CLEAR>, then tap the USER channel you want to initialize.

MULTI-VIEW 1 Screen

At the MULTI-VIEW 1 screen, you select the layout of the multi-view screen output via HDMI OUT MULTI-VIEW 1 and change source assignments. You can assign input/output video for the 4:2:2 process (except HDMI IN 3 and 4) to MULTI-VIEW 1.

1. Tap <MULTI-VIEW 1> at the ROOT MENU, making the MULTI-VIEW 1 screen appear.



You can change the setting values within the ranges shown below.

Parameter	Setting value (Values in bold type are factory defaults.)	Description														
LAYOUT		This selects the multi-view screen layout to output.														
SOURCE1-16	INPUT SDI 1-10 INPUT HDMI 1, 2 INPUT EXP 1, 2 INPUT STILL 1, 2 OUTPUT SDI 1-6 NONE	These select the video sources to assign to SOURCE 1-16. You can select the following sources. <table border="1"> <thead> <tr> <th>Selectable sources</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>INPUT SDI 1-10</td> <td>SDI input 1-10</td> </tr> <tr> <td>INPUT HDMI 1, 2</td> <td>HDMI input 1, 2</td> </tr> <tr> <td>INPUT EXP 1, 2</td> <td>Input from expansion interfaces</td> </tr> <tr> <td>INPUT STILL 1, 2</td> <td>Still images assigned to STILL 1, 2</td> </tr> <tr> <td>OUTPUT SDI 1-6</td> <td>SDI output 1-6</td> </tr> <tr> <td>NONE</td> <td>No assignment</td> </tr> </tbody> </table>	Selectable sources	Description	INPUT SDI 1-10	SDI input 1-10	INPUT HDMI 1, 2	HDMI input 1, 2	INPUT EXP 1, 2	Input from expansion interfaces	INPUT STILL 1, 2	Still images assigned to STILL 1, 2	OUTPUT SDI 1-6	SDI output 1-6	NONE	No assignment
Selectable sources	Description															
INPUT SDI 1-10	SDI input 1-10															
INPUT HDMI 1, 2	HDMI input 1, 2															
INPUT EXP 1, 2	Input from expansion interfaces															
INPUT STILL 1, 2	Still images assigned to STILL 1, 2															
OUTPUT SDI 1-6	SDI output 1-6															
NONE	No assignment															

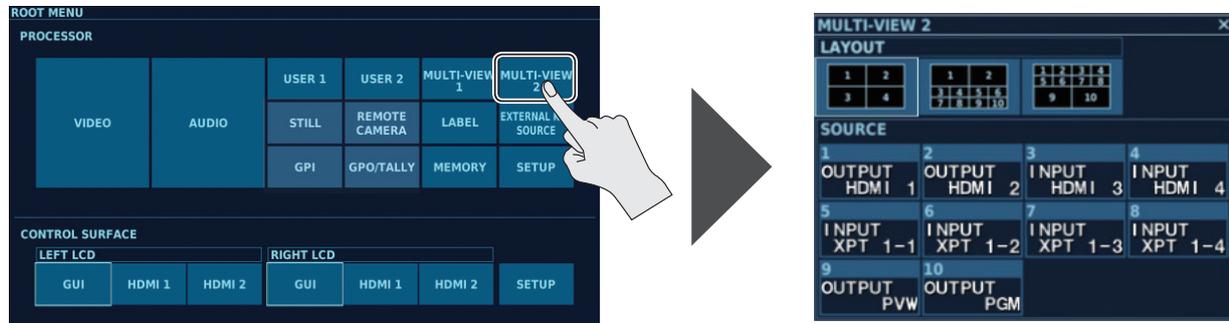
NOTE

Connect a monitor speaker that supports 1080/60p HDMI input to HDMI OUT MULTI-VIEW 1.

MULTI-VIEW 2 Screen

At the MULTI-VIEW 2 screen, you select the layout of the multi-view screen output via HDMI OUT MULTI-VIEW 2 and change source assignments. You can assign input/output video for the 4:4:4 process to MULTI-VIEW 2.

1. Tap <MULTI-VIEW 2> at the ROOT MENU, making the MULTI-VIEW 2 screen appear.



2. Tap one of SOURCE <1> through <10> to change the video source to assign.

You can change the setting values within the ranges shown below.

Parameter	Setting value (Values in bold type are factory defaults.)	Description														
LAYOUT		This selects the multi-view screen layout to output. NOTE On inset screens of 1/16 size, the frame rate drops.														
SOURCE1-10	INPUT HDMI 3, 4 OUTPUT HDMI 1, 2 OUTPUT PGM (*1) OUTPUT PVW (*1) INPUT XPT 1-1-2-4 (*2) NONE	These select the video sources to assign to SOURCE 1-10. You can select the following sources. <table border="1"> <thead> <tr> <th>Selectable sources</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>INPUT HDMI 3, 4</td> <td>HDMI input 3, 4</td> </tr> <tr> <td>OUTPUT HDMI 1, 2</td> <td>HDMI output 1, 2</td> </tr> <tr> <td>OUTPUT PGM (*1)</td> <td>The video that is the result of composition and other such processing in the 4:4:4 process is output.</td> </tr> <tr> <td>OUTPUT PVW (*1)</td> <td>When "PVW" is set to ON by "COMPOSITION," video in which the composition is overlaid on the background video selected using XPT is output.</td> </tr> <tr> <td>INPUT XPT 1-1-2-4 (*2)</td> <td>Video at the respective cross points in the 4:4:4 process</td> </tr> <tr> <td>NONE</td> <td>No assignment</td> </tr> </tbody> </table>	Selectable sources	Description	INPUT HDMI 3, 4	HDMI input 3, 4	OUTPUT HDMI 1, 2	HDMI output 1, 2	OUTPUT PGM (*1)	The video that is the result of composition and other such processing in the 4:4:4 process is output.	OUTPUT PVW (*1)	When "PVW" is set to ON by "COMPOSITION," video in which the composition is overlaid on the background video selected using XPT is output.	INPUT XPT 1-1-2-4 (*2)	Video at the respective cross points in the 4:4:4 process	NONE	No assignment
Selectable sources	Description															
INPUT HDMI 3, 4	HDMI input 3, 4															
OUTPUT HDMI 1, 2	HDMI output 1, 2															
OUTPUT PGM (*1)	The video that is the result of composition and other such processing in the 4:4:4 process is output.															
OUTPUT PVW (*1)	When "PVW" is set to ON by "COMPOSITION," video in which the composition is overlaid on the background video selected using XPT is output.															
INPUT XPT 1-1-2-4 (*2)	Video at the respective cross points in the 4:4:4 process															
NONE	No assignment															

(*1) Video is output when the 4:4:4 M/E mode is set to "1M/E."

(*2) When the 4:4:4 M/E mode is SCALER, this performs no operation. Also, 444 XPT 2-1 through 2-4 perform no operation when the 4:4:4 M/E mode is 1 M/E.

NOTE

Connect a monitor that satisfies the following conditions to HDMI OUT MULTI-VIEW 2.

- Support for input of HDCP-applied HDMI signals
- Support for 1080/60p HDMI input

STILL MEMORY Screen

At the STILL MEMORY screen, you can import still images and change still-image labels.

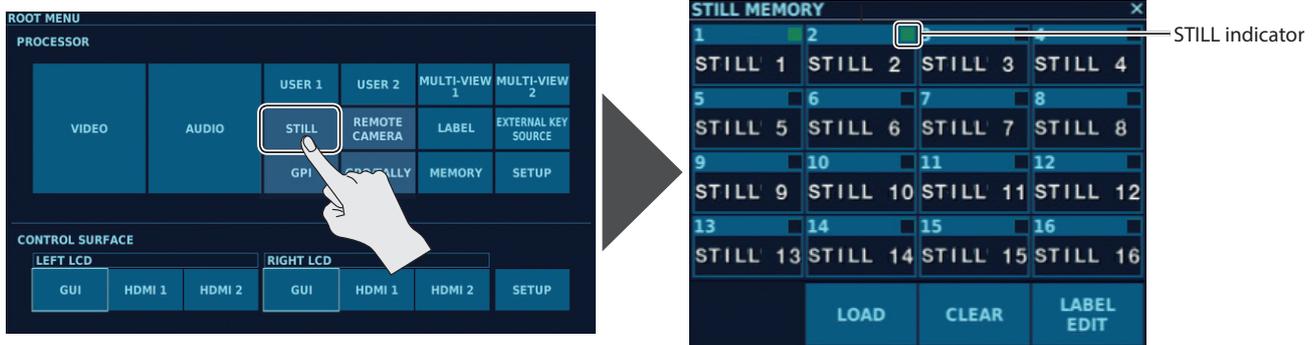
The still-image files are read in from a USB flash drive connected to the V-1200HD. Still images created by capture operation at the “POST PROCESS Screen” (p. 52) are also saved in STILL MEMORY.

You can send imported still images to cross points by assigning them at the “STILL INPUT Screen” (p. 35).

NOTE

Still images captured at the POST PROCESS screen and saved in STILL MEMORY are deleted when the power to the V-1200HD is turned off.

1. Tap <STILL> at the ROOT MENU, making the STILL MEMORY screen appear.



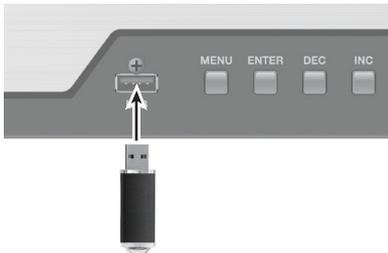
About the STILL Indicator

The STILL indicator shows the status of each memory on the STILL MEMORY screen.

Illuminated color	Status
Green	A still image has been imported.
Red	A still image is now being imported.
Unlighted	No still image has been imported.

Importing a Still Image from a USB Flash Drive

1. Connect the USB flash drive where the still-image file is saved to the USB port on the front panel of the V-1200HD.



2. At the STILL MEMORY screen, tap <LOAD>, then tap the memory number for the still image you want to import.

The <SELECT> screen appears.

You can change the page by tapping the following buttons.



3. Tap the still image to import to select it.

The still image is imported.

Memo

- Save still-image data in the root directory of the USB flash drive, in the format and at the size described below. Data that is in another format or exceeds the maximum size cannot be imported.

