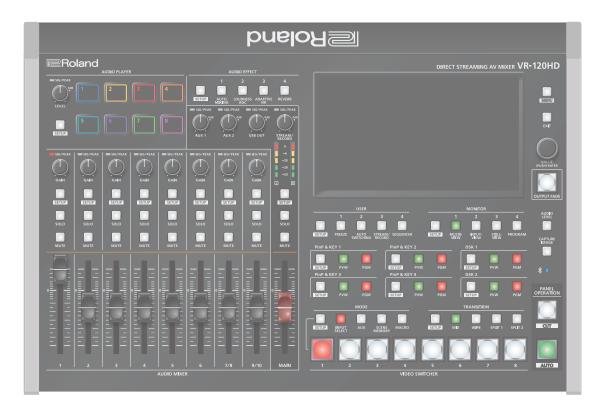


Reference Manual

DIRECT STREAMING AV MIXER



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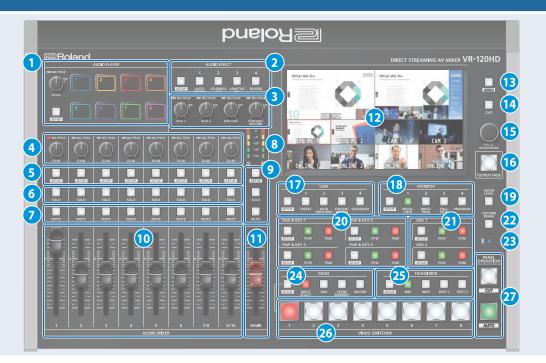
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Panel Descriptions

Top Panel



1 AUDIO PLAYER

This section lets you assign sound sources such as background music, sound effects and so on to the pads and then play them back.

You can use an audio file (WAV format) stored on a USB flash drive or an SD card as the source.

[LEVEL] knob

Adjusts the playback volume of the sound source.

SIG/PEAK indicator

These indicators light up when audio output is detected.

Lit red	Excessive volume (0 dB and above)
Lit yellow	Appropriate volume (-20 to -1 dB)
Lit green	Insufficient volume (–50 to -21 dB)

[SETUP] button

Shows the setup screen in the display.

Pads [1]–[8]

Press a pad to play back the assigned sound source.

2 AUDIO EFFECT

[1]-[4] buttons

Press to turn the audio effects on/off. You can also assign different functions to each button.

[SETUP] button

Shows the setup screen in the display.

3 [AUX 1], [AUX 2] knobs

Adjusts the volume of the AUX bus output.

[USB OUT] knob

Adjusts the volume of the USB output.

[STREAM/RECORD] knob

Adjusts the volume of streaming/recording.

SIG/PEAK indicators

These indicators light up when audio output is detected.

Lit red	Excessive volume (0 dB and above)
Lit yellow	Appropriate volume (-20 to -1 dB)
Lit green	Insufficient volume (–50 to -21 dB)

4 [GAIN] knobs

Adjust the gain (sensitivity) of the audio that is being input from the AUDIO IN 1–9/10 jacks.

SIG/PEAK indicators

These indicators light up when audio input is detected.

Lit red	Excessive volume (0 dB and above)
Lit yellow	Appropriate volume (-20 to -1 dB)
Lit green	Insufficient volume (–50 to -21 dB)

5 [SETUP] buttons

Shows the setup screen in the display.

6 [SOLO] buttons

Press these buttons to allow only the audio of the selected input channels to be output. When this is turned on (the button lights up) for a channel, you can monitor the pre-fader audio for that channel through headphones.

7 [MUTE] buttons

Press these buttons to mute (silence) the audio of the selected input channels.

8 Level meters

Shows the main output level.

9 [SETUP] button, [SOLO] button, [MUTE] button These buttons are for the main output.

10 [1]–[9/10] faders

These adjust the input volume for each channel.

11 [MAIN] fader

Adjusts the output volume.

12 Display (Touch Panel)

Shows the status of the input/output video and of streaming/ recording, as well as the parameters and menus.

[13] [MENU] button Switches the menu screen between visible and hidden.

14 [EXIT] button

Exits a menu level or cancels an operation.

15 [VALUE] knob

Turn	Selects the menu parameters and edits their values.	
	Confirms the menu item you selected or the value that you edited.	

16 [OUTPUT FADE] button

The final output video and audio fade in/out.

Lit	Fade-out completed
Blink	Fading-in/out
Unlit	Normal output

17 USER

[1]–[4] buttons

These buttons execute pre-assigned functions. With the factory settings, the buttons are assigned as follows.

Button	Explanation	
USER [1]	FREEZE Turns the freeze function (freeze the input video) on/off.	
USER [2]	AUTO SWITCHING Turns the auto switching function (used to automatically switch between videos) on/off.	
USER [3]	STREAM/RECORD Shows the STREAM/RECORD setup screen in the display.	
USER [4]	SEQUENCER Turns the sequencer function on/off.	

[SETUP] button

Shows the setup screen in the display.

18 MONITOR

[1]-[4] buttons

Switches between video signals to monitor on the built-in display (monitor).

button	Explanation
MONITOR [1]	MULTI-VIEW The final output video, preview output video and the videos allocated to the VIDEO SWITCHER [1]–[8] buttons are shown in sections of the display.
MONITOR [2]	INPUT-VIEW The input video from the HDMI IN and SDI IN connectors and other sources are shown as 16 separate sections on the screen.

button	Explanation
MONITOR [3]	STILL-VIEW Shows the loaded still images in 16 separate sections on the screen.
MONITOR [4]	PROGRAM Shows the final output video.

* The settings described above are the factory defaults. You can also assign different functions to each button.

[SETUP] button

Shows the setup screen in the display.

19 [AUDIO LEVEL] button

Shows the audio level screen in the display.

20 PinP & KEY 1–4

This uses PinP and KEY 1–4 layers to composite video using PinP, or picture-in-picture.

[SETUP] buttons

Shows the setup screen in the display.

[PVW] buttons

Turns the inset screen preview output on/off.

[PGM] buttons

Turns PinP composition on/off.

21 DSK 1, 2

This uses DSK layer 1, 2 to composite video using a downstream keyer.

[SETUP] buttons

Shows the setup screen in the display.

[PVW] buttons

Turns the preview output of the DSK compositing result on/off.

[PGM] buttons

Turns DSK composition on/off.

22 [CAPTURE IMAGE] button

Turns the still image capture mode on/off.

23 **X**(Bluetooth®) indicator

Shows the Bluetooth connection status.

Lit	Connected
Unlit	Bluetooth off
Blinking rapidly	Pairing is in progress
Blinking	Waiting for connection

You can input audio from an audio device that uses Bluetooth, or use dedicated software on your computer or iPad to remotely control the VR-120HD.

Panel Descriptions

24 MODE

The functions of the VIDEO SWITCHER [1]-[8] buttons change according to the mode you select when pressing the buttons.

[SETUP] button

Shows the setup screen in the display.

[INPUT SELECT] button

Use the VIDEO SWITCHER [1]-[8] buttons to select the video source to send to the PGM bus or the PVW bus.

[AUX] button

Use the VIDEO SWITCHER [1]-[8] buttons to select the video signal to send to the AUX bus.

[SCENE MEMORY] button

Use the VIDEO SWITCHER [1]–[8] buttons to recall the scene memories (which contains the registered settings for video, audio and so on). Long-press the VIDEO SWITCHER [1]–[8] buttons to register the current settings in a scene memory.

[MACRO] button

This switches the function of the VIDEO SWITCHER [1]-[8] buttons to execute macros (a series of recorded operations).

25 TRANSITION

Selects the video transition effects.

[SETUP] button

Shows the setup screen in the display.

[MIX] button

The two videos are mixed as the transition occurs.

[WIPE] button

The next video moves across to replace the original video.

[SPLIT 1] button, [SPLIT 2] button

Here's how to composite two videos in dividing the screen into left/right or upper/lower.

26 VIDEO SWITCHER [1]–[8] buttons

The buttons change functions depending on the mode that's selected.

27 PANEL OPERATION

[CUT] button, [AUTO] button

These buttons determine what happens when switching between videos or else they switch between videos, depending on the operation mode.

There are two operation modes for switching between videos: "Dissolve" and "PGM/PST".

Operation mode	Explanation		
	This mode selects the video to output and immediately outputs it to the PGM bus. Press the [CUT] or [AUTO] button to select what happens when you switch between videos (the buttons light up green when pressed).		
	Button to operate	Action taken when pressed	
Dissolve		When [CUT] button is lit up green	
(factory		The video switches instantly.	
setting)	VIDEO SWITCHER	When [AUTO] button is lit up green	
	[1]–[8] buttons	A switch (transition) effect is applied, and the video switches automatically.	
	* During the transition effect, the selected VIDEO SWITCHER button blinks red, and then remains lit up red when the transition effect finishes.		
	In this mode, the PST video is displayed in the PVW bus, and you can check the video before outputting it to the PGM bus. Press the VIDEO SWITCHER [1]–[8] buttons to select a PST video (the buttons light up green). The content is shown in the PVW bus.		
	Button to operate	Action taken when pressed	
PGM/PST	[CUT] button	The video switches instantly.	
	[AUTO] button	A switch (transition) effect is applied, and the video switches automatically.	
	* During the transition effect, the [AUTO] button blinks red, and then goes dark when the transition effect finishes.		

Front Panel



1 PHONES jack

Connect your headphones here.

2 [PHONES] knob Adjusts the headphone volume.

3 USB HOST port

Connect USB storage such as a USB flash drive or an external SSD here, for backing up this unit's settings or importing materials from the storage device into this unit. You can also connect a smartphone for tethering.

4 SDXC card slot

Insert an SD card here.

This lets you record video and audio, back up this unit's settings and import material that's saved on the storage media.

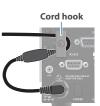
Rear Panel

* To prevent malfunction and equipment failure, always turn down the volume, and turn off all the units before making any connections.

1 DC IN jack

Connect the included AC adaptor to this jack.

* Use the cord hook to secure the cord of the AC adaptor as shown in the illustration. If you have trouble running the cord through, loosen the screw a little on the cord hook.



2 [POWER] switch

Turns the power on/off.

3 USB STREAM connector (USB Type-C[®])

- Outputs the audio and video to your computer. This is also used to input audio played on your computer to the VR-120HD.
- Use the dedicated software to remotely control the VR-120HD from a computer or iPad that is connected.
- * If you are outputting HD video via USB, connect this to a USB 3.0 port of your computer.
- * Do not use a USB cable that is designed only for charging a device. Charge-only cables cannot transmit data.
- * If you connect via an extension cable or a USB hub, the computer might not recognize the VR-120HD.

4 DIRECT STREAM port

- Connect this port to a network device for livestreaming.
- Lets you remotely control the VR-120HD by using terminal software, etc.
- Use the dedicated software to remotely control the VR-120HD from a computer that's connected to this unit, or from an iPad that's connected via wireless LAN.
- Use the VR-120HD to remotely control a camera that is connected.
- Displays a tally on your wireless LAN connected iOS or Android device (this is the "smart tally" function).

NOTE

As this port supports GbE, use a LAN cable with a CAT5e specification or better.

5 REFERENCE THRU jack

Sends the synchronization signal that is inputted to the VR-120HD to an external device that is connected to this unit.

6 REFERENCE IN jack

Connect an external source device for synchronization in order to input a sync signal.

7 HDMI OUT 1–3 and SDI OUT 1–3 connectors

These connectors are for video output. Use the connectors that are appropriate for the connected devices.

You can change the video bus assignment for each connector. With the factory settings, the bus assignments are as follows.

Connector	Bus
SDI/HDMI OUT 1	Program (final output video)
SDI/HDMI OUT 2	Preview (preview output video)
SDI/HDMI OUT 3	Multi-View (multi-view)

8 HDMI IN 1–6 connectors, SDI IN 1–6 connectors

These connectors are for video input. Use the connectors that are appropriate for the connected devices. The input format is detected automatically.

9 Ground terminal

Connect this to an external earth or ground, if necessary.

10 RS-232 connector

You can connect this to a computer equipped with an RS-232 connector to remotely control the VR-120HD.

11 CTL/EXP 1, 2 jacks

You can connect a footswitch (such as a BOSS FS-6, sold separately) or expression pedal (such as the EV-5, sold separately) to this jack. Use this when you want to switch between video using your foot.

* Use only the specified expression pedal (Roland EV-5, EV-30, BOSS FV-500L/FV-500H; sold separately). Connecting expression pedals made by third-party manufacturers may cause this unit to malfunction.

12 TALLY/GPIO connector

Use this to connect to devices that have a tally indicator feature, or to connect to devices that have a control signal input/output function.

13 AUDIO OUT (XLR, RCA) jacks

These jacks output audio. Use the jacks that are appropriate for the connected devices.

For each jack, you can change the audio bus (Main, Aux 1, Aux 2, Monitor) that is assigned for output from that jack.

14 AUDIO IN 1–6 (XLR/TRS) jacks

Use these jacks for audio input. Connect mic or line-level analog audio equipment here.

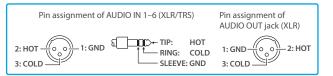
* About phantom power

You can supply phantom power (+48 V) from the AUDIO IN 1–6 jacks (XLR). This should be switched on for condenser mics that require phantom power.

[MENU] button \rightarrow "Audio Input" \rightarrow "AUDIO IN 1" – "AUDIO IN 6", and set "PHANTOM +48V" to "On".

AUDIO IN 7/L, 8/R (LINE IN) jacks AUDIO IN 9/L, 10/R (LINE IN) jacks

Use this connector for audio input. Connect analog audio equipment such as an audio mixer here.



Connecting Bluetooth[®] Devices

Use the Bluetooth features of the VR-120HD to connect it to your Bluetooth-compatible mobile device. This lets you do the following:

- Input the audio signals from your Bluetooth audio device.
- Use dedicated app "VR-120HD Remote" to remotely control the VR-120HD from an iPad (p. 100).
- * For more on connecting (pairing) with a dedicated app, see the app's Owner's Manual.
- * VR-120HD Remote is planned to be updated for compatibility with this unit.

Registering a Bluetooth Audio Device (Pairing)

To connect a Bluetooth device to this unit, you must pair (register) the device with the unit.

Once you pair the device with this unit, there is no need to do it again.