Format	Windows Bitmap file (.bmp) in uncompressed 24-bit pixel format, or Portable Network Graphic file (.png) * With alpha channel support
Size	Maximum 1,920x1,080
File name	Up to 8 single-byte alphanumeric characters

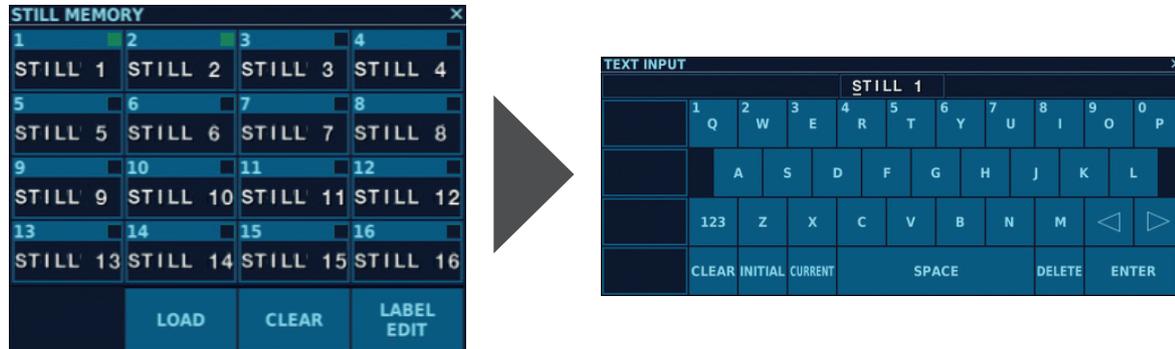
- A still image imported from a USB flash drive is copied to the V-1200HD’s internal memory. The still image is automatically loaded from internal memory at the next startup.
- While importing a still image is in progress, operations to capture a still image (p. 52), import another still image (this section), or delete a still image (p. 75) are not possible.

Changing Label Displays

You can change label displays.

Changing a label display changes the label display on the menu screen and in the “Cross-point display” (p. 17).

1. At the STILL MEMORY screen, tap <LABEL EDIT>.
2. Tap the memory number of the label display to change.



The TEXT INPUT screen appears.

3. Change the label display.

Deleting a Still Image

This deletes an imported still image.

1. At the STILL MEMORY screen, tap <CLEAR>.
2. Tap the memory number of the still image you want to delete.

The still image is deleted.

NOTE

Deleting a still image assigned to STILL 1 or STILL 2 assigns a black picture to STILL 1 or STILL 2.

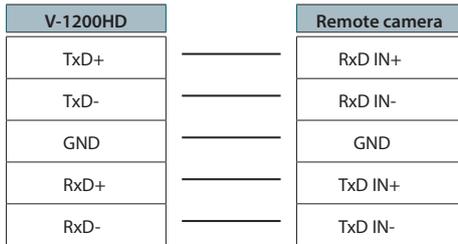
Remote Control of a VISCA-compatible Video Camera

You can connect a VISCA-compatible video camera to the RS-422 connector on the V-1200HD and operate the video camera by remote control.

- * VISCA is sometimes indicated as “standard protocol.”
- * Depending on the specifications of the remote camera, some functionality might be unavailable.

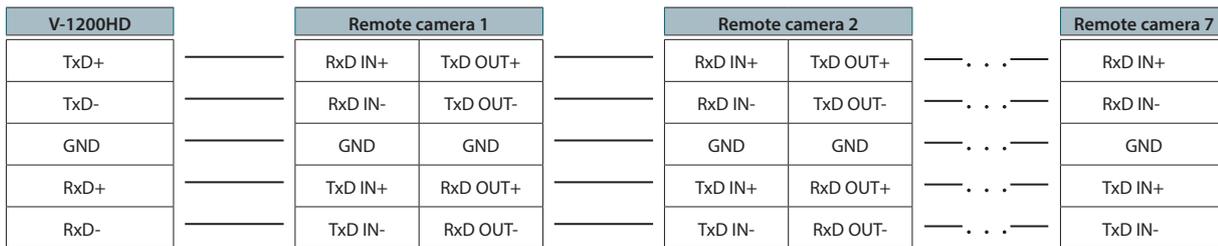
Connecting a Remote Camera

On the V-1200HD, you use the RS-422 connector to operate a remote camera. Connect the pins of the V-1200HD’s RS-422 connector and the pins for the remote camera as shown below.

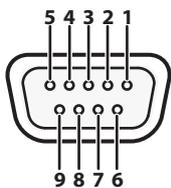


Connecting Multiple Remote Cameras (Daisy-chain Connection)

The V-1200HD supports daisy-chain connections. If the remote cameras also support daisy-chain connections, you can operate up to 7 cameras from a single V-1200HD unit. Connect the pins of the RS-422 connector on the V-1200HD to the remote cameras as shown below.



RS-422 Connector Specifications



D-Sub 9-pin (female)

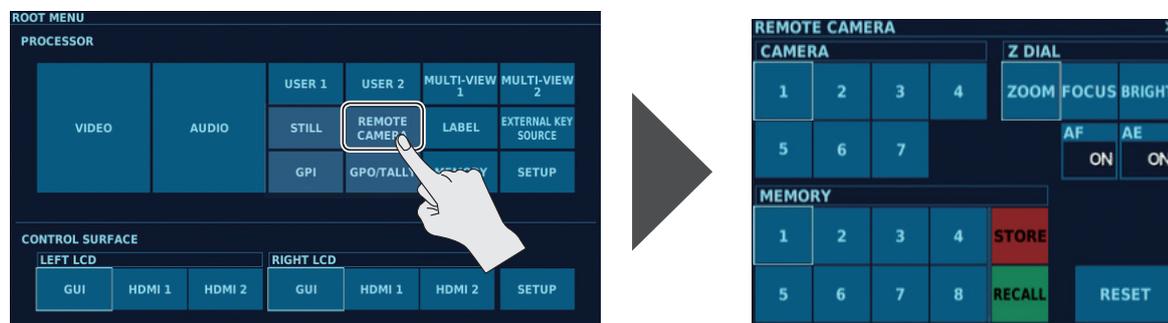
Pin number	Signal name
1	GND
2	TxD+
3	RxD-
4	GND
5	NC
6	GND
7	TxD-
8	RxD+
9	GND

Transmission method	Start-stop synchronization (asynchronous mode), full-duplex
Communication speed (baud rate)	9,600 bps/38,400 bps (Set this according to the status of communication with the remote cameras.)
Parity	None
Data length	8 bit
Stop-bit length	1 bit
Flow control	None

REMOTE CAMERA Screen

At the REMOTE CAMERA screen, you can operate remote cameras connected to the V-1200HD and save the status of each camera to the memory in the remote camera.

1. Tap <REMOTE CAMERA> at the ROOT MENU, making the REMOTE CAMERA screen appear.



Operating Remote Cameras

This lets you control remote cameras from the V-1200HD.

1. Turn on the power to the remote cameras connected to the V-1200HD.
2. Tap <RESET> at the REMOTE CAMERA screen.



The connection settings for the remote cameras are initialized.

- * The remote cameras must be set up ahead of time to allow IDs to be automatically assigned to the cameras at this time. For information on the settings for the remote cameras, refer to the documentation for the cameras you're using.

3. Select from among CAMERA 1 through 7 as the remote camera to operate.

- * In a daisy-chain connection (p. 76), numbering starts at 1 for the camera closest to the V-1200HD.



4. Operate the remote camera.

You use the [POSITIONER] stick to adjust pan and tilt and the [Z] dial to adjust zoom, focus, and the like.

About the Z dial

You can assign any one of ZOOM, FOCUS, and BRIGHT to the Z dial.

Go to the "Z DIAL" section of the REMOTE CAMERA screen and tap the function to assign to select it.

- * When the AF function is set to ON, the Z dial cannot be used to adjust FOCUS.
- * When the AE function is set to ON, the Z dial cannot be used to adjust BRIGHT.

About the AF and AE Functions

When the AF (Auto Focus) parameter on the REMOTE CAMERA screen is set to ON, focus on the remote camera is adjusted automatically.

When the AE (Automatic Exposure) parameter on the REMOTE CAMERA screen is set to ON, brightness on the remote camera is adjusted automatically.

Using the MEMORY Function

You can take a remote camera's pan and zoom settings, as well as settings for focus and other values, and save them in MEMORY 1 through 8 for recall when you want to use them.

- * The setting values saved at MEMORY <1> through <8> on the REMOTE CAMERA screen are saved in the memories of the connected remote cameras. They are not saved in the V-1200HD's internal memory.

Saving Remote Camera Settings

1. At the REMOTE CAMERA screen, tap the remote camera (CAMERA <1> through <7>) whose settings you want to save, thereby selecting the camera.

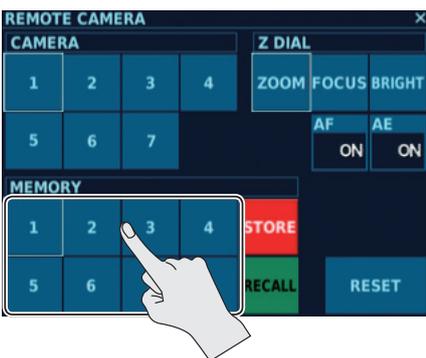
* This saves the setting values in the memory of the remote camera selected here.



2. Tap <STORE>.

<STORE> lights up in red.

3. Tap the memory number (MEMORY <1> through <8>) where you want to save the settings.



The settings are saved at the memory number you tapped.

Recalling Remote Camera Settings

1. At the REMOTE CAMERA screen, tap the remote camera (CAMERA <1> through <7>) whose settings you want to recall, thereby selecting the camera.

2. Tap <RECALL>.

<RECALL> lights up in green.

3. Tap the memory number (MEMORY <1> through <8>) of the settings you want to recall.

The settings at the memory number you tapped are recalled.

Using AUX Buttons to Operate a Remote Camera

You can use the [AUX] buttons to operate remote cameras.

Using the [AUX] buttons lets you operate a remote camera without displaying the REMOTE CAMERA screen.

1. Assign functions to USER channels.

TO use [AUX] buttons to operate a remote camera, you must assign the functions to USER channels.

For information on assigning functions to USER channels, refer to "USER Screen" (p. 69).

2. Go to the DELEGATION area and select USER [1] or USER [2].

3. Press the [AUX] button to operate the assigned function.

For information on how to use the [AUX] buttons, refer to "Using User Functions" (p. 30).