- * To connect a Bluetooth device that's already paired, refer to "Connecting an Already-Paired Bluetooth Device" on this page.
- * See the Owner's Manual for the Bluetooth device you want to pair for details on the necessary operations.
- 1. Place the Bluetooth device nearby the VR-120HD.
- Press the [MENU] button → "System" → select "Bluetooth Pairing".

OFF
Exec
Off

- **3.** Press the [VALUE] knob to change the setting to "ON". The VR-120HD's Bluetooth function turns on.
- 4. Use the [VALUE] knob to select "Pairing", and press the [VALUE] knob.

A confirmation message appears.



- * If you decide to cancel, press the [EXIT] button.
- Use the [VALUE] knob to select "OK", and press the [VALUE] knob.

Pairing begins.

The following message is shown when the unit is pairing. "Now Pairing..."

- 6. Turn on the Bluetooth function of the Bluetooth device.
- Display the Bluetooth device screen on your Bluetooth device, and select "Roland VR-120HD Audio".
 Once pairing is successful, the message on the VR-120HD changes to "Completed".
- 8. Press the [MENU] button to close the menu.

Connecting an Already-Paired Bluetooth Device

- 1. Turn on the Bluetooth function of the Bluetooth device.
- 2. Turn on the Bluetooth function of the VR-120HD.

The onscreen Status display on the VR-120HD changes to "Connected" when the connection is successful.

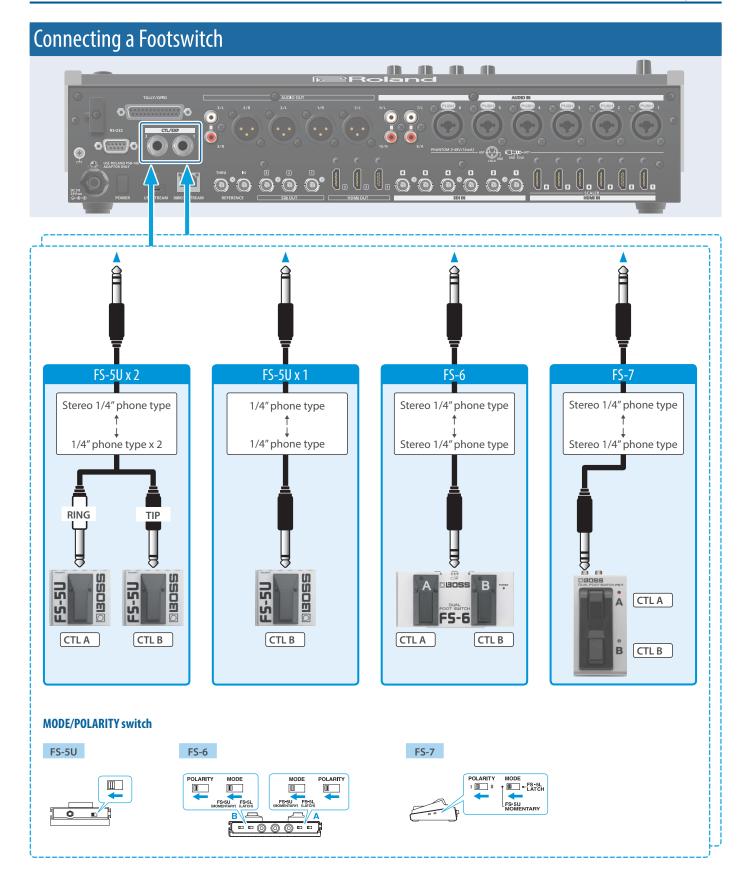


* If connection does not succeed, select "Roland VR-120HD Audio" in the Bluetooth device screen on your Bluetooth device.

MEMO

Lit	Connected	Rapid blinking	Now pairing
Unlit	Bluetooth off	Blinking	Waiting for connection

- Pair again in the following cases:
 - When the pairing data has been deleted from the Bluetooth device
- When the VR-120HD has been reset to its factory-set state (p. 99).
- To remove the Bluetooth connection, deactivate Bluetooth on the VR-120HD or on your Bluetooth device.
- You can assign a function to a USER button for switching Bluetooth on/off, or for pairing (p. 90).



NOTE

The BOSS FS-6's A, B, and A&B jacks also act as the power switch. The power turns on when you insert a plug into the jack, and turns off when you remove the plug.

To prevent the batteries from running down, remove the plugs from the jacks when you're not using the BOSS FS-6.

Turning the Power On/Off

- * Before turning the unit on/off, always be sure to turn the volume down. Even with the volume turned down, you might hear some sound when switching the unit on/off. However, this is normal and does not indicate a malfunction.
- * Never turn off the power or remove the USB flash drive or SD card while the USB flash drive or SD card is being accessed.
- * This unit is not designed for continuous operation over long periods of time (one month or longer). If you want to use this unit over long periods of time, cycle the power periodically.

Turning the Power On

- 1. Make sure that all devices are powered-off.
- 2. Turn on the [POWER] switch of the VR-120HD.



3. Turn on the power of the source devices. Turn on the power of the source devices that are connected to the VR-120HD's input connectors, such as video cameras.

4. Turn on the power of the output devices.

Turn on the power of the devices that are connected to the VR-120HD's output connectors, such as projectors.

Turning the power off

- 1. Turn off the power of the output devices first, and then the source devices.
- **2.** Turn off the [POWER] switch of the VR-120HD. The following message appears.

	Shut Down
Cancel : Pre	ess the power switch again
	OK

3. Press the [VALUE] knob to finish shutting down. If you wish to cancel, press the [POWER] switch again.

Operating the Menu

Here's how to access the menu, and make video/audio settings and settings for this unit.

1. Press the [MENU] button to display the menu.

	Menu	۲
	🔁 Video Assign	
MENU	😨 Video Input	
	😨 Video Output	
EXIT	Transition	
	PinP&Key	
	LOGO DSK	
	∺ Audio Fader Assign	
	👰 Audio Input	
	Audio Output	
	🐠 Audio Follow	
	Audio Auto Mixing	

The menu is organized into functions.

2. Turn the [VALUE] knob to select the menu item to edit, and press the [VALUE] knob to confirm.

VALUE (PUSH) ENTER		VALUE (PUSH) ENT	
Menu 🏽		Ð	🔽 Video Output 🛞
Video Assign			
😨 Video Input		HDMI Out 1	Not Connected 🕨
😴 Video Output		HDMI Out 2	Not Connected 🕨
D Transition		HDMI Out 3	Not Connected 🕨
PinP&Key			
DSK		SDI Out 1	1080/59.94p 🕨
Audio Fader Assign		SDI Out 2	1080/59.94p 🕨
Audio Input	· ·	SDI Out 3	1080/59.94p 🕨
Audio Output			
Audio Follow		USB Out	Not Connected 🕨
Audio Auto Mixing			

3. Repeat step 2 as needed.

Press the [EXIT] button to go back up one level.

- 4. Turn the [VALUE] knob to change the setting value, and then press the [VALUE] knob to confirm.
 - By turning the [VALUE] knob while pressing it, you can make larger changes to the value.
 - Long-pressing the [VALUE] knob returns the current menu item you're setting to its default value.

5. Press the [MENU] button to close the menu.

MEMO

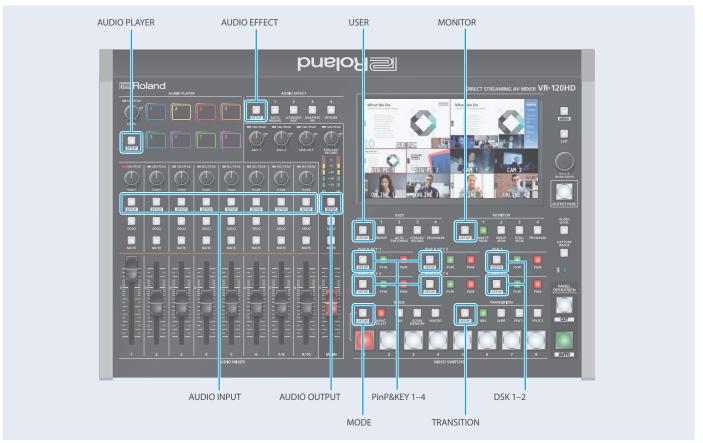
You can also operate this unit by touching the icons on the menu screen.

Ş	🗖 Video Assign			
Input 1		HDMI 1	•	
Inp Inp Sele	ct a menu item	HDMI 2 HDMI 3	•	
Input 4	<u></u>	HDMI 4	ſ	
Input 5 Input 6		HDMI 5	•	

Operating the Setup Screen

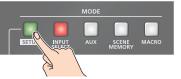
The VR-120HD features a [SETUP] button for each section. Press the respective [SETUP] button to view the setup screen for that section, and use the touch panel to easily make important settings.

Use the menu when you want to access the detailed settings. (p. 101)



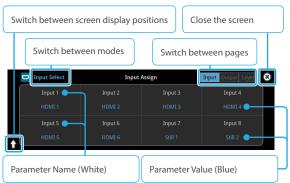
This explains how to operate the setup screens, with the MODE setup screen as an example.

1. With the [INPUT SELECT] button lit up, press the MODE [SETUP] button.



The setup screen corresponding to the current mode is shown.

2. Touch the screen to change the parameter values and to switch between pages.



- When you switch between pages, different parameters are shown.
- When you change modes using a MODE button or by other means, the setup screen is shown for the respective mode.

Touch the parameter values (shown in blue) on the screen to see a list of parameter values that can be set. To change a value, scroll the list and touch the value you want to set.

📼 Input Select	HDMI 1 🗸		Input Output Layer 🙁
Input 1	HDMI 2	but 3	Input 4
input i	HDMI 3		
	HDMI 4	MI 3	HDMI 4
	HDMI 5	out 7	Input 8
	HDMI 6	ill 1	Still 2
	SDI 1		

- A check mark is shown to the right of the current value.
- Press the [EXIT] button to close the list.

3. Press the MODE [SETUP] button to close the setup screen.

• You can also close the screen by touching the "close" icon at the top right-hand corner.

MEMO

You can use the [MENU] button, [VALUE] knob and [EXIT] button to make the settings without using the touch panel.

As with the menu, turn the [VALUE] knob to select the parameter or value to edit, and press the [VALUE] knob to confirm.

Move the yellow box (cursor) to select the parameters.

Switching the Monitor View

Aside from multi-view display, you can switch between videos to monitor such as the input video or a list of still images, according to your needs.

1. Press one of the MONITOR [1], [2], [3] or [4] buttons.



MONITOR [1] (MULTI-VIEW) button

The final output video, preview output video and the videos allocated to the cross-point [1]–[8] buttons are shown in sections of the display (multi-view).



1 PVW (preview) section

Displays the preview output video (the video to be output next).

* The fade-in/out effect (p. 34) is not reflected here.

2 PGM (program) section

Displays the final output video.

3 VIDEO SWITCHER [1]–[8] button video

Displays the video assigned to each VIDEO SWITCHER button. The final video output and preview output video are displayed with tally frames (red and green).



1 External Rec indicator

If a camera that supports the REC status function is connected, this is shown when the camera's REC button is pressed.

2 AUX/Source indicator

This displays as follows.		
Yellow		PinP & KEY inset screen
	Magenta	DSK video source
	Green	AUX bus video source

4 Setup screen

You can use the touch panel to edit the settings.

MONITOR [2] (INPUT-VIEW) button

The input video from the HDMI IN connectors and the SDI IN connectors are shown as 16 separate sections on the screen.

MONITOR [3] (STILL-VIEW) button

Shows the loaded still images in 16 separate sections on the screen.

MONITOR [4] (PROGRAM) button

Shows the final output video.

[SETUP] button

Shows the setup screen.

Audio level meter indication



You can set the audio level meter to show or hide.

Configure the settings of the following menu items from the [MENU] button \rightarrow "SYSTEM".

Menu item	Explanation	
Audio Level Meter		
Multi-View	Sets whether to show or hide the audio level meter.	
Input-View	levermeter.	

MEMO

• You can change the left-right videos that are shown in the upper part of the multi-view.

Set this by pressing the [MENU] button \rightarrow "System" \rightarrow "Multi-View Layout" and select "Left" or "Right".

• You can press the MONITOR [2] (INPUT-VIEW) button to change a video that's displayed.

Set this by pressing the [MENU] button \rightarrow "System" \rightarrow "Input-View Layout".

• You can change the monitoring videos assigned to the MONITOR [1]–[4] buttons.

To make this setting, use the [MENU] button \rightarrow "System" \rightarrow "Monitor Assign" \rightarrow "Monitor 1"–"Monitor 4".

• Items shown on the monitor

You can individually set whether items like the tally frame, label and so on are shown or hidden.

Configure the settings of the following menu items from the [MENU] button \rightarrow "System".

Menu item	Explanation
Tally Frame	Tally frame
AUX/Source Indicator	AUX/Source indicator
External Rec Indicator	External Rec indicator
Audio Level Meter	Audio level meter
Preview Label	Label

- You can change the label names that are shown in the monitor.
 Edit this from the [MENU] button → "System" → "Preview Label"
 → "Label Edit".
- For details on the cameras that support the REC status function, refer to the Roland website.

https://proav.roland.com/

About SD Card

Using an SD card lets you do the following.

- Record video or audio
- Load video or audio files
- Import/export still images or setting files

SD cards that can be used on the VR-120HD

SDXC card can be used on the VR-120HD.

Some SD card types or SD cards from some manufacturers may not properly record audio/video with the VR-120HD. Refer to the support page on the Roland website for

the latest information on compatibility. https://roland.cm/vr-120hd



NOTE

Sž XC

Before you can use a commercially available SD card with the VR-120HD, you must format it as described in "Formatting an SD Card".

Inserting the SD Card

1. Push the SD card all the way into the SDXC card slot until you hear a click.

NOTE



Ensure that the SD card is oriented correctly, and insert it all the way into the port. Do not forcibly push the card into place.

Formatting an SD Card

- Press the [MENU] button → "SD Card/USB Memory"→ select "Format" and press the [VALUE] knob. A confirmation message appears.
- 2. Select "OK" and press the [VALUE] knob. The SD card is now formatted.

Removing an SD Card

- Press the [MENU] button → "SD Card/USB Memory" → "SD Card" select "Eject" and press the [VALUE] knob.
- 2. Select "OK" and press the [VALUE] knob. Once the message "The SD Card is safe to remove" is displayed on the screen, you can safely remove the card.
- 3. Push the SD card further into the slot.
- 4. Hold the SD card and pull it out towards you.