NOTE

The selection of functionality to assign to the Z dial, the AF function, and the AE function cannot be accomplished using the AUX buttons.

LABEL Screen

At the LABEL screen, you change the label displays for signals. Label displays are also displayed at the “Cross-point display” (p. 17) and as the signal names on menus.

1. Tap <LABEL> at the ROOT MENU, making the LABEL screen appear.



INPUT				OUTPUT		
SDI 1	SDI 2	SDI 3	SDI 4	SDI 1	SDI 2	SDI 3
SDI 1	SDI 2	SDI 3	SDI 4	SDI 1	SDI 2	SDI 3
SDI 5	SDI 6	SDI 7	SDI 8	SDI 4	SDI 5	SDI 6
SDI 9	SDI 10	HDMI 1	HDMI 2	HDMI 1	HDMI 2	
SDI 9	SDI 10	HDMI 1	HDMI 2	HDMI 1	HDMI 2	
HDMI 3	HDMI 4	EXP 1	EXP 2	444 VIDEO M/E		PGM
HDMI 3	HDMI 4	EXP 1	EXP 2			PGM
RE-ENTRY	SIGNAL GENERATOR	NO ASSIGN		S1	S2	PVW
RE-ENTRY	SIG GEN	N/A		S1	S2	PVW

2. Tap the signal of the label display to change, then make the change.

Memo

Label displays for still images and user functions cannot be changed at the LABEL screen. You can use the “STILL MEMORY Screen” (p. 74) to change the label display for a still image and the “USER Screen” (p. 69) to change the label display for a user function.

EXTERNAL KEY SOURCE Screen

At the EXTERNAL KEY SOURCE screen, you can specify the “FILL” and “KEY” combination used in external-key composition. You can apply the specified combination to the “COMPOSITION Screen” (p. 46).

1. Tap <EXTERNAL KEY SOURCE> at the ROOT MENU, making the EXTERNAL KEY SOURCE screen appear.



EXTERNAL KEY SOURCE							
FILL	SDI 1	SDI 2	SDI 3	SDI 4	SDI 5	SDI 6	SDI 7
SDI 1	SDI 2	SDI 3	SDI 4	SDI 5	SDI 6	SDI 7	SDI 7
NO ASSIGN	NO ASSIGN	NO ASSIGN	NO ASSIGN	NO ASSIGN	NO ASSIGN	NO ASSIGN	NO ASSIGN
KEY	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FILL	SDI 8	SDI 9	SDI 10	HDMI 1	HDMI 2	HDMI 3	HDMI 4
SDI 8	SDI 9	SDI 10	HDMI 1	HDMI 2	HDMI 3	HDMI 4	HDMI 4
NO ASSIGN	NO ASSIGN	NO ASSIGN	NO ASSIGN	NO ASSIGN	NO ASSIGN	NO ASSIGN	NO ASSIGN
KEY	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FILL	STILL 1	STILL 2	EXP 1	EXP 2	RE-ENTRY	SIGNAL GENERATOR	NO ASSIGN
STILL 1	STILL 2	EXP 1	EXP 2	RE-ENTRY	SIG GEN	N/A	N/A
NO ASSIGN	NO ASSIGN	NO ASSIGN	NO ASSIGN	NO ASSIGN	NO ASSIGN	NO ASSIGN	NO ASSIGN
KEY	N/A	N/A	N/A	N/A	N/A	N/A	N/A

2. Tapping a KEY source displays the SOURCE screen.



SOURCE				
SDI 1	SDI 2	SDI 3	SDI 4	
SDI 1	SDI 2	SDI 3	SDI 4	
SDI 5	SDI 6	SDI 7	SDI 8	
SDI 5	SDI 6	SDI 7	SDI 8	
SDI 9	SDI 10	HDMI 1	HDMI 2	
SDI 9	SDI 10	HDMI 1	HDMI 2	
HDMI 3	HDMI 4	STILL 1	STILL 2	
HDMI 3	HDMI 4	STILL 1	STILL 2	
EXP 1	EXP 2	RE-ENTRY	SIGNAL GENERATOR	NO ASSIGN
EXP 1	EXP 2	RE-ENTRY	SIG GEN	N/A

3. Tap the source to assign to KEY to select it.

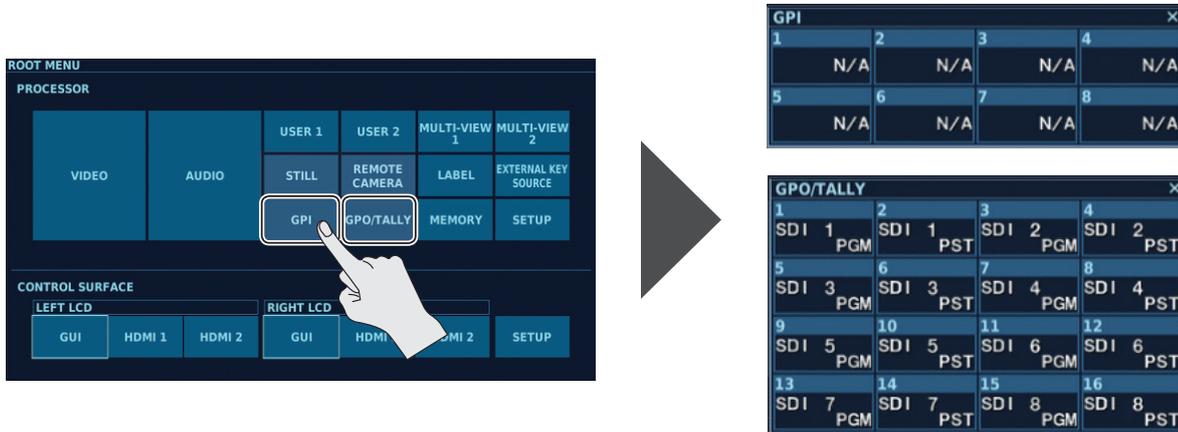
NOTE

The COMPOSITION screen is not immediately updated with combination that you specify at the EXTERNAL KEY SOURCE screen. At the COMPOSITION screen, reselecting the video source for “FILL” automatically updates the combination with the setting made at the EXTERNAL KEY SOURCE screen.

GPI Screen, GPO/TALLY Screen

The V-1200HD is equipped with a D-Sub 25-pin TALLY/GPIO connector. In addition to tally input/output functions, this provides functionality for control-signal input and output, and you can use it to transmit and receive control signals between the unit and an external device. At the GPI screen and GPO/TALLY screen, you select the functions to assign to the respective pins of the TALLY/GPIO connector.

1. Tap <GPI> at the ROOT MENU, making the GPI screen appear. Alternatively, tap <GPO/TALLY>, making the GPO/TALLY screen appear.



2. Tap the connector names to change their assignments.

You can assign the following functions.

Connector name (TALLY/GPIO connector pin number)	Function name	Description	
GPI screen			
	N/A	No function is assigned.	
	FTB B1–B6	These apply a black fade to the video on the specified bus.	
	FZE B1–B6	These freeze the video on the specified bus.	
	M/E1 CUT	This switches the video on the M/E 1 bus for the 4:2:2 process using a CUT.	
	M/E1 MIX	This switches the video on the M/E 1 bus for the 4:2:2 process using a MIX.	
	M/E1 WIPE	This switches the video on the M/E 1 bus for the 4:2:2 process using a WIPE.	
	M/E2 CUT	This switches the video on the M/E 2 bus for the 4:2:2 process using a CUT.	
	M/E2 MIX	This switches the video on the M/E 2 bus for the 4:2:2 process using a MIX.	
	M/E2 WIPE	This switches the video on the M/E 2 bus for the 4:2:2 process using a WIPE.	
INPUT1–8 (pin number 18–25)	C1–C4 (*1)	CUT	This outputs the respective composition to PGM with a CUT transition effect.
		MIX	This outputs the respective composition to PGM with a MIX transition effect.
		WIPE	This outputs the respective composition to PGM with a WIPE transition effect.
	444 FTB 1, 2		These perform ON/OFF switching of FTB for the 4:4:4 process. * When the 4:4:4 M/E mode is 1M/E, 444 FTB 2 performs no operation.
444C CUT		This outputs the composition for the 4:4:4 process with a CUT transition effect. * These are active only when the 4:4:4 M/E mode is 1M/E.	
444C MIX		This outputs the composition for the 4:4:4 process with a MIX transition effect. * These are active only when the 4:4:4 M/E mode is 1M/E.	
	MEMORY 1–8	These perform a RECALL operation for settings saved using the “MEMORY Screen” (p. 81).	
GPO/TALLY screen			
OUTPUT1–16 (pin number 1–16)	SDI 1–10 HDMI 1–4 STILL 1, 2	PGM	This outputs a TALLY signal during the interval while the video input assigned here is selected using a PGM-section cross point.
		PST	This outputs a TALLY signal during the interval while the video input assigned here is selected using a PST-section cross point.
	EXP 1, 2		
	RE-ENTRY SIG GEN		
	GPO ONE SHOT		This outputs a control signal for approximately 1 second.
	GPO ALT		This outputs a control signal using alternate operation.

(*1) When you’re controlling a composition that uses an external key, assign a FILL-side composition number (C1 or C3). Assigning a KEY-side composition number makes control of the composition ineffective.

Memo

- To use the “GPO ONE SHOT” or “GPO ALT” function, you must assign it to a USER channel and use an AUX button to perform output. For information on how to make assignments to USER channels, refer to “USER Screen” (p. 69). For information on how to use AUX buttons to output user functions, refer to “Using User Functions” (p. 30).
- For the specifications of the TALLY/GPIO connector, refer to “V-1200HD Connector Specifications” (p. 89).

MEMORY Screen

At the MEMORY screen, you can save the setting values for the V-1200HD in the V-1200HD's internal memory and load a saved file to recall the settings from an earlier state.

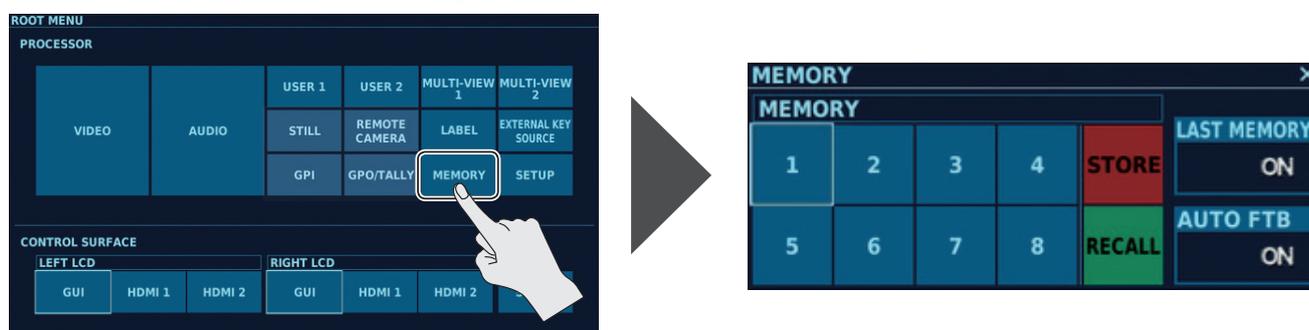
Memo

You can take V-1200HD setting values saved to MEMORY <1> through <8> and save them on a USB flash drive connected to the V-1200HD. For information on how to save data to a USB flash drive, refer to the V-1200HD Owner's Manual.

NOTE

- The following values cannot be saved. All setting values other than the ones shown below are saved.
 - The setting values at the "REMOTE CAMERA Screen" (p. 77) and the setting values saved at MEMORY <1>--<8> of the "REMOTE CAMERA screen"
 - Settings specific to the V-1200HDR or V-1200HD RCS
 - The state of the dual-monitor menu display
 - Dual-monitor layouts saved at LAYOUT [1]–[4] (p. 84)
 - Setting values at the CONTROL SURFACE section (p. 31)
- Using the MEMORY screen to save or recall settings is not possible when V-1200HD RCS has been started in the offline mode.
 - * The state of settings in the offline mode can be saved on the computer. For details, refer to "Saving Setting Values As a File on the Computer" (p. 85).

1. Tap <MEMORY> at the ROOT MENU, making the MEMORY screen appear.



Saving Settings

This saves setting values to MEMORY 1 through 8.

1. Tap <STORE>.
 - <STORE> lights up.
2. Tap the memory number where you want to save the settings.
 - The settings are saved.

Recalling Settings

1. Tap <RECALL>.
 - <RECALL> lights up.
2. Tap the memory number whose settings you want to recall.
 - The settings are recalled.

LAST MEMORY Function

Tapping <LAST MEMORY> switches this to ON or OFF.

ON : The state of the settings on the V-1200HD is periodically saved in the V-1200HD's internal memory. At the next startup, the state when saved is automatically recalled.

OFF : When the power to the V-1200HD is turned off, at the next startup, the V-1200HD starts with its factory-default settings. Values saved using the "MEMORY Screen" (p. 81) are not lost when the power is turned off. You can call up these setting values by performing a RECALL operation.

AUTO FTB Function

Tapping <AUTO FTB> switches this to ON or OFF.

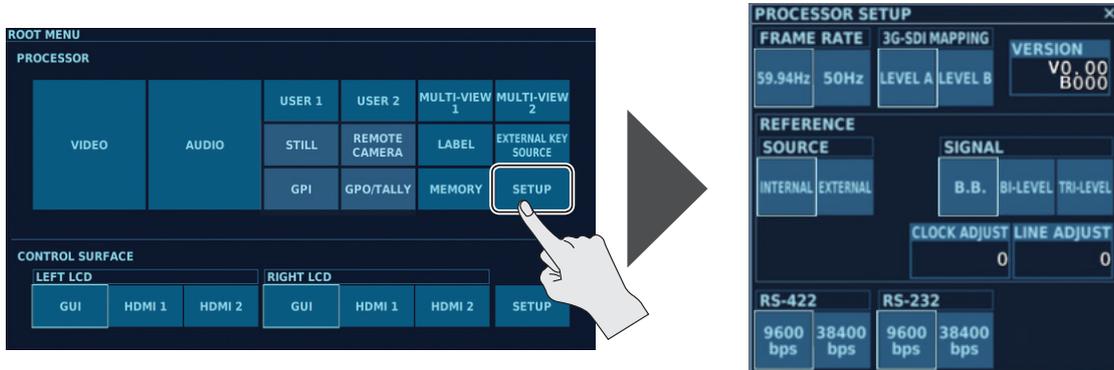
ON : Video sent from output connectors automatically fades to a black screen when <RECALL> is used to recall settings.

OFF : Video sent from output connectors is output unchanged when <RECALL> is used to recall settings. Video output might experience corruption during recall of the settings.

PROCESSOR SETUP Screen

At the PROCESSOR SETUP screen, you can set the frame rate for the V-1200HD itself, and make reference and other settings.

1. Go to the ROOT MENU and tap <SETUP> in the PROCESSOR section, making the PROCESSOR SETUP screen appear.



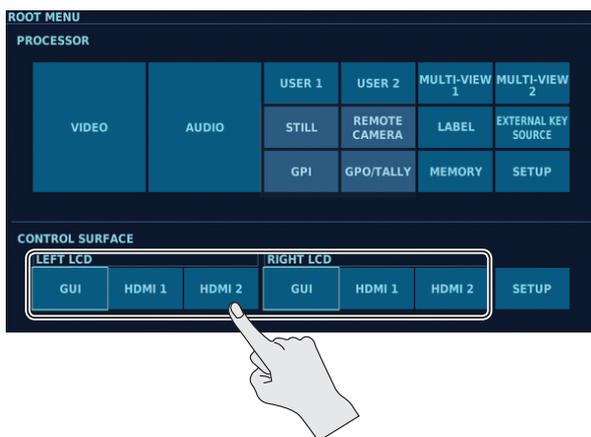
You can change the setting values within the ranges shown below.

Parameter	Setting value (Values in bold type are factory defaults.)	Description	
FRAME RATE	59.94 Hz , 50 Hz	This selects the frame rate.	
3G-SDI MAPPING	LEVEL A , LEVEL B	This selects the 3G-SDI mapping.	
VERSION	—	This displays version information for the V-1200HD.	
REFERENCE	SOURCE	INTERNAL , EXTERNAL	This selects the source for the reference.
	SIGNAL	B.B. , BI-LEVEL, TRI-LEVEL	This selects the signal type of the reference.
	CLOCK ADJUST	-1920- 0 -1920	This adjusts the phase horizontally.
	LINE ADJUST	-1080- 0 -1080	This adjusts the phase vertically.
RS-422	9600 bps , 38400 bps	This selects the communication speed (baud rate).	
RS-232	9600 bps , 38400 bps	This selects the communication speed (baud rate).	

Changing the Screens Displayed on the Monitors V-1200HDR

On the V-1200HDR's monitors, in addition to menu screens, you can also display incoming video from the HDMI IN connectors on the V-1200HDR. You can make settings separately for the screens displayed on the left and right monitors.

1. Select ROOT MENU screen → CONTROL SURFACE, then use to "LEFT LCD" or "RIGHT LCD" to switch the screen displayed on the monitor.



Setting value	Description
GUI	This displays the menu screen.
HDMI 1	This displays video input via the V-1200HDR's HDMI IN 1 connector.
HDMI 2	This displays video input via the V-1200HDR's HDMI IN 2 connector.

* The video formats that can be input via the V-1200HDR's HDMI IN 1 and HDMI IN 2 connectors are 1920x1080/60p, 59.94p, 59.94i, 50p, 50i.

Memo

Tapping the screen while video is displayed on the monitor changes the display to the ROOT MENU screen.

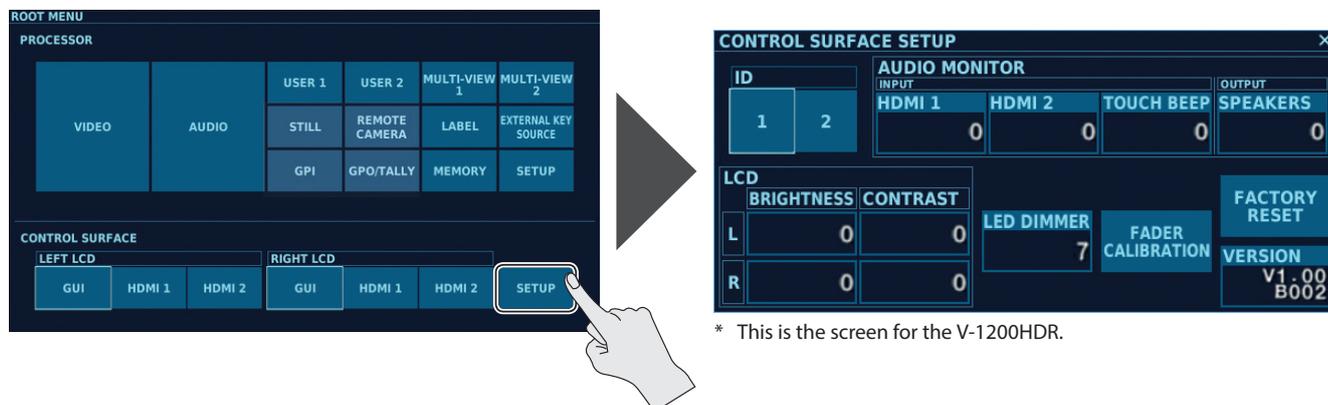
CONTROL SURFACE SETUP Screen

At the CONTROL SURFACE SETUP screen, you can set controller IDs and make other such settings.

Further, as a function specific to the V-1200HDR, you can also perform such operations as making settings for fader calibration and audio monitors, and adjusting the contrast of the LCD screen.

1. Go to the ROOT MENU and tap <SETUP> in the CONTROL SURFACE section, making the CONTROL SURFACE SETUP screen appear.

* The screens displayed on the V-1200HDR and in V-1200HD RCS are different.



* This is the screen for the V-1200HDR.

You can change the setting values within the ranges shown below.