About USB Flash Drive

Using a USB flash drive lets you do the following.

- Load video or audio files
- Import/export still images or setting files

USB Flash Drives that can be used on the VR-120HD

Use a commercially available USB flash drive.

NOTE

Before you can use a commercially available USB flash drive with the VR-120HD, you must format it as described in "Formatting a USB Flash Drive".

Formatting a USB Flash Drive

1. Connect the USB flash drive to the USB HOST port.



2. [MENU] button →

"SD Card/USB Memory" → "USB MEMORY" → select "Format", and press the [VALUE] knob.

A confirmation message appears.

- * If you decide to cancel, press the [EXIT] button.
- Use the [VALUE] knob to select "OK", and press the [VALUE] knob.

USB Memory is now formatted.

Removing a USB Flash Drive

- Press the [MENU] button → "SD Card/USB Memory" → "USB Memory" select "Eject" and press the [VALUE] knob.
- Select "OK" and press the [VALUE] knob.
 Once the message "The USB Memory is safe to remove" is displayed on the screen, you can safely remove the card.
- 3. Unplug the USB flash drive.

NOTE

- SD cards or USB flash drives that are formatted on a different device might not work normally on the VR-120HD. Be sure to format the media on the VR-120HD (SD card: exFAT format, USB flash drive: FAT32 format).
- Never turn off the power or remove the SD card or USB flash drive while the message "Processing..." is shown.
- Formatting the media erases all data saved on the SD card or USB flash drive (such as recorded video, audio and still image data). If the storage media contains important data, back the data up to your computer before you format it.

Setting the Video Input/Output Format

Here's how to specify the input/output format as appropriate for the device that's connected.

Setting the System Format

On the VR-120HD, the input/output format is determined according to the system format. You set the input/output format to match the connected equipment.

	Input format (*1)	Output format	
System format	HDMI IN 1–6 connectors SDI IN 1–6 connectors	HDMI OUT 1–3 connectors SDI OUT 1–3 connectors	USB STREAM port DIRECT STREAM port
1080p	1080p, 1080i	1080p, 1080i	1080p, 720p
720p	720p	720p	720p

- (*1) The HDMI IN 1–6 connectors are compatible with multiple formats (when using the factory settings). You can configure a different input format for each connector, regardless of the system format. Refer to "Setting the Input Format for the HDMI IN 1–6 Connectors" on this page for details.
- [MENU] button → "System" → "Output Format" → select "System Format", and press the [VALUE] knob.

Output Format	۲
6	
System Format	1080p 🕨
- HDMI Out 1	1080p 🕨
- HDMI Out 2	1080p 🕨
- HDMI Out 3	1080p 🕨
- SDI Out 1	1080p 🕨
- SDI Out 2	1080p 🕨
- SDI Out 3	1080p 🕨
- USB Out	1080p 🕨
- Stream/Record	1080p 🕨

- 2. Use the [VALUE] knob to select "1080p", or "720p", and press the [VALUE] knob.
 - * A change in the setting is not applied until you press the [VALUE] knob to confirm.
- 3. Press the [MENU] button to close the menu.

Internal processing

The VR-120HD's internal processing is progressive. Interlaced input video is automatically converted to a progressive signal.

The video might appear jagged at this time, or the video in a PinP inset screen or on the multi-view might waver.

This is due to progressive conversion, and is not a malfunction.

About frame rate

Set the frame rate for the VR-120HD from the [MENU] button \rightarrow "System" \rightarrow Frame Rate.

- * Set the frame rate for USB Out from the [MENU] button → "System" → Frame Rate "USB Out".
- * Set the frame rate for streaming and for video recording from the [MENU] button → "System" → Frame Rate "Stream/Record".

Setting the Input Format for the HDMI IN 1–6 Connectors

Using the factory settings, the EDID assignment for the HDMI IN 1–6 connectors is "Internal" (so that EDID values of all formats that can be input are sent).

To specify an input format of your choice, change the setting of the EDID information being sent so that it matches the incoming video signal.

What is EDID?

EDID is data that is transmitted from the VR-120HD to the source device when the VR-120HD is connected to a source device. EDID contains data such as the formats that can be input to the VR-120HD

(resolution, color space, color depth) and audio information.

Based on the EDID information that the source device receives, it will output the most appropriate video format to the VR-120HD.

 [MENU] button → "Video Input" → "HDMI In 1 (Scaler)"-"HDMI In 6 (Scaler)" → select "EDID" and press the [VALUE] knob.

HDMI In 1 (Scaler)	
Input Status	No Signal 🕨
Flicker Filter	OFF
Flip H	OFF
Flip V	OFF
EDID	Internal 🕨
Zoom	+ 100.0%
Scaling Type	Full 🕨
- Manual Size H	

- 2. Use the [VALUE] knob to set the input format (the EDID information to send), and press the [VALUE] knob.
 - * A change in the setting is not applied until you press the [VALUE] knob to confirm.

Value	
INTERNAL (EDID information for al	l input table formats is sent.)
SXGA+ (1400 x 1050)	UXGA (1600 x 1200)
SVGA (800 x 600)	WUXGA (1920 x 1200)
XGA (1024 x 768)	720p
WXGA (1280 x 800)	1080i
FWXGA (1366 x 768)	1080p
SXGA (1280 x 1024)	

3. Press the [MENU] button to close the menu.

Assigning Video Sources

Here's how to assign the video sources (input video, still images and video player) to the VIDEO SWITCHER [1]–[8] buttons.

1. With the [INPUT SELECT] button lit up, press the MODE [SETUP] button.

The setup screen appears.

2. Touch the screen to select the video source.



Video Source	Explanation
HDMI 1–6	Video for HDMI IN connectors 1–6
SDI 1-6	Video for SDI IN connectors 1–6
Still 1–16	Still images 1–16
V.Player	Video from video player
Stream/Record Status 1, 2	Status display
Date&Time	Date and time (analog or digital clock) The analog/digital display changes in the "System → Date&Time → Clock Display Type" setting.
N/A	No video source

* You can't switch the video to a channel to which Stream/Record Status 1, 2, Date&Time or N/A is assigned. If you switch the assignment for one of the VIDEO SWITCHER [1]–[8] buttons that are now outputting, the output video switches to a black screen.

MEMO

You can import still images by using the following methods.

- ➡ "Loading a Still Image from a Storage" (p. 27)
- ➡ "Capturing a Still Image from Input/Output Video" (p. 28)

Adjusting Output Video

Here's how to adjust the output image appropriately for the device that's receiving the VR-120HD's output.

 [MENU] button → "Video Output" → select "HDMI Out 1–3", "SDI Out 1–3", or "USB Out" and press the [VALUE] knob.

Ş	😨 Video Output	(8
HDMI Out 1		Not Connected	Þ
HDMI Out 2		Not Connected	Þ
HDMI Out 3		Not Connected	Þ
SDI Out 1		1080/59.94p	Þ
SDI Out 2		1080/59.94p	Þ
SDI Out 3		1080/59.94p	Þ
USB Out		Not Connected	Þ

2. Use the [VALUE] knob to select a menu item shown below, and press the [VALUE] knob.

HDMI Out 1–3

_	_				-
ا 🔽 🤇	IDN	1I Out 1			8
Output Status			Not 0	Connecte	ed
Color Space			YPbP	'r(4:4:4)	▶
DVI-D/HDMI Signal				HDMI	►
Brightness		-0-	- +		0
Contrast		-0-	- +		0
Saturation		-0-	- +		0
Red		-0-	- +		0
Green		-0-	- +		0
Blue		_0_	- +		0

Menu item	Explanation
Output Status	Shows the format and an HDCP signal
	presence.
Color Space	Specifies the color space.
DVI-D/HDMI Signal	Specifies the type of output signal.
Brightness	Adjusts the brightness.
Contrast	Adjusts the contrast.
Saturation	Adjusts the saturation.
Red	Adjusts the red level.
Green	Adjusts the green level.
Blue	Adjusts the blue level.
External Rec Control	Turns the External Rec control on/off.

SDI Out 1-3



Menu item	Explanation
Output Status	Shows the format and an HDCP signal presence.
3G-SDI Mapping	Specifies the mapping structure of the 3G-SDI output.
Brightness	Adjusts the brightness.
Contrast	Adjusts the contrast.
Saturation	Adjusts the saturation.

USB Out

Output Format YUY2 & MJPEG 🕨	USB Out	۲
	Output Status	Not Connected
Connection Reset	Output Format	YUY2 & MJPEG 🕨
connection neset Exec	Connection Reset	Exec

Menu item	Explanation
Output Status	Shows the connection status and whether or not an HDCP signal is present.
Output Format	Sets the output destination formats that can be selected from the livestreaming app.
Connection Reset	Reconnects the computer and the VR-120HD when the video is garbled or when operation is otherwise unstable.

Use the [VALUE] knob to edit the value of the setting, and press the [VALUE] knob.

4. Press the [MENU] button to close the menu.

MEMO

You can output a test pattern, useful for adjusting the image quality of a display.

Use the [MENU] button \rightarrow "System" \rightarrow "Test Pattern" to specify the test pattern.

Adjusting Input Video

Here's how to adjust the quality of the input video signals. For the HDMI IN 1–6 connectors, you can also adjust the scaling.

 [MENU] button → "Video Input" → select "HDMI In 1–6 (SCALER)", or "SDI In 1–6" and press the [VALUE] knob.

₽ 🔽	Video Input	3
HDMI In 1 (Scaler)	No Signal	►
HDMI In 2 (Scaler)	No Signal	⊧
HDMI In 3 (Scaler)	No Signal	►
HDMI In 4 (Scaler)	No Signal	►
HDMI In 5 (Scaler)	No Signal	►
HDMI In 6 (Scaler)	No Signal	►
SDI In 1	No Signal	►
SDI In 2	No Signal	Þ
SDI In 3	No Signal	►

 Use the [VALUE] knob to select a menu item shown below, and press the [VALUE] knob.

P IDMI In 1 (5	icaler) 🛞
Input Status	No Signal 🕨
Flicker Filter	OFF
Flip H	OFF
Flip V	OFF
EDID	Internal 🕨
Zoom	+ 100.0%
Scaling Type	Full 🕨
- Manual Size H	

Menu item	Explanation	
Input Status	Displays information about the incoming video.	
Flip H	When this is "ON", the video is input with left and right flipped.	
Flip V	When this is "ON", the video is input with top and bottom flipped.	
Brightness	Adjusts the brightness.	
Contrast	Adjusts the contrast.	
Saturation Adjusts the saturation.		
* The following parameters are only for HDMI IN 1–6 (Scaler).		
Flicker Filter	When this is "ON", flickering is reduced.	
EDID	Specifies the input format (EDID) (p. 14).	
Zoom	Adjusts the zoom ratio.	
Scaling Type	Specifies the scaling type.	
Manual Size H	Adjusts the horizontal size when scaling type is set to "MANUAL".	
Manual Size V	Adjusts the vertical size when scaling type is set to "MANUAL".	
Position H	Adjusts the position in the horizontal direction.	
Position V	Adjusts the position in the vertical direction.	
Red	Adjusts the red level.	
Green	Adjusts the green level.	
Blue	Adjusts the blue level.	

- 3. Use the [VALUE] knob to edit the value of the setting, and press the [VALUE] knob.
- 4. Press the [MENU] button to close the menu.

Assigning Video Buses to Output Connectors

The V-120HD features seven types of video buses. You can assign the signals from each video output connector/port (HDMI OUT 1–3 connectors, SDI OUT 1–3 connectors, USB STREAM port, DIRECT STREAM port) and the video shown on this unit's display to the desired video bus.

Video output connectors and ports		
HDMI Out 1–3	HDMI OUT 1–3 connectors	
SDI Out 1–3	SDI OUT 1–3 connectors	
USB Out	USB STREAM port	
Stream/Record	DIRECT STREAM port	
LCD Monitor	This unit's display	
Video bus	Explanation	
Program	Final output video	
riografii	Same video as the PROGRAM bus	
Sub Program	The SUB PROGRAM bus lets you set whether to display or hide the PinP & key layers and the DSK layers, separately from the PROGRAM bus. You can edit the layer settings to output a different video from that of the PROGRAM bus.	
Preview	Preview output video (the video to be output next) * The fade-in/out effect (p. 34) is not reflected here.	
AUX	Video of your choice sent to the AUX bus (p. 18) This lets you allocate a separate output that is independent of the final output, such as when you want a specific input video to be a fixed output.	
Multi-View	The final output video, preview output video and the videos allocated to the VIDEO SWITCHER [1]–[8] buttons (multi-view) MEMO You can change the respective videos that are shown. Set this by pressing the [MENU] button → "System" → "Multi-View Layout" and select "Left" or "Right".	
Input-View	The input video from the HDMI IN and SDI IN connectors (shown as 16 separate sections on the screen) MEMO You can change the videos that are shown. Set this by pressing the [MENU] button → "System" → "Input-View Layout".	
Still-View	Still images loaded into the unit (shown as 16 separate sections on the screen)	

1. With the [INPUT SELECT] button lit up, press the MODE [SETUP] button.

The setup screen appears.

2. Touch the page tab at the top right-hand part of the screen to select page 2 (Output).



The Output Assign screen appears.

3. Touch the screen to select the video bus to assign.



MEMO

Assigning the video buses and audio outputs

You can also assign the desired audio buses (Main bus, AUX 1 bus, AUX 2 bus, Monitor bus) for each jack, apart from the video bus (p. 61).

Selecting the Video Sent to the AUX Bus

Here's how to send the video of your choice to the AUX bus. This lets you allocate a separate output that is independent of the final output, such as when you want a specific input video to be a fixed output.

1. Press the [AUX] button.



2. Press the VIDEO SWITCHER [1]–[8] buttons to select the video signal to send to the AUX bus.



The video is switched for the output connector to which the AUX bus is assigned.

MEMO

You can also directly touch the Multi-View, Input-View or Still-View screens to select a video signal.

If you touch the screen directly to select a video, the VIDEO

SWITCHER [1]–[8] buttons may not light up green in some cases.

Configuring on the setup screen

1. With the [AUX] button lit up, press the MODE [SETUP] button.

The setup screen appears.