Parameter	Setting value	Description
ID	1, 2 (*1)	This selects the ID of the controller you are currently operating. * When multiple controllers are connected to the V-1200HD, a different ID must be set for each controller. For information on how to connect two or more controllers, refer to "Connecting Multiple Controllers to the V-1200HD" (p. 9). * When you quit V-1200HD RCS, the current ID setting is saved on the computer, and this ID setting is automatically recalled at the next startup.
VERSION	—	This displays version information for the controller.
FACTORY RESET	—	Tapping this displays the FACTORY RESET screen. Executing a factory reset return all of the following settings to their factory defaults. <ul style="list-style-type: none"> "ID" settings made at the "CONTROL SURFACE SETUP Screen" (p. 83) Selection state of the buttons in the DELEGATION area Selection state of the TRANSITION [M/E1] and [M/E2] buttons Selection state of the NEXT TRANSITION [BKGD] and [COMPOSITION] buttons Selection state of CAMERA 1–7 made at the "REMOTE CAMERA Screen" (p. 77) Dual-monitor layouts saved to LAYOUT [1]–[4] (p. 84) <p>V-1200HDR</p> <ul style="list-style-type: none"> On the V-1200HDR, in addition to the settings described above, the following settings are also returned to their factory defaults. <ul style="list-style-type: none"> "FADER CALIBRATION" settings made at the "CONTROL SURFACE SETUP Screen" (p. 83) "AUDIO MONITOR" settings made at the "CONTROL SURFACE SETUP Screen" (p. 83) "LCD" settings made at the "CONTROL SURFACE SETUP Screen" (p. 83) Selection state of the screens displayed on the dual monitors (p. 82) <p>NOTE</p> <p>The settings of the V-1200HD itself are not returned to their factory defaults. Returning the V-1200HD's internal settings to their factory defaults requires performing the procedure directly on the V-1200HD. For details, refer to the V-1200HD Owner's Manual.</p>

(*1) This is set to "1" by default on the V-1200HDR and set to "2" by default in V-1200HD RCS.

Settings Specific to the V-1200HDR **V-1200HDR**

The setting values for the following functions are enabled only on the V-1200HDR.

Parameter	Setting value (Values in bold type are factory defaults.)	Description
FADER CALIBRATION	—	Tapping this displays a calibration screen for the video fader. If video is not switched completely when the video fader is moved all the way, follow the on-screen instructions to carry out calibration.
AUDIO MONITOR	HDMI 1	0 –127 This adjusts the monitor volume level for the HDMI signal input via the HDMI IN 1 connector on the V-1200HDR.
	HDMI 2	0 –127 This adjusts the monitor volume level for the HDMI signal input via the HDMI IN 2 connector on the V-1200HDR.
	TOUCH BEEP	0 – 64 –127 This adjusts the operation volume level when the dual monitors have been touched.
	SPEAKERS	0 – 100 –127 This adjusts the output volume level for the internal speaker.
LCD	BRIGHTNESS L/R	–64– 0 –+63 This adjusts the brightness of the dual monitors.
	CONTRAST L/R	–64– 0 –+63 This adjusts the contrast of the dual monitors.
LED DIMMER	0 – 7	This adjusts the brightness of the LEDs. * Setting this value to "0" does not result in total darkness.

Saving the Dual-monitor Display State

You can save the state of the screens currently displayed on the dual monitors to LAYOUT [1] through [4] for later recall.



V-1200HDR

On the V-1200HDR, the selection status of screens displayed on the dual monitors (selections from GUI, HDMI 1, and HDMI 2) is also saved.

NOTE

Performing any of the following operations deletes saved layouts.

- Turning off the power to the V-1200HDR. Alternatively, quitting V-1200HD RCS.
- Changing the 4:2:2 M/E mode (p. 45) or the 4:4:4 M/E mode (p. 55).
- Changing the 4:2:2 process format (p. 44).

Saving the Display State

- 1. Press and hold one of the LAYOUT [1] to [4] buttons (for 2 seconds or longer).**

The button you pressed and held lights up, and the state of the screens currently displayed on the dual monitors is saved.

Recalling the Display State

- 1. Press the LAYOUT button for the number where the layout you want to recall is saved.**

The pressed button flashes once and the saved screen state is recalled.

Saving Setting Values As a File on the Computer V-1200HD RCS

You can take the state of settings in V-1200HD RCS and save it as a file on the computer, and load a saved file to recall settings from an earlier state.

- * The V-1200HD's settings are saved when the system is in the online mode, and the settings of the V-1200HD simulator are saved when in the offline mode.
- * For information on saving setting values, also refer to "Saving V-1200HD Settings and Controller-specific Settings" (p. 10).

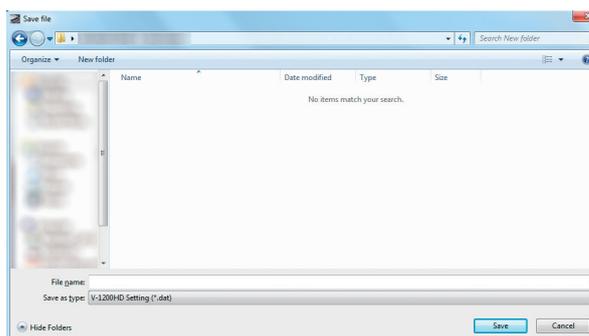
NOTE

- The following values cannot be saved as a file on the computer. All setting values other than the ones shown below can be saved.
 - Setting values saved to MEMORY <1>--<8> at the "MEMORY Screen" (p. 81) (*1)
 - The setting values at the "REMOTE CAMERA Screen" (p. 77) and the setting values saved at MEMORY <1> - <8> of the "REMOTE CAMERA screen"
 - V-1200HD RCS-specific settings
 - The state of the dual-monitor menu display
 - Dual-monitor layouts saved at LAYOUT [1]--[4] (p. 84)
 - Setting values at the CONTROL SURFACE section (p. 31) (*2)
 - The format of the saved file is different from that of settings files saved directly to a USB flash drive from the V-1200HD. Settings files saved using V-1200HD RCS cannot be loaded directly into the V-1200HD. Also, settings file saved directly to a USB flash drive from the V-1200HD cannot be loaded into V-1200HD RCS.
- (*1) You can take V-1200HD setting values saved to MEMORY <1> through <8> and save them on a USB flash drive connected to the V-1200HD. For information on how to save data to a USB flash drive, refer to the V-1200HD Owner's Manual.
- (*2) Setting values changed at the CONTROL SURFACE section are automatically saved to the computer, and these settings are automatically recalled at the next startup. They cannot be saved to a file together with other setting values.

Saving Settings

This saves setting values to the computer in a single file.

1. Click SETTINGS [SAVE].



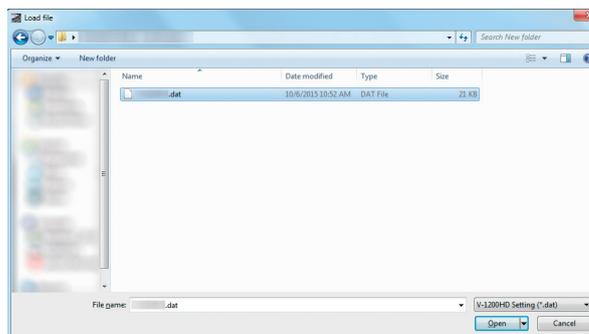
The "Save file" window appears on the computer.

2. Enter a file name and click "Save."

The settings file is saved on the computer.

Loading Settings

1. Click SETTINGS [LOAD].



The "Load file" window appears on the computer.

2. Select a settings file (*.dat) and click "Open."

The settings are loaded into the V-1200HD, and the values in V-1200HD RCS are updated.

- * When the system is started in the offline mode, the settings are loaded into the V-1200HD RCS's V-1200HD simulator.

Appendix

Main Specifications

V-1200HD

Roland V-1200HD: Multi-format Video Switcher

Video			
Processing	4:4:4 (Y/Pb/Pr, RGB), 10 bits/4:2:2 (Y/Pb/Pr), 10 bits		
Input Connectors	3G/HD-SDI	BNC type x 10 * Conforms to SMPTE 424M (SMPTE 425M-AB), 292M	
	HDMI	type A x 2 (HDMI INPUT 1-2) * HDCP Not supported	
	HDMI	type A x 2 (HDMI INPUT 3-4) * HDCP Supported, Multi-format Supported	
Output Connectors	3G/HD-SDI	BNC type x 6 * Conforms to SMPTE 424M (SMPTE 425M-AB), 292M	
	HDMI	type A x 2 (HDMI OUTPUT 1-2) * HDCP Supported	
	HDMI	type A x 2 (HDMI OUTPUT MULTI-VIEW 1) * HDCP Not required, 1080/60p (HDMI OUTPUT MULTI-VIEW 2) * HDCP Required, 1080/60p	
Formats	SDI	1080/59.94i, 1080/50i, 1080/59.94p, 1080/50p * Conforms to SMPTE 274M	
	HDMI	480/59.94i, 576/50i, 480/59.94p, 576/50p, 720/59.94p, 720/50p, 1080/59.94i, 1080/50i, 1080/59.94p, 1080/50p, 1024x768/60 (*1), 1280x720/60 (*1), 1280x800/60 (*1), 1366x768/60 (*1), 1280x1024/60 (*1), 1400x1050/60 (*1), 1600x1200/60, 1920x1080/60, 1920x1200/60 RB * Conforms to CEA-861-E, VESA DMT Version 1.0 Revision 11 * The output format of HDMI 1-2 is always the same. * Frame rate is 59.94 Hz (NTSC) or 50 Hz (PAL). * MULTI-VIEW 1-2 output is 1080/60p always. (*1) Output refresh rate is 75 Hz when frame rate is set to 50 Hz.	
Effects (4:2:2 Processing) * These effects depends on M/E type.	M/E	1M/E, 1.5M/E, 2M/E (9 types)	AUX
	Transition	Mix, NAM (*2), FAM (*2), Cut, Wipe (*2) PGM/PST only	Others
	Composition (Keyer)	4 (PinP, Luminance Key, Chroma Key, External Key supported)	Output Fade, Output Freeze, Output Capture, Composition Edit, SDI Output Patchbay
Effects (4:4:4 Processing) * These effects depends on M/E type.	M/E	1M/E, Matrix, Scaler	Composition (Keyer)
	Input	4 (4:2:2 Processing outputs x 2, HDMI INPUT 3, HDMI INPUT 4)	Others
	Transition	Mix, Cut	1 (PinP, Luminance Key) HDCP Supported, Output Fade, Output Cropping, Signal Generator.
Still Image	Inputs	2	
	Internal Memory	16	
	Maximum Size	1920 x 1080 pixels	
	Format	Windows Bitmap File (.bmp) 24 bit per pixel, uncompressed, Portable Network Graphic File (.png) * Alpha channel supported.	
Multiviewer	MULTI-VIEW 1 (4:2:2 Processing): 16/10 screens, Label, Tally * HDCP Not supported		
	MULTI-VIEW 2 (4:4:4 Processing): 4/10 screens, Label, Tally, OSD Setup Menu * HDCP Required		
Audio			
Processing	Sampling Rate	24 bits/48 kHz	
Input Connectors	3G/HD-SDI: BNC type x 4 (Ch7-10), HDMI: type A x 4, AUDIO IN (XLR) L (1/2)/R (3/4) * Analog Audio or AES/EBU		
Output Connectors	3G/HD-SDI: BNC type x 4 (Ch1-4), HDMI: type A x 4, AUDIO OUT (XLR) L (1/2)/R (3/4) * Analog Audio or AES/EBU		
Input Level and Impedance	AUDIO IN	+4 dBu (Maximum: +22 dBu, 15 k ohms)	
Output Level and Impedance	AUDIO OUT	+4 dBu (Maximum: +22 dBu, 600 ohms)	
Formats	SDI	Linear PCM, 24 bits, 48 kHz, 16ch * Conforms to SMPTE 299M	
	HDMI	Linear PCM, 24 bits, 48 kHz, 2ch	
	AES/EBU	Linear PCM, 24 bits, 48 kHz, 4ch	
Effects	Patchbay	92 inputs x 92 outputs	
	Delay	16 ch	
	Mixer	16 ch (Channel Effects: 3-Band EQ, Delay/Master Effects: Mastering, 3-Band EQ, Reverb)	
Others			
Expansion Slot	Slot	2 * The video a maximum of 2 inputs 2 outputs and the audio a maximum of 16 inputs 16 outputs can treat in 2 slots sum total.	
Reference	Input	BNC type x 1 * Black Burst (Sync to frames), Bi-Level, Tri-Level	
	Output/Through	BNC type x 1 * Black Burst (Sync to frames)	
External Connectors	RS-232	DB-9 type (Male) x 1 * for Remote Control	
	RS-422	DB-9 type (Female) x 1 * for VISCA Control	
	TALLY/GPIO	DB-25 type (Female) x 1 (Input: 8, Output/Tally: 16)	
	LAN	RJ45 100BASE-TX (Connect to V-1200HDR or Computer (V-1200HD RCS))	
	USB	A type x 2 (USB Memory/Use for future expansion)	
Preset Memory	8 * Last Memory Function		
User Function	32 * 16 buttons x 2 banks		

Remote Camera Control	Connector	RS-422: DB-9 type (Female) x 1
	Protocol	VISCA
Remote Controller	V-1200HDR Control Surface * Sold separately V-1200HD RCS * Windows7 SP1 or later, Mac OS X	
Power Supply	AC 117 V, AC 220 V, AC 230 V, AC 240 V (50/60 Hz) DC 24 V (XLR-4-32 type) * Redundant Power Supply.	
Power Consumption	90 W/0.8 A (117V), 90 W/0.5 A (220V, 230V, 240V), 90 W/3.75 A (DC 24V) * When expansion slot is void.	
Operation Temperature	+0 to +40 degrees Celsius +32 to +104 degrees Fahrenheit	
Dimensions	482 (W) x 357 (D) x 133 (H) mm 19 (W) x 14-1/16 (D) x 5-1/4 (H) inches * EIA-3U rack mount size	
Weight	9.0 kg 19 lbs 14 oz	
Accessories	Power Cord, Rubber Feet, Owner's Manual	

* 0 dBu = 0.775 Vrms

* This product is a Class A digital device under FCC part 15.

* In the interest of product improvement, the specifications and/or appearance of this unit are subject to change without prior notice.

V-1200HDR

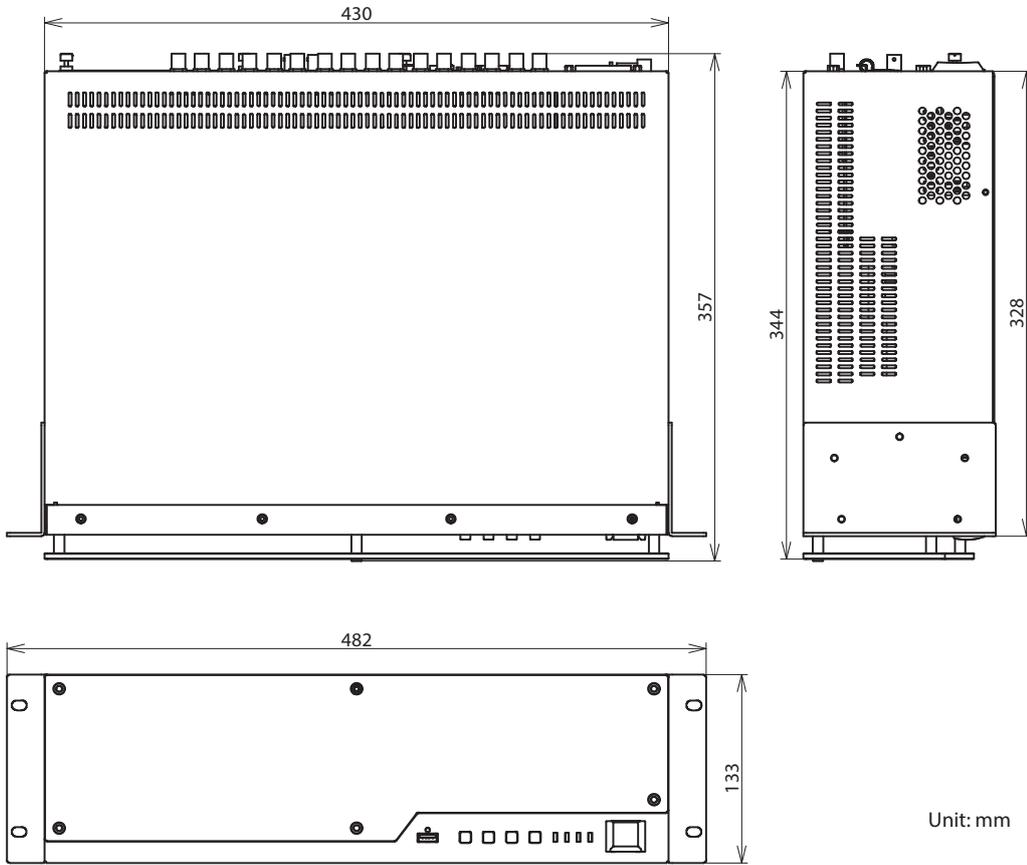
Roland V-1200HDR: Control Surface

Display	7 inch 800 x 480 Graphic color LCD (touch screen) x 2
Video inputs	HDMI (type A) x 2 * 1920 x 1080/60p, 59.94p, 59.94i, 50p, 50i * HDCP Supported
Video output	HDMI (type A) x 1 * Use for future expansion
Others	USB: Type A x 1 * USB Memory
	USB: Type B x 1 * Use for future expansion
	LAN: RJ45 100BASE-TX (Connect to V-1200HD)
	PHONES jack: Stereo 1/4-inch phone type x 1 (80 mW + 80 mW, 32 ohms) Internal speakers
Power Supply	AC Adaptor, DC 9 V to 16 V (XLR-4-32 type) * Can not be used at the same time
Power Consumption	36 W
Operation Temperature	+0 to +40 degrees Celsius +32 to +104 degrees Fahrenheit
Dimensions	520 (W) x 237 (D) x 111 (H) mm 20-1/2 (W) x 9-3/8 (D) x 4-3/8 (H) inches * Protruding parts not included.
Weight	4.3 kg 9 lbs 8 oz
Accessories	AC Adaptor, Owner's Manual

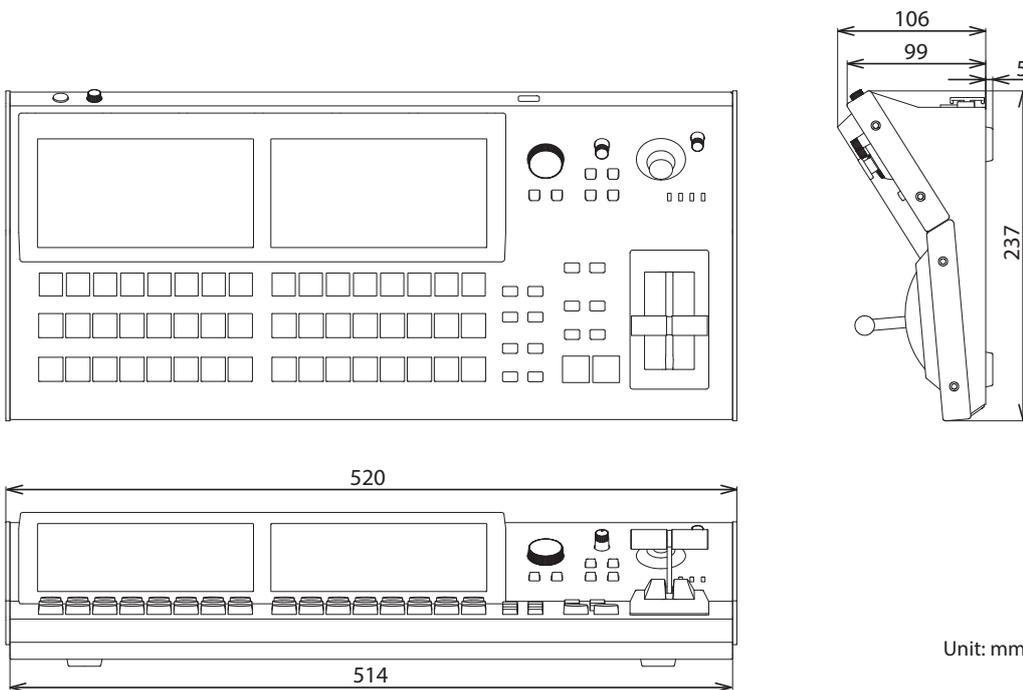
* In the interest of product improvement, the specifications and/or appearance of this unit are subject to change without prior notice.