2. Touch the screen to select the video signal to send to the AUX bus.



MEMO

- You can adjust how much audio is sent to the AUX bus.
 "Sending Audio to the AUX Bus" (p. 61)
- Sending the same video as the final output to the AUX bus (AUX link)

You can use the AUX link function to send the same video as the final output video to the AUX bus. The video sent to the AUX bus automatically switches in tandem with the video transitions. From the [MENU] button \rightarrow "System", set the "AUX Linked PGM" to "Auto Link" or "Manual Link" (p. 150).

Inputting Copy-Protected (HDCP) Video

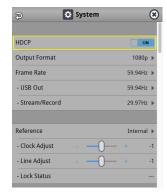
If you want to input HDCP-protected video from a BD player or other device, you can enable HDCP input.

* If you want to output copy-protected (HDCP) video or audio, connect a device that supports HDCP.

What's HDCP?

HDCP is copyright-protection technology that prevents unlawful copying of content by encoding the path when sending digital signals from a video playback device to a display monitor or other display equipment.

 [MENU] button → "System" → select "HDCP", and press the [VALUE] knob.



Value	Explanation
ON	Copy-protected (HDCP) video can be input. HDCP is also added to the video that is output. * Video/audio from the SDI OUT connectors and the USB STREAM port are not outputted.
OFF	Copy-protected (HDCP) video cannot be input.

2. Press the [MENU] button to close the menu.

Checking for HDCP-capable devices

Source devices

You can check the HDCP support status of the source device from the menu.

Use the [MENU] button \rightarrow "Video Input" \rightarrow "HDMI In 1–6 (Scaler)" \rightarrow "Input Status" to display the HDCP status.

When inputting copy-protected (HDCP) video, "DETECT" is displayed.

۲
Detected
1920
1080
59.94Hz
Progressive
Detect

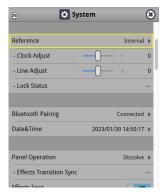
Output devices

If a device that supports HDCP is connected, "HDCP" is displayed when you press the [MENU] button and select "Video Output" \rightarrow "HDMI OUT 1–3" \rightarrow "Output Status".

Specifying a Reference Clock

You can specify a clock to which operation of the VR-120HD is referenced (a reference clock).

 [MENU] button → "SYSTEM" → select "Reference", and press the [VALUE] knob.



2. Use the [VALUE] knob to specify the reference clock, and press the [VALUE] knob.

Value	Explanation	
Internal	The VR-120HD's internal clock is used as the reference clock.	
External	A synchronizing signal input via the REFERENCE IN connector is used as the reference clock. Black-burst (frame synchronization), bi-level, and tri-level synchronizing signals are supported.	
SDI 1-6	A signal input via one of the SDI IN 1–6 connectors is used as the reference clock. The VSYNC (vertical synchronizing) signal output from the VR-120HD is synchronized to the VSYNC signal input via SDI.	

When set to "External" or "SDI 1–6"

Adjust the following menu items as needed.

Menu item	Explanation
Clock Adjust	This adjusts the phase horizontally. Adjust this when output is horizontally out of sync with the operation of other devices using the same clock.
Line Adjust	This adjusts the phase vertically. Adjust this when output is vertically out of sync with or field-shifted from the operation of other devices using the same clock.

3. Press the [MENU] button to close the menu.

Switching the Video

You can switch between the videos of the PGM bus and PST bus to specify the final output.

Setting the Operation Mode

There are two operation modes for switching between videos: "Dissolve" and "PGM/PST".

Dissolve mode (factory setting)

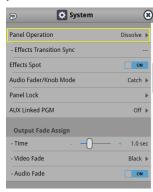
This mode selects the video to output and immediately outputs it to the PGM bus.

Press the [CUT] or [AUTO] button to select what happens when you switch between videos (the buttons light up green when pressed).

PGM/PST mode

In this mode, the PST video is displayed in the PVW bus, and you can check the video before outputting it to the PGM bus. Press the VIDEO SWITCHER [1]–[8] buttons to select a PST video (the buttons light up green). The content is shown in the PVW bus.

1. [MENU] button → "System" → select "Panel Operation", and press the [VALUE] knob.



- Use the [VALUE] knob to select "Dissolve", or "PGM/PST", and press the [VALUE] knob.
- 3. Press the [MENU] button to close the menu.

Switching in the Dissolve Mode

This explains what to do when selecting "Dissolve mode" (p. 20) in the operation mode settings.

1. Press the [MIX] or [WIPE] button to select the transition effect.



Μ	IX	

The two videos are mixed as the transition occurs.



WIPE

The next video moves across to replace the original video.



- 2. Press the MODE [INPUT SELECT] button.
- 3. Press the [CUT] or [AUTO] button.



4. Press the VIDEO SWITCHER [1]–[8] buttons, and then select the video signal to output.



	Button to operate	Action taken when pressed
	VIDEO SWITCHER [1]–[8] button	When [CUT] button is lit up green
		The video switches instantly.
		When [AUTO] button is lit up green
		A switch (transition) effect is applied, and the video switches automatically.

* During the transition effect, the selected VIDEO SWITCHER button blinks red, and then remains lit up red when the transition effect finishes.

MEMO

You can also directly touch the Multi-View, Input-View or Still-View screens to select a video signal.

Switching in the PGM/PST Mode

Here are the steps when selecting "PGM/PST mode" in the operation mode settings.

1. Press the [MIX] or [WIPE] button to select the transition effect.



- 2. Press the MODE [INPUT SELECT] button.
- **3.** Press a VIDEO SWITCHER [1]–[8] button to select the preview output video (the video to be output next).

You can check the preview output video in the PVW section of the multi-view.



Lit Green: Preview output video (the video to be output next)

MEMO

You can also directly touch the Multi-View, Input-View or Still-View screens to select a video signal.

4. Press the [CUT] or [AUTO] button.



Button to operate	Action taken when pressed
[CUT] button (lit up red)	The video switches instantly.
[AUTO] button (blink red)	A switch (transition) effect is applied, and the video switches automatically. Set the video transition time from the [MENU] button → "Transition" → "Mix" → "Mix Time" or [MENU] button → "Transition" → "Wipe" → "Wipe Time".

MEMO

You can change the transition pattern by which the mix/wipe occurs.

- ➡ "Changing the Mix Pattern" (p. 21)
- ➡ "Changing the Wipe Pattern" (p. 21)

Changing the Mix Pattern

You can change the transition pattern used for a mix transition.

 With the [MIX] button lit up, press the TRANSITION [SETUP] button.

The setup screen appears.

2. Touch the screen to access the settings.



Menu item	Explanation
Mix Type	Specifies the transition pattern for mix.
Mix Time	Specifies how long the transition takes.

- * For details on the parameters, refer to "4: Transition" (p. 105).
- 3. Press the [SETUP] button to close the screen.

Changing the Wipe Pattern

You can change the wipe transition pattern, wipe direction and other properties.

1. With the [WIPE] button lit up, press the TRANSITION [SETUP] button.

The setup screen appears.

2. Touch the screen to access the settings.



Menu item	Explanation
Wipe Type	Specifies the transition pattern for wipe.
Wipe Time	Specifies how long the transition takes.
Direction	Specifies the direction of wipe.
Border Color	Specifies the color of the border added to the edge of the wipe area.
Border Width	Specifies the width of the border added to the edge of the wipe area.

- * For details on the parameters, refer to "4: Transition" (p. 105).
- 3. Press the [SETUP] button to close the screen.

Splitting the Video

Here's how to composite two videos in dividing the screen into left/right or upper/lower.

Positioning a video

Left or upper: Video on the PGM bus Right or lower: Video on the PST bus





Configuring the Screen Layout

You can configure the screen layout separately for the TRANSITION [SPLIT 1] and [SPLIT 2] buttons.

 While [SPLIT 1] or [SPLIT 2] are lit up, press the TRANSITION [SETUP] button.

The Split setup screen appears.

2. Touch the screen to access the settings.

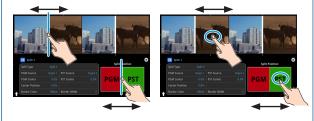


Value	Explanation
	Split V This vertically crops the center section of the video (split left/right).
Split Type	Split H This horizontally crops the center section of the video (split upper/lower).
	$\begin{array}{c} A \\ + \\ B \\ \end{array} \right) \begin{array}{c} A \\ B \\ \end{array}$
PGM Source	Selects the video source to display on the left or upper side.
PST Source	Selects the video source to display on the right or lower side.
PGM Center	Adjusts the position of the video that is shown in the left or upper side.
PST Center	Adjusts the position of the video that is shown in the right or lower side.
Center Position	Adjusts the position of the boundary.
Border Color	Specifies the color of the border.
Border Width	Adjusts the width of the border.

* For details on the parameters, refer to p. 105.

MEMO

When the split setup screen is shown, you can edit the parameters such as Center Position, PGM Center and PST Center by directly dragging on the screen.



3. Press the [SETUP] button to close the screen.

Displaying the Split

- Press the [SPLIT 1] or [SPLIT 2] button to turn on split compositing (the button lights up). The SPLIT button lights up red.
- 2. Press a VIDEO SWITCHER [1]–[8] button to select the video you want to display upper or on the left.



The video on the PGM side is selected when the SPLIT button is lit up red.

MEMO

You can also directly touch the Multi-View, Input-View or Still-View screens to select a video signal.

- **3.** Press the [SPLIT 1] or [SPLIT 2] button again. The SPLIT button lights up green.
 - * The button's lit color switches between red and green each time you press the SPLIT button.
- 4. Press a VIDEO SWITCHER [1]–[8] button to select the video you want to display lower or on the right.



The video on the PST side is selected when the SPLIT button is lit up green.

MEMO

You can also directly touch the Multi-View, Input-View or Still-View screens to select a video signal.

5. To turn off the split, press the [MIX] or [WIPE] button.

Switching the Video Automatically (Auto Switching)

The video of Input 1–8 or of scene memories (p. 71) can be switched automatically (the auto switching function). You can make operation easier by letting the video switch automatically.

About the Operation Mode

Auto switching provides six operation modes that you can select as appropriate for your situation: "input scan", "scene memory scan", "beat sync", "video follows audio", "PinP&Key scan", and "DSK scan".

Switching at a specified interval (input scan)

This automatically switches the Input 1–8 video when a specified length of time elapses. You can change the duration that each video is shown, and also switch randomly between videos.

This is convenient when you want to switch between video signals of multiple cameras, for example when live-streaming a singer-instrumentalist.

* If there is no video input, this is skipped.

Switching scene memories (scene memory scan)

This automatically recalls between scene memories 1–32. The video and audio are switched according to the settings that are saved in each scene memory.

* Scene memories in which no settings have been saved are skipped.

Switching in sync with the beat of the music (beat sync)

This detects the beat of the song, and automatically switches the video at intervals of the beat.

This lets you create video transitions that are synchronized with the music, for example when live-streaming a DJ performance or a musical performance.

Switching according to the mic volume (video follows audio)

This detects the audio that is input from a mic, and automatically switches to the specified video according to the volume.

For example, if you're streaming a talk show or a conversation, you can use this to switch between a close-up of the individual who is speaking and a wide shot of both people when neither person is speaking.

Switching between picture-in-picture (PinP) content (PinP & Key scan)

The inset screen video automatically changes after a specified length of time. You can change how long each video is shown and switch randomly between videos.

Switching between downstream keyer (DSK) content (DSK scan)

The caption video automatically changes after a specified length of time. You can change how long each video is shown and switch randomly between videos.

Turning the Auto Switching Function On/Off

MEMO

By assigning auto-switching functions to the USER buttons, you can use the buttons to turn functions on/off and configure the settings from the setup screen.

- * The on/off function for auto-switching is assigned to the USER [2] button by factory default.
- 1. Press the USER [2] (AUTO SWITCHING) button to turn the auto-switching function on (the button lights up).



The video automatically switches according to the operating mode.

2. To turn the auto-switching function off, press the USER [2] (AUTO SWITCHING) button again.

Setting the Operation Mode

1. Press the USER [SETUP] button. The User Assign screen appears.

2. Touch User 2 <Setup>.



The Auto Switching setup screen appears.

3. Touch <Type> to select the operating mode.

Auto Switching		Туре	Input S
Scan Sequence	Normal	Scan Target	Video Inp
Scan Transition Time			
Input 1 Time		Input 2 Time	5 sec
Input 3 Time		Input 4 Time	5 sec (🦻
Input 5 Time		Input 6 Time	5 sec
Input 7 Time		Input 8 Time	5 sec

4. Press the [SETUP] button to close the screen.

Video Operations

Input scan

1. On the setup screen for the auto-switching function, touch <Type> to select "Input Scan".

Auto Switching	Input Scan 🗸	8
Auto Switching	Scene Memory Scan	Input Scan
Scan Sequence	Beat Sync	Video Input
Scan Transition Time	Video Follows Audio	
Input 1 Time		5 sec
Input 3 Time	PinP&Key 1 Scan	5 sec
Input 5 Time	PinP&Key 2 Scan	5 sec
Input 7 Time	PinP&Key 3 Scan	5 sec

The setup screen changes accordingly.

2. Touch the screen to access the settings.

Menu item	Explanation
	Specifies the order in which video signals are shown.
	Normal:
c c	Switches in the order of Input $1 \rightarrow 8$.
Scan Sequence	Reverse:
	Switches in the order of Input $8 \rightarrow 1$.
	Random:
	Switches randomly.
	Sets the video to which auto switching is applied.
	Video Input:
	Final output video and preview video
Scan Target	PinP & Key 1–4:
	PinP and key layer (inset screen) video
	DSK 1–2:
	DSK layer (inset screen) video
Scan Transition Time	Specifies the video transition time.
Input 1–8 Time	Specifies the time that the video is shown. Turn this "Off" to skip.

Scene memory scan

1. On the setup screen for the auto-switching function, touch <Type> to select "Scene Memory Scan".

Auto Switching	Input Scan	1 2 3 4 🗶
Auto Switching	Scene Memory Scan 🔹 🗸	Scene Memory Scan
Scan Sequence	Beat Sync	
Memory 1 Time	Video Follows Audio	ne 5 sec
Memory 3 Time	PinP&Key 1 Scan	ne 5 sec
Memory 5 Time	PinP&Key 2 Scan	ne 5 sec
Memory 7 Time	PinP&Key 3 Scan	ne 5 sec
	Thin ditey 5 Sean	

The setup screen changes accordingly.