Dimensions

V-1200HD

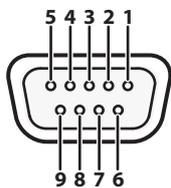


V-1200HDR



V-1200HD Connector Specifications

RS-422 Connector



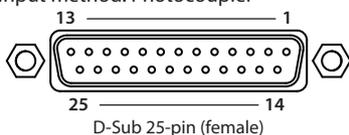
D-Sub 9-pin (female)

Pin number	Signal name
1	GND
2	TxD+
3	RxD-
4	GND
5	NC
6	GND
7	TxD-
8	RxD+
9	GND

Transmission method	Start-stop synchronization (asynchronous mode), full-duplex
Communication speed (baud rate)	9,600 bps/38,400 bps (Set this according to the status of communication with the remote cameras.)
Parity	None
Data length	8 bit
Stop-bit length	1 bit
Flow control	None

TALLY/GPIO Connector

- Tally/control output connector specifications
 - Maximum input: 12 V/200 mA
 - Open-collector type
- Control input connector specifications
 - Trigger method: No-voltage contact (make-contact) triggering
 - Contact capacity: DC 24 V 0.1 A or higher
 - Input method: Photocoupler



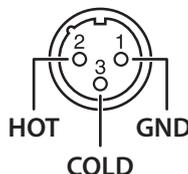
D-Sub 25-pin (female)

Pin number	Connector name	Function	Default
1	OUTPUT 1/GPO 1	Tally output/ control output	SDI 1 PGM
2	OUTPUT 2/GPO 2		SDI 1 PST
3	OUTPUT 3/GPO 3		SDI 2 PGM
4	OUTPUT 4/GPO 4		SDI 2 PST
5	OUTPUT 5/GPO 5		SDI 3 PGM
6	OUTPUT 6/GPO 6		SDI 3 PST
7	OUTPUT 7/GPO 7		SDI 4 PGM
8	OUTPUT 8/GPO 8		SDI 4 PST
9	OUTPUT 9/GPO 9		SDI 5 PGM
10	OUTPUT 10/GPO 10		SDI 5 PST
11	OUTPUT 11/GPO 11		SDI 6 PGM
12	OUTPUT 12/GPO 12		SDI 6 PST
13	OUTPUT 13/GPO 13		SDI 7 PGM
14	OUTPUT 14/GPO 14		SDI 7 PST
15	OUTPUT 15/GPO 15		SDI 8 PGM
16	OUTPUT 16/GPO 16		SDI 8 PST
17	—	GND	COM(GND)
18	INPUT 1	Control input	N/A
19	INPUT 2		N/A
20	INPUT 3		N/A
21	INPUT 4		N/A
22	INPUT 5		N/A
23	INPUT 6		N/A
24	INPUT 7		N/A
25	INPUT 8		N/A

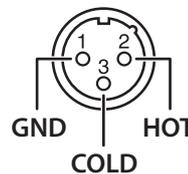
* You can the functions assigned by using the “GPI Screen” (p. 80) or the “GPO/TALLY Screen” (p. 80).

AUDIO IN/OUT Connector

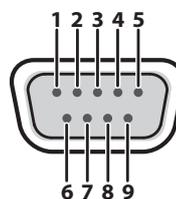
AUDIO IN Connector



AUDIO OUT Connector



RS-232 Connector



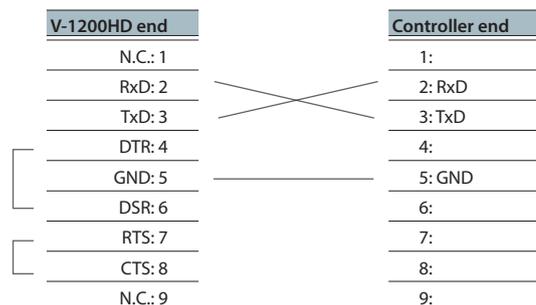
D-Sub 9-pin (male)

Pin number	Signal name
1	N.C.
2	RxD
3	TxD
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	N.C.

Transmission method	Start-stop synchronization (asynchronous mode), full-duplex
Communication speed (baud rate)	9600 bps/38400 bps
Parity	None
Data length	8 bit
Stop-bit length	1 bit
Code set	ASCII
Flow control	XON/XOFF

Cable Wiring Diagram

Wire the three lines of RxD, TxD, and GND as shown in the figure below.



* The connections between 4 and 6 and between 7 and 8 are inside the V-1200HD.

* When connecting to a controlling device (such as an RS-232C-compatible computer), use a crossover cable.

RS-232 Command Reference

Overview of Commands

The format of commands is an ASCII code string composed of "3 letters (upper case)" plus ";" (semicolon). 3 letters (upper case) indicates the command.

If the command has an argument, a colon (":") is inserted between the command letters and the argument. When multiple arguments occur, they are separated by commas (",").

"stx"

This is the ASCII code signal name (code number 02H [hexadecimal]) and code that signals the command start.

","

This is the code that the unit recognizes the separation of the command and argument.

","

This is the code that the unit recognizes as the end of a command.

* The codes of stx (02H) and ACK (06H), Xon (11H)/Xoff (13H) are the control code.

* When successively sending commands to the unit from an external device, after each command, be sure that "ACK;" is returned before sending the next command.

Received Commands

Item	Received Commands	Notes
M/E 1 PGM connector selection	stxPM1:a; a: 0: SDI 1–20: NONE (*1)	
M/E 1 PST connector selection	stxPT1:a; a: 0: SDI 1–20: NONE (*1)	
M/E 1 switching	stxPP1:a; a: 0: CUT, 1: AUTO MIX, 2: AUTO WIPE	
M/E 2 PGM connector selection	stxPM2:a; a: 0: SDI 1–20: NONE (*1)	Valid when in compatible M/E mode
M/E 2 PST connector selection	stxPT2:a; a: 0: SDI 1–20: NONE (*1)	Valid when in compatible M/E mode
M/E 2 switching	stxPP2:a; a: 0: CUT, 1: AUTO MIX, 2: AUTO WIPE	Valid when in compatible M/E mode
STILL 1 still memory selection	stxST1:a; a: 0: STILL MEMORY 1–15: STILL MEMORY 16	
STILL 2 still memory selection	stxST2:a; a: 0: STILL MEMORY 1–15: STILL MEMORY 16	
Composition 1 input connector selection	stxCS1:a; a: 0: SDI 1–20: NONE (*1)	Valid when in compatible M/E mode
Composition 1 output	stxCP1:a,b; a: 0: CUT, 1: AUTO MIX, 2: AUTO WIPE b: 0: OFF, 1: ON	Valid when in compatible M/E mode
Composition 2 input connector selection	stxCS2:a; a: 0: SDI 1–20: NONE (*1)	Valid when in compatible M/E mode
Composition 2 output	stxCP2:a,b; a: 0: CUT, 1: AUTO MIX, 2: AUTO WIPE b: 0: OFF, 1: ON	Valid when in compatible M/E mode
Composition 3 input connector selection	stxCS3:a; a: 0: SDI 1–20: NONE (*1)	Valid when in compatible M/E mode
Composition 3 output	stxCP3:a,b; a: 0: CUT, 1: AUTO MIX, 2: AUTO WIPE b: 0: OFF, 1: ON	Valid when in compatible M/E mode
Composition 4 input connector selection	stxCS4:a; a: 0: SDI 1–20: NONE (*1)	Valid when in compatible M/E mode
Composition 4 output	stxCP4:a,b; a: 0: CUT, 1: AUTO MIX, 2: AUTO WIPE b: 0: OFF, 1: ON	Valid when in compatible M/E mode
AUX 1 input selection	stxAX1:a; a: 0: SDI 1–20: NONE (*1)	Valid when in compatible M/E mode
AUX 2 input selection	stxAX2:a; a: 0: SDI 1–20: NONE (*1)	Valid when in compatible M/E mode
4:4:4 process HDMI 1 output selection	stx4X1:a,b; a: 0: XPT 1–3: XPT 4 b: 0: CUT, 1: MIX	Valid when 4:4:4 process is MATRIX or 1M/E
4:4:4 process HDMI 2 output selection	stx4X2:a,b; a: 0: XPT 1–3: XPT 4 b: 0: CUT, 1: MIX	Valid when 4:4:4 process is MATRIX
4:4:4 process composition source selection	stx4CS:a; a: 0: S1, 1: S2, 2: HDMI 3, 3: HDMI 4	Valid when 4:4:4 process is 1M/E
4:4:4 process composition output	stx4CP:a,b; a: 0: CUT, 1: MIX b: 0: OFF, 1: ON	Valid when 4:4:4 process is 1M/E
HDMI 1 output fade start	stx4F1:a; a: 0: OFF, 1: ON	
HDMI 2 output fade start	stx4F2:a; a: 0: OFF, 1: ON	
Output fade start	stxFDE:a,b; a: 0: BUS 1–5: BUS 6 b: 0: OFF, 1: ON	
Saved-setting recall	stxMEM:a; a: 0: MEMORY 1–7: MEMORY 8	
This returns the status of the unit.	stxSTS:a; a: 0: GROUP 1–4: GROUP 5	
This returns version information.	stxVER;	
Verification of unit status	stxACS;	
Flow control	XON	
Flow control	XOFF	