2. Touch the screen to access the settings.

Men	u item	Explanation
		Specifies the order in which scene memories are switched.
		Normal:
C.com	Convonco	Switches in the order of scene memory $1 \rightarrow 32$.
Scan	Sequence	Reverse:
		Switches in the order of scene memory $32 \rightarrow 1$.
		Random:
		Switches randomly.
Mem	nory 1–32 Time	Specifies the time it takes to switch to the next
Men	101 y 1 52 mile	scene memory. Turn this "Off" to skip.

- * For details on the parameters, refer to "20: Auto Switching" (p. 141).
- 3. Press the [SETUP] button to close the screen.

* For details on the parameters, refer to "20: Auto Switching" (p. 141).

3. Press the [SETUP] button to close the screen.

Beat sync

1. On the setup screen for the auto-switching function, touch <Type> to select "Beat Sync".

U	🛃 Auto Switching	Input Scan	1 2 🔀
	Auto Switching	Scene Memory Scan	Beat Sync
	Sync Source Au	Beat Sync 🗸 🗸	4
		Video Follows Audio	
	Scan Sequence	PinP&Key 1 Scan	Video Input
	Scan Transition Time	PinP&Key 2 Scan	
t		PinP&Key 3 Scan	

The setup screen changes accordingly.

2. Touch the screen to access the settings.

Menu item	Explanation
Sync Source	Specifies the input audio that synchronizes the video.
	Specifies the order in which video signals are shown.
	Normal:
	Switches in the order of Input $1 \rightarrow 8$.
Scan Sequence	Reverse:
	Switches in the order of Input $8 \rightarrow 1$.
	Random:
	Switches randomly.
Scan Transition Time	Specifies the video transition time.
Scan Cycle	Specifies the number of beats at which to switch to the next video.
	Sets the video to which auto switching is applied.
	Video Input:
Correct Townsh	Final output video and preview video
Scan Target	PinP & Key 1–4:
	PinP and key layer (inset screen) video
	DSK 1–2:
	DSK layer (inset screen) video

* For details on the parameters, refer to "20: Auto Switching" (p. 141).

3. Press the [SETUP] button to close the screen.

MEMO

When an auto-switching function is assigned to a USER button and the operating mode is set to beat sync, the USER button blinks in time with the current BPM.



Video follows audio

1. On the setup screen for the auto-switching function, touch <Type> to select "Video Follows Audio".

U	🛃 Auto Switching	Input Scan	2	3	4 5	8
	Auto Switching	Scene Memory Scan	Τ	Video I	Follows Audio	
	Audio In 1 Target	Beat Sync	rget		Off	
	-Threshold	Video Follows Audio 🗸				
	Audio In 3 Target -Threshold	PinP&Key 1 Scan	rget			
	Audio In 5 Target	PinP&Key 2 Scan	rget			
t	-Threshold	PinP&Key 3 Scan			-16 dB	

The setup screen changes accordingly.

2. Touch the screen to access the settings.

Menu item	Explanation
Audio In 1–9/10 Target, USB In Target, Bluetooth In Target, Audio Player Target, HDMI 1–6 Target, SDI 1–6 Target, V. Player Target	Specifies the video that is output when audio is detected.
Threshold	Specifies the reference level at which the Video Follows Audio function operates. When audio that exceeds this threshold is detected, the video is switched.
Audio Mix Target	Specifies the video that is output when audio is detected in multiple mics. If this is "Off", video is switched in the order in which audio is detected.
Audio Silent Target	Specifies the video that is output when there is no audio input from any mic. If this is "Off", the last selected video continues to be output.
Audio Redetection Time	Specifies the time after the video has switched until audio detection resumes.
Scan Transition Time	Specifies the video transition time.

- * For details on the parameters, refer to "20: Auto Switching" (p. 141).
- 3. Press the [SETUP] button to close the screen.

Video Operations

PinP&KEY scan

1. On the setup screen for the auto-switching function, touch <Type> to select "PinP&Key 1–4 Scan".

🛛 🛃 Auto Switching	Video Follows Audio	1	2			8
Auto Switching	PinP&Key 1 Scan 🗸		PinF	%Key 1 S	ican	
Scan Sequence	PinP&Key 2 Scan					
HDMI 1 Time	PinP&Key 3 Scan					
HDMI 3 Time	PinP&Key 4 Scan					
HDMI 5 Time	DSK1 Scan	i L				
	DSK 2 Scan					

The setup screen changes accordingly.

2. Touch the screen to access the settings.

Menu item	Explanation
SCAN SEQUENCE	Specifies the order in which video signals are shown.
	Normal: Switches in the order of HDMI $1 \rightarrow 6$, SDI $1 \rightarrow 6$, STILL $1 \rightarrow 16$.
	Reverse: Switches in the order of STILL $16 \rightarrow 1$, SDI $6 \rightarrow 1$, HDMI $6 \rightarrow 1$.
	Random:
	Switches randomly.
HDMI 1–8 Time	Specifies the time that the video is shown.
SDI 1–8 Time	Specifies the time that the video is shown.
Still 1–8 Time	Specifies the time that the still image is shown.
V.Player Time	Specifies the time that the video is shown.

* For details on the parameters, refer to "20: Auto Switching" (p. 141).

3. Press the [SETUP] button to close the screen.

DSK scan

1. On the setup screen for the auto-switching function, touch <Type> to select "DSK 1, 2 Scan".

🤁 🛃 Auto Switching	Video Follows Audio	1 2 3 4 😢
Auto Switching	PinP&Key 1 Scan	DSK 1 Scan
Scan Sequence	PinP&Key 2 Scan	
HDMI 1 Time	PinP&Key 3 Scan	5 sec
HDMI 3 Time	PinP&Key 4 Scan	5 sec
HDMI 5 Time	DSK 1 Scan	5 sec
	DSK 2 Scan	

The setup screen changes accordingly.

2. Touch the screen to access the settings.

Menu item	Explanation
SCAN SEQUENCE	Specifies the order in which video signals are shown.
	Normal: Switches in the order of HDMI $1 \rightarrow 6$, SDI $1 \rightarrow 6$, STILL $1 \rightarrow 16$.
	Reverse: Switches in the order of STILL $16 \rightarrow 1$, SDI $6 \rightarrow 1$, HDMI $6 \rightarrow 1$.
	Random:
	Switches randomly.
HDMI 1–8 Time	Specifies the time that the video is shown.
SDI 1–8 Time	Specifies the time that the video is shown.
Still 1–8 Time	Specifies the time that the still image is shown.
V.Player Time	Specifies the time that the video is shown.

* For details on the parameters, refer to "20: Auto Switching" (p. 141).

3. Press the [SETUP] button to close the screen.

Loading a Still Image

You can load a still image, and output it in the same way as video (p. 28) or use it as a source for DSK compositing (p. 38). There are two ways to load a still image: you can load from storage media (either an SD card or a USB flash drive), or you can capture the image from the input video.

You can save up to sixteen still images in the unit.

* When still images are saved in the unit, startup takes longer time according to image size and the number of still images saved.

Loading a Still Image from a Storage

Here's how to load a still image from a storage into the unit.

- 1. Save the still image in the root directory of the SD card or USB flash drive.
- 2. Insert the SD card into the SDXC card slot.
 - * When using a USB flash drive, connect the USB flash drive to the USB HOST port.
- [MENU] button → "Still Image" → "Load From Storage" → select "Still Image", and press the [VALUE] knob.



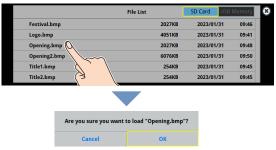
- **4.** Use the [VALUE] knob to select the loading destination for the still image (Still 1–16), and press the [VALUE] knob.
- 5. Press the [EXIT] button to return to the previous screen.
- 6. Use the [VALUE] knob to select "Load", and press the [VALUE] knob.

A list of the still images in the storage is shown.

	File List	SD Card USB	Memory
Festival.bmp	2027KB	2023/01/31	09:46
Logo.bmp	4051KB	2023/01/31	09:41
Opening.bmp	2027KB	2023/01/31	09:48
Opening2.bmp	6076KB	2023/01/31	09:50
Title1.bmp	254KB	2023/01/31	09:45
Title2.bmp	254KB	2023/01/31	09:45

- * Use the "SD Card" or "USB Memory" selector at the top right-hand corner of the screen to switch between the storage media to load from.
- 7. Touch the filename of the still image you want to load.

A confirmation message appears.



- * If you decide to cancel, press the [EXIT] button.
- 8. Use the [VALUE] knob to select "OK", and press the [VALUE] knob.

The still image is loaded into the unit. When the operation is finished, the message "Completed" appears.

9. Press the [MENU] button to close the menu.

MEMO

You can set the method of saving still images to "temporarily save". When you turn off the power, the loaded still image is deleted. From the [MENU] button \rightarrow "Still Image", set "Save To Internal Storage" to "Disable", and then load the still image.

NOTE

- The still image is scaled to the output format size.
- When using a SD card or USB flash drive for the first time, you must format it using the VR-120HD (p. 13).
- Never turn off the power or remove the SD card or USB flash drive while the message "Processing..." is shown.
- Depending on the SD card or USB flash drive, it may take some time to be recognized.

Formats supported for loading

- ·	Bitmap file (.bmp), 24-bit color, uncompressed	
	PNG file (.png), 24-bit color	
Format	* Alpha channel supported	
	JPEG file (.jpg), 24-bit color	
Resolution	In conformity with system format (p. 14)	
	No more than 64 single-byte alphanumeric characters	
File name	* The extension ".bmp", ".png", ".jpg", or ".jpeg" must be added.	

Capturing a Still Image from Input/Output Video

Here's how to capture a still image from the input/output video.

1. Press the [CAPTURE IMAGE] button to turn on (lit).



The Capture Image screen appears.

2. Touch the screen to select the save destination memory (Still 1–16) for the still image.



- * If you decide to cancel, press the [EXIT] button.
- 3. Touch <Select> at the bottom of the screen. The input video screen appears.
- 4. Touch the screen to select the input video to capture.



* To capture the output video, set the Monitor setting to "Program" (by pressing the [Program] button), or switch to multi-view (by pressing the [Multi-View] button) to select an output video, or use Select Capture Source to select the output video.

5. Touch <Exec> at the bottom of the screen.

The capture is executed. When the operation is finished, the message "Completed" appears.

6. Press the [CAPTURE IMAGE] button to exit the operation.

MEMO

- You can set the method of saving still images to "temporarily save". When you turn off the power, the loaded still image is deleted. From the [MENU] button → "Still Image", set "Save To Internal Storage" to "Disable", and then load the still image.
- If you capture when HDCP (p. 18) is on, the still image that is created is handled in the same way as HDCP-protected video. It cannot be used if HDCP is off.

Outputting a Loaded Still Image

You can assign a still image to the VIDEO SWITCHER [1]–[8] buttons and output it in the same way as with video, or momentarily stop the final output to output the still image.

* When outputting a still image (.png) with an alpha channel, the alpha channel (transparency) data is ignored.

Assigning a Still Image to the VIDEO SWITCHER Buttons

A still image loaded into this unit can be assigned to the VIDEO SWITCHER [1]–[8] buttons, and output in the same way as video.

- 1. Load a still image into this unit as described by the following procedures.
 - ➡ "Loading a Still Image from a Storage" (p. 27)
 - ➡ "Capturing a Still Image from Input/Output Video" (p. 28)
- 2. Assign the still image to a VIDEO SWITCHER button by following the steps in "Assigning Video Sources" (p. 16).
- **3.** Follow the steps in "Switching the Video" (p. 20) to output the still image.

Inserting a Still Image in the Final Output

You can pause the final output, and output a still image of your choice as a cut.

Still images can be directly output without being assigned to the VIDEO SWITCHER [1]–[8] buttons.

* The same still image as the final output is also output to the preview.

Use the following methods to output still images.

Using the USER buttons

➡ "Assigning Functions to the USER Buttons" (p. 90)

Using a footswitch

➡ "Using a Footswitch" (p. 93)

Using an expression pedal

➡ "Using an Expression Pedal" (p. 94)

Inputting an external control signal (GPI)

➡ "Inputting a Control Signal" (p. 95)

MEMO

Outputting a still image with a fade-in effect

Use the $\left[\text{OUTPUT FADE} \right]$ button to add a fade-in effect and output the still image.

Assign a still image to the AUX bus (p. 148) and edit the function for the [OUTPUT FADE] button as shown below.

Use the [MENU] button \rightarrow "System" \rightarrow and set Output Fade Assign "Video Fade" to "AUX".

Deleting a Still Image

Here's how to delete the still image that's saved in the unit.

 [MENU] button → "Still Image" → select "Delete Still Image", and press the [VALUE] knob.



2. Use the [VALUE] knob to select the still image (All, Still 1–16) you want to delete, and press the [VALUE] knob.



- 3. Press the [EXIT] button to return to the previous screen.
- **4.** Select "Delete" and press the [VALUE] knob. A confirmation message appears.



- * If you decide to cancel, press the [EXIT] button.
- 5. Use the [VALUE] knob to select "OK", and press the [VALUE] knob.

The still image is deleted. When the operation is finished, the message "Completed" appears.

6. Press the [MENU] button to close the menu.

Saving a Still Image to a SD Card or USB Flash Drive

Here's how a still image captured from the input/output video (p. 28) can be saved to a storage (SD card or USB flash drive).

- * The still image is saved to the "Roland/VR-120HD/still" folder.
- * You can't export still images that were created while HDCP (p. 18) was set to "ON".

NOTE

- When using a SD card or USB flash drive for the first time, you must format it using the VR-120HD (p. 13).
- Never turn off the power or remove the SD card or USB flash drive while the message "Processing..." is shown.
- Depending on the SD card or USB flash drive, it may take some time to be recognized.

1. Insert the SD card into the SDXC card slot.

- * When using a USB flash drive, connect the USB flash drive to the USB HOST port.
- [MENU] button → "Still Image" → "Save To Storage" → select "Still Image", and press the [VALUE] knob.



MEMO

3.

"(HDCP)" is indicated for still images that were created when HDCP was on.

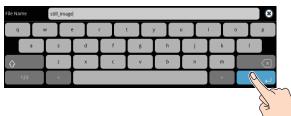
- 4. Use the [VALUE] knob to select the still image (Still 1–16) you want to save, and press the [VALUE] knob.
- 5. Press the [EXIT] button to return to the previous screen.
- 6. Use the [VALUE] knob to select "Save", and press the [VALUE] knob.

The still images on the storage media (in the "Still" folder) are shown as a list.



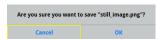
- * Use the "SD Card" or "USB Memory" selector at the top right-hand corner of the screen to switch between the storage media to save.
- **7.** Select "File Name" and press the [VALUE] knob. This brings up the software keyboard for input.
- 8. Enter a file name.
- * You can input up to 32 characters.

9. Touch <Enter> in software keyboard.



- **10.** Select the file type
 - (1) Use the [VALUE] knob to select "File Type", and press the [VALUE] knob.
 - (2) Use the [VALUE] knob to select "BITMAP", "PNG", or "JPEG", and press the [VALUE] knob.
- 11. Use the [VALUE] knob to select "Save", and press the [VALUE] knob.

A confirmation message appears.



- * If you decide to cancel, press the [EXIT] button.
- 12. Use the [VALUE] knob to select "OK", and press the [VALUE] knob.

The still image is written to the storage.

13. Press the [MENU] button to close the menu.

MEMO

Overwriting a still image

When you touch a filename for an existing still image on the screen in step 5, the filename in the filename list is used. You can overwrite the name.

Importing a Video

Here's how to load a video from your storage media into this unit. You can play back the videos that you've loaded, and output them in the same way as with regular video signals.

- 1. Save the video in the root directory of the SD card or USB flash drive.
- 2. Insert the SD card into the SDXC card slot.
- * When using a USB flash drive, connect the USB flash drive to the USB HOST port.
- 3. [MENU] button → "Video Player" → select "Import", and press the [VALUE] knob.



A list of the videos in the storage is shown.



- * Use the "SD Card" or "USB Memory" selector at the top right-hand corner of the screen to switch between the storage media to load from.
- * Select "Root" or "Rec" in the upper left part of the screen to switch between folders from which the files are loaded.

4. Touch the filename of the video you want to load.

A confirmation message appears.

* Touch the preview icon (🖸) to play back the video.



- * If you decide to cancel, press the [EXIT] button.
- 5. Use the [VALUE] knob to select "OK", and press the [VALUE] knob.

The video is imported into the unit. When the operation is finished, the message "Completed" appears.

6. Press the [MENU] button to close the menu.

NOTE

- The video is scaled to the output format size.
- When using a SD card or USB flash drive for the first time, you must format it using the VR-120HD (p. 13).
- Never turn off the power or remove the SD card or USB flash drive while the message "Processing..." is shown.
- Depending on the SD card or USB flash drive, it may take some time to be recognized.

Formats supported for importing

Format	MP4 File (.mp4), H.264, AAC (48 kHZ),	
Average bit rate of 20 Mbps or less		
Resolution	Maximum 1920 x 1080 pixels	
File name	Maximum of 64 single-byte alphanumeric characters, including the file extension	

Outputting a Loaded Video

You can assign videos to the VIDEO SWITCHER [1]–[8] buttons and output them in the same way as with video, or momentarily stop the final output to output the video.

Playing Back a Video (with the Video Player)

Use the video player to play back the videos you've loaded.

Assigning a USER button

To use the video player, you must assign the video player function to the USER buttons. This lets you play back/stop video using the assigned buttons, and operate the video from the setup screen.

The video player function is not assigned to the USER buttons by factory default.

1. Assign the "Video Player" function to a USER button by following the steps in "Assigning Functions to the USER Buttons" (p. 90).

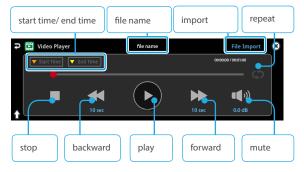
Set "Category" to "Video Player", and set "Value" to "Setup".

Video player settings

2. Press the USER [SETUP] button.

- The User Assign screen appears.
- **3.** Touch <Setup> for the USER button to which you assigned the video player function.

The Video Player setup screen appears.



4. Touch the screen to configure the video player.

Menu item	Explanation
File Import	Loads the video.
File Name	Shows the filename of the video that was loaded.
Start Time	Sets the playback start point of the video.
End Time	Sets the playback end point of the video.
Skip Forward Time	Sets how much the video fast-forwards (the amount of time) when you touch <▶>.
Skip Backward Time	Sets how much the video fast-forwards (the amount of time) when you touch <
Level	Adjusts the playback volume of the video.
Repeat	Switches repeat playback on/off.

5. Touch < ► >.

The video plays back according to the settings.

MEMO

Assigning Videos to the VIDEO SWITCHER Buttons

Here's how to assign a still image loaded into this unit to the VIDEO SWITCHER [1]–[8] buttons, and output the image in the same way as video.

- 1. Follow the steps in "Importing a Video" (p. 31) to load the video into this unit.
- 2. Assign the video to a VIDEO SWITCHER button by following the steps in "Assigning Video Sources" (p. 15).
- 3. Follow the steps in "Switching the Video" (p. 20) to output the video.

MEMO

You can also directly touch the Multi-View, Input-View or Still-View screens to select a video signal.

Inserting a Video in the Final Output

You can pause the final output, and output a video of your choice as a cut. Video can be directly output without being assigned to the VIDEO SWITCHER [1]–[8] buttons.

* The same video as the final output is also output to the preview.

Use the following methods to output video.

Using the USER buttons

➡ "Assigning Functions to the USER Buttons" (p. 90)

Using a footswitch

➡ "Using a Footswitch" (p. 93)

Using an expression pedal

➡ "Using an Expression Pedal" (p. 94)

Inputting an external control signal (GPI)

➡ "Inputting a Control Signal" (p. 95)

NOTE

If the bitrate setting for Streaming and Recording and the bitrate of the file played on Video Player exceeds 20,000 kbps, Streaming and Recording and Video player cannot be used simultaneously.

Freezing the Input Video (Freeze)

Here's how to temporarily freeze the input video (freeze function). You can apply transition effects during a video freeze.

MEMO

You can assign the freeze function to a USER button to turn the video on/off ("Assigning Functions to the USER Buttons" (p. 90)).

The freeze function is assigned to the USER [1] button by factory default.

Setting the Operation Mode

There are two freeze modes: the "All mode" for freezing all input video, and the "Select mode" that freezes only the input video you specify. Set the mode that matches your needs.

1. Press the USER [SETUP] button.

The User Assign screen appears.

2. Touch User 1 <Setup>.



The Freeze function setup screen appears.

3. Touch <Type> to select the operating mode.

III Freeze			8
Freeze	OFF	Туре	Sel
HDMI 1	Enable	HDMI 2	Enab
HDMI 3		HDMI 4	Enable
HDMI 5		HDMI 6	Enable
SDI 1		SDI 2	Enable 🤇 🦻 🔪
SDI 3		SDI 4	Enable
SDI 5		SDI 6	Enable

Value	Explanation
All	Freezes all video that is being input.
Select	Freezes only the specified input video.

If "Select" is selected

4. Touch the screen to specify a source from "HDMI 1" to "SDI 6".

Value	Explanation	
Enable	The input video freezes.	
Disable	The input video does not freeze.	

5. Press the [SETUP] button to close the screen.

Freezing the Input Video

1. Press the USER [1] (FREEZE) button to turn freeze on (the button lights up).



The input video freezes.

2. To turn freeze off, press the USER [1] (FREEZE) button again.

Fading-In/Out the Final Output Video

Here's how to perform a fade-out from the final output video to a black screen, or a fade-in from a black screen to the final output video.

- A scene that you don't want to output as video can be changed to a black screen.
- * The final output video and audio fades in/out together when using the factory default settings.
- * The fade-in/out effect is applied only to the final output.

1. Press the [OUTPUT FADE] button.



The final output video fades-out to a black screen. When fade-out is complete, the [OUTPUT FADE] button is lit.

2. To fade-in, press the [OUTPUT FADE] button once again. The [OUTPUT FADE] button blinks, and final output begins. When fade-in is complete, the [OUTPUT FADE] button goes dark.

MEMO

- You can use a white screen or the video from the AUX bus to add a fade-in/out effect.
- To make this setting, use the [MENU] button → "System" → Output Fade Assign "Video Fade".
- To create a fade-in/out effect for the video without changing the volume, set "Audio Fade" in "Output Fade Assign" from the [MENU] button → "System" to "OFF".
- To specify fade-in/out time, use the [MENU] button → "System" → Output Fade Assign "Time".

Compositing Video with Picture-in-Picture (PinP)

Here's how to composite an inset screen onto the background video. You can use PinP & Key 1–4 at the same time to display four inset screens. This example shows you how to composite video using "PinP & Key 1". The operation is the same when using "PinP & Key 2–4".



Inset screen 3 (PinP & Key 3) Inset screen 4 (PinP & Key 4) Background video

1. Press the PinP & Key 1 [SETUP] button to turn it on (the button lights up).



The PinP & Key setup screen appears.

Yellow guide lines for the inset screens (PinP & Key 1) are shown in the multi-view.



2. Press a VIDEO SWITCHER [1]–[8] button to select the video you want to make the inset screen.



* When selecting a video that is not assigned to Input 1–8, set this in "Source" on the setup screen.

MEMO

You can also directly touch the multi-view, input-view or still-view screens to select a video signal.

3. Press the PinP & KEY 1 [PVW] button to turn on the inset screen preview output (lit).



The inset screen appears in the PVW section of the multi-view, allowing you to check the inset screen's location and size. At this stage, the final output has not yet been changed.

4. Touch the setup screen to adjust the position of the inset screen.

Window Settings	Explanation
Position H	Adjusts the horizontal position of the inset
	screen.
Position V	Adjusts the vertical position of the inset screen.
Size	Adjusts the size of the inset screen.

MEMO

Making adjustments by touching the inset screen

You can directly drag on an inset screen to adjust its position, and you can pinch in/out to adjust its size.



 Press the PinP & KEY 1 [PGM] button to turn on PinP compositing (lit).



The inset screen is displayed on the final output.

6. To turn off PinP compositing, press the PinP & KEY 1 [PGM] button once again.

Turning PinP/DSK composition on/off in tandem with video transitions

You can make PinP/DSK composition turn on/off in tandem with the video transitions.

From the [MENU] button \rightarrow "System", set "Effects Transition Sync" to "ON". After step 4, use the [AUTO] and [CUT] buttons to switch the video. PinP composition turns on, and the composited result that is previewed is sent to final output.

MEMO

The output video layers are structured as shown in the illustration below.
 DSK 2 (p. 38)



• Long-pressing the [PVW] or [PGM] button for each layer shows only the layer that is targeted for the operation while the button is pressed

(this is the spot function: from the [MENU] button \rightarrow "System", set "Effects Spot" to "ON").

 Set the fade-in/out time for the inset screen from the "Time" parameter on the PinP&Key setup screen.

Making Detailed Settings for the Inset Screen

You can configure the detailed inset screen settings including size, shape, border width and more from the PinP setup screen.

PinP&Key 1 Default	PVW PGM Edit Copy	
	OMI 1 Type PinP Time 1.0 sec	
Window Settings Position H	View Settings 10.0% Shape Rectangle Position H 0.0%	
	10.0% Border Color White Position V 0.0%	
	15.0% Border Width 3 Zoom 100%	
Cropping H 1	0.0%	
Cropping V 1	00.0%	
Parameter	Explanation	
Source	Specifies the video source of the inset screen.	
Туре	Specifies the type of PinP compositing.	
Time	Specifies the video transition time.	
Window Settings	Adjusts the inset screen.	
Position H	Adjusts the horizontal position.	
Position V	Adjusts the vertical position.	
Size	Adjusts the size (enlarge or reduce).	
Cropping H	Adjusts the horizontal size.	
Cropping V	Adjusts the vertical size.	
Shape	Specifies the shape (rectangle, circle, diamond).	
Border Color	Specifies the color of the border.	
Border Width	Adjusts the width of the border.	
View Settings	Adjusts the video that is shown in the inset screen.	
Position H	Adjusts the horizontal position.	
Position V	Adjusts the vertical position.	
Zoom	Adjusts the zoom of the video.	

* For details on the parameters, refer to "5: PinP & Key" (p. 106).

Swapping and copying settings

You can change the stacking order of the inset screens and copy the settings from other PinP & Key layers by swapping (exchanging) settings with the other PinP & Key layers.

1. Touch the page tab at the top right-hand corner of the PinP setup screen and select "Copy".

PinP&Key 1		Edit CO
Copy From PinP&Key 2	Copy From PinP&Key 3	Copy From PinP&Key 4
Swap With PinP&Key 2	Swap With PinP&Key 3	Swap With PinP&Key 4
t		

2. Touch the screen to access the settings.

Value	Explanation
Copy From PinP & Key 1–4	Lets you copy other PinP & Key layer settings.
Swap With PinP & Key 1–4	Swaps settings with another PinP & Key layer.

Key Compositing the Inset Screen

This process makes part of the inset screen transparent, and composites the image with the background video.

You can use luminance key with either a black or a white background, or a chroma key with either a blue or green background.

Luminance key

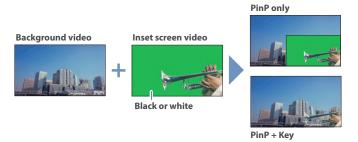
You can cut out text or an image by turning its black or white portion transparent, and then superimpose it on the background video.



PinP + Key

Chroma key

You can cut out a video by turning its blue or green portion transparent, and then superimpose it on the background video.



1. On the PinP setup screen, touch "Type" to select the PinP composition type.



Value	Explanation
Luminance- White Key	A combination of PinP and luminance key (white). Makes the white portions of the inset screen transparent, and composites the image with the background.
Luminance- Black Key	A combination of PinP and luminance key (black). Makes the black portions of the inset screen transparent, and composites the image with the background.
Chroma Key	A combination of PinP and chroma key. Makes the specified key color portions of the inset screen transparent, and composites the image with the background.

* For details on the parameters, refer to "5: PinP & Key" (p. 106).

2. Adjust the intensity of the effect according to the selected type.

Compositing Video with Downstream Keyer (DSK)

You can further composite titles, subtitles/captions and other video on video composited using split (p. 22) or PinP (p. 35). There are two DSK series on the VR-120HD. DSK layers are shown in front of other layers (\Rightarrow memo on p. 35).

About DSK Mode

There are three DSK composition modes, "Self key", "Alpha key" and "External key". The following video compositing is available according to the DSK mode.