Sent Commands

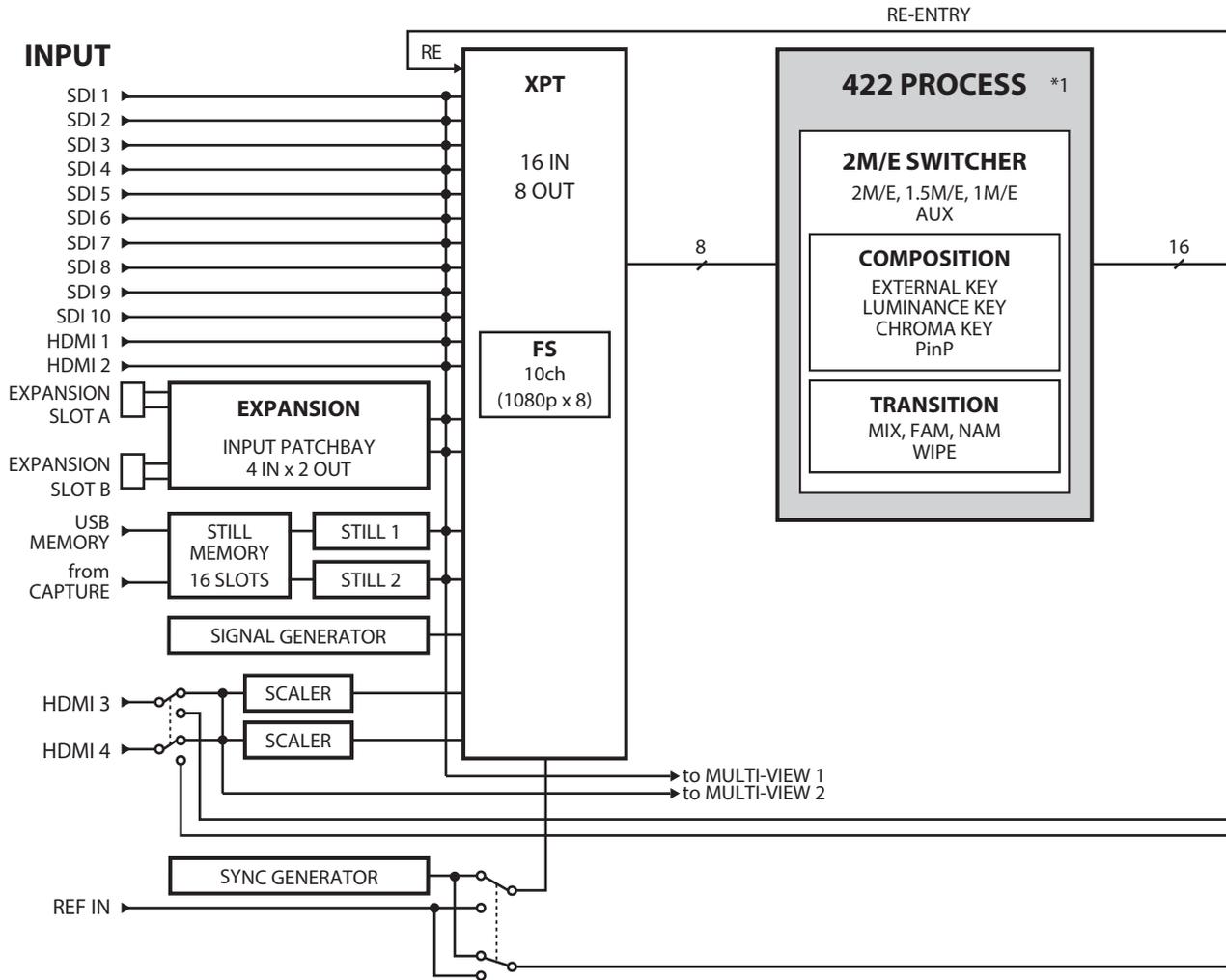
Item	Sent Commands													
Sent when a transmitted command has been correctly received	ACK													
Sent when a transmitted command has not been correctly received	stxERR;a;	a: 0 (syntax error): The received command contains an error. 2 (Busy): In a busy state. 5 (out of range error): An argument of the received command is out of range. 6 (Feature not available): The system is in a mode in which the received command cannot be executed.												
Sent when a VER command has been received	stxVER: V-1200HD,a,b;	a: Version b: Build * The version information is an ASCII text string.												
Flow control	XON													
Flow control	XOFF													
Sent when a STS command has been received	stxSTS:a,b0,...,bx;	a: 0: GROUP 1–4: GROUP 5 b: Status <table border="1"> <thead> <tr> <th>a</th> <th>b</th> </tr> </thead> <tbody> <tr> <td>GROUP 1</td> <td>PM1, PT1, PM2, PT2, ST1, ST2</td> </tr> <tr> <td>GROUP 2</td> <td>CS1, CP1 (0: OFF, 1: ON), CS2, CP2 (0: OFF, 1: ON), CS3, CP3 (0: OFF, 1: ON), CS4, CP4 (0: OFF, 1: ON), AX1, AX2</td> </tr> <tr> <td>GROUP 3</td> <td>4X1 (0: XPT 1–3: XPT 4), 4X2 (0: XPT1–3: XPT4), 4CS (0: S1, 1: S2, 2: HDMI3, 3: HDMI4), 4CP (0: OFF, 1: ON)</td> </tr> <tr> <td>GROUP 4</td> <td>FDE BUS 1 (0: OFF, 1: ON), FDE BUS 2 (0: OFF, 1: ON), FDE BUS 3 (0: OFF, 1: ON), FDE BUS 4 (0: OFF, 1: ON), FDE BUS 5(0: OFF, 1: ON), FDE BUS 6 (0: OFF, 1: ON), FDE HDMI 1 (0: OFF, 1: ON), FDE HDMI 2 (0: OFF, 1: ON)</td> </tr> <tr> <td>GROUP 5</td> <td>MEM (0: MEMORY 1, 7: MEMORY 8, 8: NONE)</td> </tr> </tbody> </table> * In cases where no description of the content of the status is given in the table above, the input connector number is returned. (*1)	a	b	GROUP 1	PM1, PT1, PM2, PT2, ST1, ST2	GROUP 2	CS1, CP1 (0: OFF, 1: ON), CS2, CP2 (0: OFF, 1: ON), CS3, CP3 (0: OFF, 1: ON), CS4, CP4 (0: OFF, 1: ON), AX1, AX2	GROUP 3	4X1 (0: XPT 1–3: XPT 4), 4X2 (0: XPT1–3: XPT4), 4CS (0: S1, 1: S2, 2: HDMI3, 3: HDMI4), 4CP (0: OFF, 1: ON)	GROUP 4	FDE BUS 1 (0: OFF, 1: ON), FDE BUS 2 (0: OFF, 1: ON), FDE BUS 3 (0: OFF, 1: ON), FDE BUS 4 (0: OFF, 1: ON), FDE BUS 5(0: OFF, 1: ON), FDE BUS 6 (0: OFF, 1: ON), FDE HDMI 1 (0: OFF, 1: ON), FDE HDMI 2 (0: OFF, 1: ON)	GROUP 5	MEM (0: MEMORY 1, 7: MEMORY 8, 8: NONE)
a	b													
GROUP 1	PM1, PT1, PM2, PT2, ST1, ST2													
GROUP 2	CS1, CP1 (0: OFF, 1: ON), CS2, CP2 (0: OFF, 1: ON), CS3, CP3 (0: OFF, 1: ON), CS4, CP4 (0: OFF, 1: ON), AX1, AX2													
GROUP 3	4X1 (0: XPT 1–3: XPT 4), 4X2 (0: XPT1–3: XPT4), 4CS (0: S1, 1: S2, 2: HDMI3, 3: HDMI4), 4CP (0: OFF, 1: ON)													
GROUP 4	FDE BUS 1 (0: OFF, 1: ON), FDE BUS 2 (0: OFF, 1: ON), FDE BUS 3 (0: OFF, 1: ON), FDE BUS 4 (0: OFF, 1: ON), FDE BUS 5(0: OFF, 1: ON), FDE BUS 6 (0: OFF, 1: ON), FDE HDMI 1 (0: OFF, 1: ON), FDE HDMI 2 (0: OFF, 1: ON)													
GROUP 5	MEM (0: MEMORY 1, 7: MEMORY 8, 8: NONE)													

(*1) The correspondences between input connector number and source are as shown below.

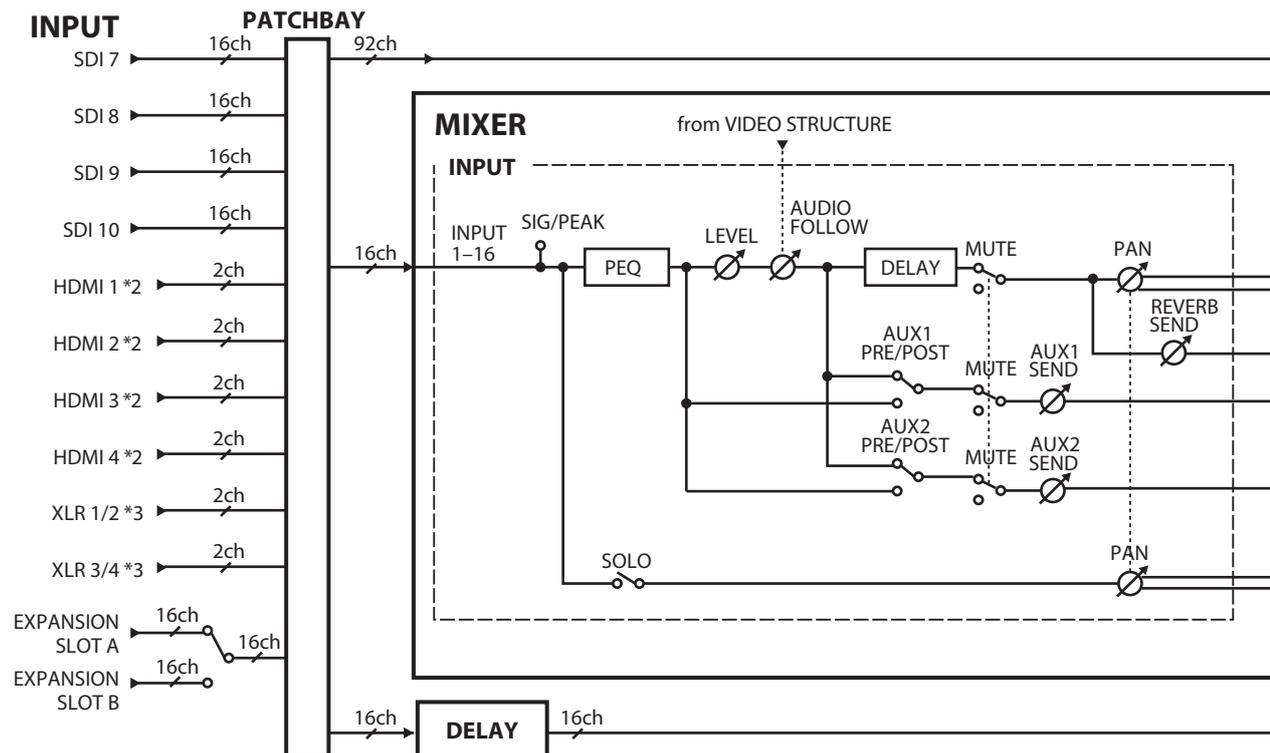
Input connector number	Source	Input connector number	Source
0	SDI 1	11	HDMI 2
1	SDI 2	12	HDMI 3
2	SDI 3	13	HDMI 4
3	SDI 4	14	STILL 1
4	SDI 5	15	STILL 2
5	SDI 6	16	EXP 1
6	SDI 7	17	EXP 2
7	SDI 8	18	RE-ENTRY
8	SDI 9	19	SIG GEN
9	SDI 10	20	NONE
10	HDMI 1		

Block Diagram

Video Block



Audio Block



*1: Varies according to M/E configuration.

*2: HDCP-applied audio cannot be input.

*3: When the audio selector switch is set to AES/EBU, 2 channels each of AES/EBU input and output are possible. When the switch is set to ANALOG, 1 channel each of input and output are possible.