Self key

Luminance key (p. 39)

You can cut out text or an image by turning its black or white portion transparent, and then superimpose it on the background video.



Chroma key (p. 40)

You can cut out a video by turning its blue or green portion transparent, and then superimpose it on the background video. You can select a color from the video material to set as the key color.



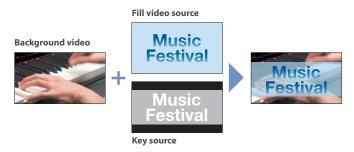
Alpha key (p. 42)

Use alpha channels (areas which contain transparency data) to cut out still images and place them against different background video as a composite.



External key (p. 43)

Sets the key signal (the shape to be cut out) and the fill video (the video to be composited) separately. This uses the key signal to cut out the fill video and superimpose it on the background video to create the composite.



Compositing a Caption or Image (Luminance Key)

Here's how you can cut out text or image by turning its black or white portion transparent, and then superimpose it on the background video.



Compositing using DSK

This shows how to composite an image using "DSK 1". The steps are the same when using "DSK 2".

1. Press the DSK 1 [SETUP] button to turn on (lit).



The DSK setup screen appears.

LOGO DSI					Edit	Сору
DSK Mo	de Self Key	DSK Sou	urce Still 1		Time	1.0 sec
DSK Set	tings		Fill Settings	Edge Settings		
DSK Ty			Fill Type	Edge Type		
DSK Le	el		-Matte Color	Edge Color		
DSK Ga	n			Edge Width		
Mix Lev	el	255				

2. Touch the setup screen to make the following settings.

Parameter	Explanation
DSK Mode	Self Key
DSK Type	Luminance-White Key (Makes white portions transparent according to brightness.)
	Luminance-Black Key (Makes black portions transparent according to brightness.)

3. Press a VIDEO SWITCHER [1]–[8] button to select the DSK video source.



* When selecting a video that is not assigned to Input 1–8, set this in "DSK Source" on the setup screen.

MEMO

You can also directly touch the multi-view, input-view or still-view screens to select a video signal.

4. Press the DSK 1 [PVW] button to turn on the preview output (lit).



A preview of the composition results is displayed in the PVW section of the multi-view.

At this stage, the final output has not yet been changed.

5. Touch the setup screen to adjust the intensity of the effect.

Parameter	Explanation
DSK Settings	
DSK Level	Adjusts the degree of extraction (transparency) for the key.
DSK Gain	Adjusts the degree of edge blur (semi-transmissive region) for the key.
Time	Adjusts the fade-in/out time for the DSK video source.

- * For details on the parameters, refer to "6: DSK" (p. 108).
- 6. Press the DSK 1 [PGM] button to turn on DSK compositing (lit).



The composition results is sent to final output.

7. To turn off DSK compositing, press the DSK 1 [PGM] button once again.

Turning DSK/PinP composition on/off in tandem with video transitions

You can make DSK/PinP composition turn on/off in tandem with the video transitions.

From the [MENU] button \rightarrow "System", set "Effects Transition Sync" to "ON". After step 4, use the [AUTO] and [CUT] buttons to switch the video. DSK composition turns on, and the composited result that is previewed is sent to final output.

Modifying the caption or image

You can fill-in the superimposed caption or image, or add an edge to it. Configure the following parameters on the DSK setup screen.

Parameter	Explanation
Fill Settings	
Fill Type	If this is set to "Matte", the superimposed caption or
Matte Color	video is filled in with the color specified in "Matte Color".
Edge Settings	
Edge Type	Specifies the type of edge.
Edge Color	Specifies the color of the edge.
Edge Width	Specifies the width of the edge.

* This setting is in common with chroma key ("Compositing a Subject and Background (Chroma Key)" (p. 40)).

Compositing a Subject and Background (Chroma Key)

Here's how you can cut out a video by turning its blue or green portion transparent, and then superimpose it on the background video. This lets you composite a subject that's photographed against a blue background or green background.

Compositing using DSK

This shows how to composite an image using "DSK 1". The steps are the same when using "DSK 2".

1. Press the DSK 1 [SETUP] button to turn on (lit).



The DSK setup screen appears.

LOGO DSK 1					Edit	Chroma Copy
DSK Mode	Self Key	DSK Sou	urce Still 1			Time 1.0 sec
DSK Settings			Fill Settings		Edge Settings	1
DSK Type	Chro	ma Key	Fill Type	Bus	Edge Type	
DSK Level			-Matte Color		Edge Color	
DSK Gain					Edge Width	
Mix Level						

2. Touch the setup screen to make the following settings.

Parameter	Explanation
DSK Mode	Self Key
DSK Type	Chroma Key
Chroma Sett	ings (page 2)
Color	Specify either "GREEN" or "BLUE" as the key color. You can also specify a color you desire as the key color (p. 41).

3. Press a VIDEO SWITCHER [1]–[8] button to select the DSK video source.



* When selecting a video that is not assigned to Input 1–8, set this in "DSK Source" on the setup screen.



You can also directly touch the multi-view, input-view or still-view screens to select a video signal.

4. Press the DSK 1 [PVW] button to turn on the preview output (lit).



A preview of the composition results is displayed in the PVW section of the multi-view.

At this stage, the final output has not yet been changed.



5. Touch the setup screen to adjust the intensity of the effect.

Parameter	Explanation
DSK Settings	
DSK Level	Adjusts the degree of extraction (transparency) for the key.
DSK Gain	Adjusts the degree of edge blur (semi-transmissive region) for the key.
	Adjuste the folds in (aut time fourth a DCK side a
Time	Adjusts the fade-in/out time for the DSK video
	source.

- * For details on the parameters, refer to "6: DSK" (p. 108).
- 6. Press the DSK 1 [PGM] button to turn on DSK compositing (lit).



The composition results is sent to final output.

7. To turn off DSK compositing, press the DSK 1 [PGM] button once again.

Turning DSK/PinP composition on/off in tandem with video transitions

You can make DSK/PinP composition turn on/off in tandem with the video transitions.

From the [MENU] button \rightarrow "System", set "Effects Transition Sync" to "ON". After step 4, use the [AUTO] and [CUT] buttons to switch the video. DSK composition turns on, and the composited result that is previewed is sent to final output.

Finely adjusting the key color

You can make fine adjustments to the key color.

Configure the following parameters on the DSK setup screen.

Parameter	Explanation	
Chroma Settings (page 2)		
Hue Width	Adjusts the hue width.	
Hue Fine	Adjusts the center position of the hue.	
Saturation Width	Adjusts the saturation width.	
Saturation Fine	Adjusts the center position of saturation.	

* For details on the parameters, refer to "6: DSK" (p. 108).

Modifying the superimposed video

You can fill-in the superimposed video, or add an edge to it. Configure the following parameters on the DSK setup screen.

Parameter	Explanation
Fill Settings	
Fill Type	If this is set to "Matte", the superimposed video is
Matte Color	filled in with the color specified in "Matte Color".
Edge Settings	
Edge Type	Specifies the type of edge.
Edge Color	Specifies the color of the edge.
Edge Width	Specifies the width of the edge.

* This setting is in common with luminance key ("Compositing a Caption or Image (Luminance Key)" (p. 39)).

Specifying a desired color as the key color (sampling marker)

You can specify the key color to be made transparent by sampling (detecting) a color from the video (sampling marker function). You can also specify a key color other than green or blue.

1. Touch <Sampling Marker Mode> on page 2 of the setup screen.



The sampling marker (=) used to sample (detect) the key color is shown on the monitor of this unit.



2. Touch the screen to adjust the sampling marker position. The sampling marker moves to the position you touch.

Menu item	Explanation
Position H	Adjusts the horizontal position.
Position V	Adjusts the vertical position.

3. Touch <Exec> on the screen.

A confirmation message appears.



* If you decide to cancel, press the [EXIT] button.

4. Use the [VALUE] knob to select "OK", and press the [VALUE] knob.

The key color is sampled.

The "Hue Width", "Hue Fine", "Saturation Width", and "Saturation Fine" settings are adjusted automatically.

Compositing a Still Image with Alpha Channel

Use alpha channels (areas which contain transparency data) to cut out still images and place them against different background video as a composite.

Background video



Alpha channel

tiva



Compositing using DSK

This shows how to composite an image using "DSK 1". The steps are the same when using "DSK 2".

1. Press the DSK 1 [SETUP] button to turn on (lit).



The DSK setup screen appears.



2. Touch the setup screen to make the following settings.

Parameter	Explanation
DSK Mode	Alpha Key
DSK Source	Specifies the still image with alpha channel.

3. Press a VIDEO SWITCHER [1]–[8] button to select the DSK video source.



* When selecting a video that is not assigned to Input 1–8, set this in "DSK Source" on the setup screen.

MEMO

You can also directly touch the multi-view, input-view or still-view screens to select a video signal.

 Press the DSK 1 [PVW] button to turn on the preview output (lit).



A preview of the composition results is displayed in the PVW section of the multi-view.

At this stage, the final output has not yet been changed.

5. Touch the setup screen to adjust the intensity of the effect.

Parameter	Explanation
Mix Level	Adjusts the key's overall density (output level).
Time	Adjusts the fade-in/out time for the DSK video source.

- * For details on the parameters, refer to "6: DSK" (p. 108).
- 6. Press the DSK 1 [PGM] button to turn on DSK compositing (lit).



The composition results is sent to final output.

7. To turn off DSK compositing, press the DSK 1 [PGM] button once again.

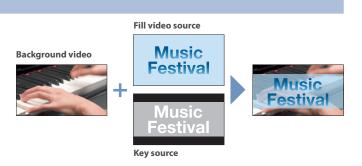
Turning DSK/PinP composition on/off in tandem with video transitions

You can make DSK/PinP composition turn on/off in tandem with the video transitions.

From the [MENU] button \rightarrow "System", set "Effects Transition Sync" to "ON". After step 4, use the [AUTO] and [CUT] buttons to switch the video. DSK composition turns on, and the composited result that is previewed is sent to final output.

Using an External Key

This sets the key signal (the shape to be cut out) and the fill video (the video to be composited) separately. With an external key, the key signal is used to cut out the fill video and superimpose it on the background video to create the composite.



Compositing using DSK

This shows how to composite an image using "DSK 1". The steps are the same when using "DSK 2".

1. Press the DSK 1 [SETUP] button to turn on (lit).



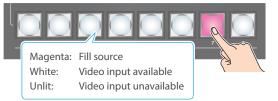
The DSK setup screen appears.

LOGO DSK 1				Edit	Сору	2
DSK Mode External Key	Key Sou	rce HDMI 5	Fill Source	Time		J
DSK Settings						
DSK Type						
DSK Level						1
DSK Gain						
Mix Level	255					IJ

2. Touch the setup screen to make the following settings.

Parameter	Explanation
DSK Mode	External Key
Key Source	Specifies the video to use as the key signal.
Fill Source	Specifies the fill video source.

3. Press a VIDEO SWITCHER [1]–[8] button to select the fill source.



* When selecting a video that is not assigned to Input 1–8, set this in "Fill Source" on the setup screen.

MEMO

You can also directly touch the multi-view, input-view or still-view screens to select a video signal.

4. Press the DSK 1 [PVW] button to turn on the preview output (lit).



A preview of the composition results is displayed in the PVW section of the multi-view.

At this stage, the final output has not yet been changed.

5. Touch the setup screen to adjust the intensity of the effect.

Parameter	Explanation
Mix Level	Adjusts the key's overall density (output level).
Time	Adjusts the fade-in/out time for the DSK video source.

- * For details on the parameters, refer to "6: DSK" (p. 108).
- Press the DSK 1 [PGM] button to turn on DSK compositing (lit).



The composition results is sent to final output.

7. To turn off DSK compositing, press the DSK 1 [PGM] button once again.

Turning DSK/PinP composition on/off in tandem with video transitions

You can make DSK/PinP composition turn on/off in tandem with the video transitions.

From the [MENU] button \rightarrow "System", set "Effects Transition Sync" to "ON". After step 4, use the [AUTO] and [CUT] buttons to switch the video. DSK composition turns on, and the composited result that is previewed is sent to final output.

Swapping and Copying Settings

You can change the stacking order of the DSK layers and copy other DSK layer settings by swapping (exchanging) settings with another DSK layer.

1. Touch the page tab at the top right-hand corner of the DSK setup screen and select "Copy".



2. Touch the screen to access the settings.

Value	Explanation
Copy From DSK 1–2	Lets you copy other DSK layer settings.
Swap With DSK 1–2	Swaps settings with another DSK layer.

Assigning Audio Sources to Audio Channels

You can assign mic audio, line input, video input (HDMI, SDI) and so on to channels 1–9/10.

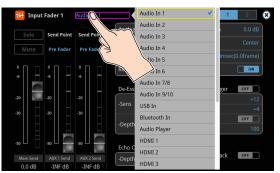
This is an example of how to assign a sound source to channel 1.

1. Press the [SETUP] button of the channel whose settings you want to change.



The setup screen for the channel you pressed appears.

2. Touch <Input Fader> and select an audio source to assign to the channel.



Value	Explanation			
Audio In 1–6	Audio from AUDIO IN 1–6 jacks			
Audio In 7/8–9/10	Audio from AUDIO IN 7/8-9/10 jacks			
USB In	Audio from USB STREAM port			
Bluetooth In	Bluetooth In audio			
Audio Player	Audio from an audio player			
HDMI 1–6 (*1)	Audio from HDMI IN 1–6 connectors			
SDI 1–6 (*1)	Audio from SDI IN 1–6 connectors			
V.Player	Audio from a video player			

- (*1) Select channels 1/2, channels 3/4, channels 5/6 or channels 7/8 from SDI or HDMI embedded audio.
- 3. Press the lit [SETUP] button to close the setup screen.

Adjusting the Input Gain (Sensitivity)

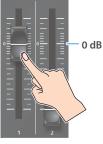
Here's how to adjust the input gain so that the audio is at the appropriate level.

Here we explain using the channel 1 audio as an example.

NOTE

Turning the [GAIN] knobs may produce a popping noise or cause momentary audio drop-out, but this is not a malfunction.

1. Position the channel 1 audio fader near the "0 dB".



2. Move the [MAIN] fader to a position near the "0 dB".



3. Turn the channel 1 [GAIN] knob fully counter-clockwise, minimizing (0 dB) the input gain.



MEMO

For the Audio In 1–6 (which have analog gain circuits), you can turn this knob to adjust the analog gain. For other jacks/ports/ connectors, this adjusts the digital gain instead.

4. While producing the sound that will actually be input, slowly turn the [GAIN] knob clockwise to adjust the input gain.

Raise the input gain as high as possible without allowing the SIG/ PEAK indicator of channel 1 to light red when the loudest sound level occurs.

NOTE

If the Audio Fader/Knob Mode is set to "Catch", the fader operations are ignored until the fader's position "catches up" to the current level. (p. 148)

* The [SETUP] button for the respective channel blinks while the fader operations are being ignored.

MEMO

Stereo link function

You can link two channels to operate them as a stereo channel. This can be set for channels 1–6. Press the [SETUP] button for the channel whose settings you want to edit, and turn "Stereo Link" ON.

- * When stereo link is turned on, the settings of that channel are applied to the other channel in the stereo pair.
- * When stereo link is on, the audio fader can't be used for the other channel in the stereo pair.
- * When phantom power is on and you switch the stereo link setting on/off, phantom power automatically turns off.

Adjusting the mic position (pan)

The left/right positioning of the sound is called "pan". If you're using two mics to stream a performance, panning the two mics to left and right will give the sound a more spacious feel.

This can be set for channels 1–6. Press the [SETUP] button of the channel whose setting you want to change, and adjust the "Pan".

SIG/PEAK indicator

Indicator	Status
Red	Volume is excessive (0 dB or higher)
Yellow	Volume is appropriate (-20 – -1 dB).
Green	Volume is insufficient (-50– -21 dB).

Adjusting the digital gain

You can adjust the digital gain for all inputs. Analog gain adjusts the analog sound, and digital gain adjusts the digital sound.

When a high-level audio signal is input to the HDMI or SDI digital audio inputs, distortion may occur due to effect processing.

You can use digital gain to keep the input level down so that there is no impact on effect processing.

Adjusting the Volume Balance

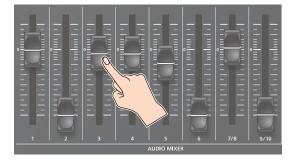
Here's how to adjust the volume balance of each input and the overall volume.

1. Move the [MAIN] fader to a position near the "0 dB".



2. While monitoring the audio via speakers or headphones, adjust the volume balance for the respective inputs.

Raise the volume level of audio you want to make more prominent, for example, an emcee microphone, and lower the volume level for other audio. When no audio is input, and for audio that is unused, lower the volume level to minimum (-INF dB).



3. Use the [MAIN] fader to adjust the volume of the output.

The MAIN level meter will light yellow at the appropriate volume.

0	Indicator	Status
-6	Red	Volume is excessive (0 dB or higher)
-30	Yellow	Volume is appropriate (-20 – -1 dB).
-50	Green	Volume is insufficient (-5021 dB).
L R		

NOTE

If the Audio Fader/Knob Mode is set to "Catch", the fader operations are ignored until the fader's position "catches up" to the current level. (p. 148)

* The [SETUP] button for the respective channel blinks while the fader operations are being ignored.

Adjusting the Volume Balance from the Mixer Screen

The mixer screen on this unit's display lets you adjust the various volumes while checking their values.

1. Press the [AUDIO LEVEL] button.



The Audio Level screen appears.



2. Drag the faders on the screen to adjust the volumes.



You can switch between content displays and layout by using the tabs at the top of the screen.

Content displayed	Explanation			
Fader	Audio source assigned to a channel			
Audio In	Audio from AUDIO IN 1-9/10 jacks			
Other	Audio from USB STREAM port, Bluetooth In, audio player and video player			
HDMI In	Audio from HDMI IN 1–6 connectors			
SDI In	Audio from SDI IN 1–6 connectors			
Audio Out	Output from Main Bus, AUX 1–2 Bus, USB Out, Stream/Record			
Custom	Custom settings. This lets you freely assign the inputs and outputs.			

Layout	Explanation
Default	The standard layout.
Long	Layout with longer fader travel.
Effect	Layout which shows other parameters such as effects.

3. Press the [AUDIO LEVEL] button to close the screen.

Applying Effects to Input Audio

You can apply effects to the input audio to adjust the character of the sound. The following table shows the effects that are available.

Input audio	High-pass filter	Echo canceller	Anti- feedback	Noise gate	De-esser	Compressor	Equalizer	Voice changer	Delay	Reverb
Audio In 1, 2	~	\checkmark	~	1	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark
Audio In 3–6	~	_	_	~	\checkmark	~	\checkmark	—	\checkmark	\checkmark
Audio In 7/8–9/10	~	_	_	1	_	~	\checkmark	_	\checkmark	\checkmark
USB In	~	_	_	1	_	~	\checkmark	_	\checkmark	\checkmark
Bluetooth In	~	_	_	~	_	\checkmark	\checkmark	_	~	~
HDMI In, SDI In	1	_	_	~	_	✓	\checkmark	_	\checkmark	~
Audio Player, Video Player	~	_	_	~	_	\checkmark	\checkmark	_	1	\checkmark

1. Press the [SETUP] button for the channel to which you wish to apply effects.



The setup screen for the channel you pressed appears.

2. Touch the screen to configure the effects.



- * The settings screen for the high-pass filter, compressor, equalizer and noise gate is on page 2.
- * For details on the parameters, refer to "8: Audio Input" (p. 110).
- 3. Press the lit [SETUP] button to close the setup screen.

•High-pass filter

Cuts off unneeded low-band audio. The cutoff frequency is 80 Hz.

Echo canceller (p. 50)

Suppresses the voice echo that can occur when using a web conferencing system that includes a speaker and mic.

Anti-feedback (p. 50)

Suppresses audio feedback.

Noise gate

Eliminates audio that is lower than the specified threshold level. This is effective when the noise that you want to remove is separate from the audio that you want to keep, and can be used to remove hiss or other noise that is heard during periods of silence.

De-esser

Reduces sibilant noise (the sounds you hear when pronouncing "s" words and other hissing sounds).

Compressor

Audio that exceeds the specified threshold level is compressed. This reduces the difference between the maximum volume and minimum volume, making the audio more comfortable for listening.

Equalizer

This is a four-band equalizer. It lets you adjust the volume by boosting or cutting four frequency regions.

•Voice changer (p. 50)

Transforms the pitch or character of the voice.

•Delay (p. 50)

Outputs audio with a delay.

Reverb (p. 51)

Adds reverberation to the sound.

Using an Effect Preset

The VR-120HD is equipped with effects that are adjusted for specific environments. These are called "effect presets".

The effect presets are created using a combination of four effects (highpass filter, compressor, equalizer, noise gate).

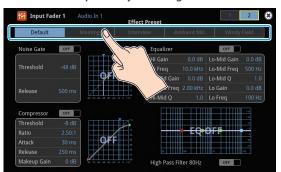
Simply by selecting an effect preset, you can easily apply an effect that's appropriate for your situation.

MEMO

- To make detailed adjustments to a preset, edit the high-pass filter, compressor, equalizer and noise gate settings on the channel setup screen (page 2).
- You cannot overwrite the effect presets. Use the scene memories to save the settings for presets you've edited (p. 71).
- When you load an effect preset, each preset setting is restored to its default setting (factory defaults).
- 1. Touch the page tab at the top right-hand corner of the channel setup screen to select page 2.



2. Select an effect preset by touching the screen.



Value	Explanation
Default	For line input (default setting)
Meeting	For meetings
Interview	For interviews
Ambient Mic	For capturing ambient sound
Windy Field	For capturing ambient sound in a windy area

A confirmation message appears.

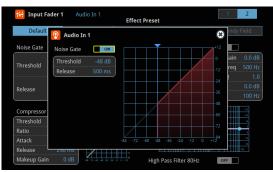
* If you decide to cancel, press the [EXIT] button.

3. Use the [VALUE] knob to select "OK", and press the [VALUE] knob.

The effect preset is loaded.

4. Configure the settings for each effect as necessary. Touch the onscreen graphics to enlarge the settings for the effect. You can also directly drag a point on the graph onscreen to edit.

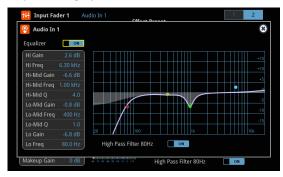
Noise gate



Compressor



•Equalizer, High-pass filter



* For details on the parameters, refer to "8: Audio Input" (p. 110).

Suppressing Echo in a Web Conference System (Echo Canceller)

In a conversation using the speaker and mic of a web conference system, an echo can occur when the other person's voice heard through the speaker is picked up by the mic and sent back to the other person.

When you use the echo canceller, the echo component is removed from the voice that is picked up by a mic connected to the VR-120HD, so that only your own voice is sent to the other party.

* This only works on the input audio from the AUDIO IN 1, 2 jacks.



Parameter	Explanation
Echo Canceller	Turns the echo canceller on/off.
Depth	Adjusts the depth of the echo canceller.

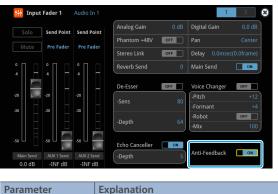
MEMO

- The echo canceller supports rooms that are approximately 20 m² (215 sq ft).
- If your own voice returns to you as an echo, you'll need the other party to make echo canceller settings.
- The echo canceller works based on audio input from the USB In port.

Reducing Acoustic Feedback (Anti-Feedback)

Here's how to reduce the acoustic feedback that can occur when a mic is brought near a speaker.

* This only works on the input audio from the AUDIO IN 1, 2 jacks.



Parameter	Explanation
Anti-Feedback	Turns the anti-feedback on/off.

Changing the Character of a Voice (Voice Changer)

Here's how to modify the pitch or character of the voice that's input from a mic.

You can create transformations such as "from a female to a male voice", "from a male to a female voice", or "robot voice".

* This only works on the input audio from the AUDIO IN 1, 2 jacks.



Parameter	Explanation
Voice Changer	Turns the voice changer on/off.
Pitch	Adjusts the pitch of the voice in semitone steps. A setting of "0" is the original pitch.
Formant	Adjusts the character (formant) of the voice. Settings in the negative (–) direction produce a more masculine vocal character, and settings in the positive (+) direction produce a more feminine vocal character. A setting of "0" is the original voice.
Robot	When this is "ON", the voice is held at a fixed pitch, creating a mechanical robot-like impression.
Mix	Adjusts the balance between the unprocessed voice (0) and the voice processed by the effect (100).

MEMO

You can assign the function to an AUDIO EFFECT button to switch the voice changer on/off (p. 90).

Correcting a Time Difference Between Video and Audio (Delay)

If there is a timing discrepancy between the video and audio, you can correct the output timing by delaying the input audio.

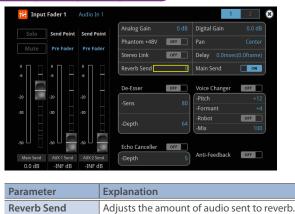


elay	Adjusts the delay time of the audio.

Applying Reverb

This adds reverberation to the sound.

Adjusting how much reverb to send



Adjusting how much reverb is returned

* Adjust how much reverb is returned from the audio effect setup screen.

1. Press the AUDIO EFFECT [SETUP] button to turn on (lit).



The Audio Effect Assign setup screen appears.

2. Press the AUDIO EFFECT [REVERB] button to turn on (lit).



Reverb turns on.

3. Touch Audio Effect 4 <Setup>.



The Audio Effect setup screen appears.

4. Touch the screen to access the settings.



P	Parameter	Explanation
L	.evel	Specifies the amount of sound that is returned from the reverb (return level). This adjusts the depth of the overall reverb.
т	Гуре	Specifies the reverb type.Room:Produces the natural-sounding reverberation of a room.Hall:Produces the reverberation that is typical of a performance in a concert hall.
s	ize	Specifies the size of the room. The larger the value, the longer the reverb time.

5. Press the lit [SETUP] button to close the setup screen.

Applying Effects to Output Audio

Here's how to modify the tonal character by applying effects. The following table shows the effects that are available.

Audio bus	Reverb	Equalizer	Delay	Compressor/ Limiter	GEQ	Adaptive NR	Loudness AGC
Main Bus	~	~	~	~	~	~	\checkmark
AUX Bus 1 AUX Bus 2	~	~	~	~	~	_	_

1. Press the MAIN [SETUP] button.

The Audio Output screen appears.

2. Touch <Setup> for each bus.



The setup screen appears for the bus you selected.

3. Touch the screen to access the settings.

* For details on the parameters, refer to "9: Audio Output" (p. 128).

4. Press the lit [SETUP] button to close the setup screen.

Equalizer

This is a four-band equalizer. It lets you adjust the volume by boosting or cutting four frequency regions.

Delay

Outputs audio with a delay. Delaying the output lets you correct timing problems in the audio signal that is input to the output destination device.

Compressor/Limiter

Compresses audio levels that exceed the threshold you set, or limits the output level so that it does not exceed the threshold.

Oraphic Equalizer

It lets you shape the character of the sound by boosting or cutting each of the 15 frequency regions into which the sound is divided.

Adaptive Noise Reduction (p. 53)

By continuously monitoring the input audio to detect noise during periods of silence, this removes only the noise component.

Loudness Auto Gain Control (p. 54)

The long-term average loudness is measured, and the volume is adjusted so that it is appropriate overall.

Interlinking Audio Output to Video Switching (Audio Follow)

Here's how the audio output can be automatically switched in tandem with video switching (the audio follow function).

- [MENU] button → select "Audio Follow", and press the [VALUE] knob.
- 2. Use the [VALUE] knob to select the input video that uses audio follow.

Audio	Follow	۲	
All Audio Follow	All Off	All On <	Touch "All Off" or "All On" to set everything all at once.
HDMI In 1		OFF	
HDMI In 2		OFF	
HDMI In 3		OFF	
HDMI In 4		OFF	
HDMI In 5		OFF	
HDMI In 6		OFF	
SDI In 1		OFF	

3. Press the [VALUE] knob to turn it "ON".

Value	Explanation
ON	The audio is output only when the video is selected. The audio is automatically muted if another video is selected.
OFF	The audio is always output regardless of the video selection.

4. Press the [MENU] button to close the menu.

Adding an Object for Audio Follow

You can set Audio Follow to apply to the audio from the Audio In, USB In or Bluetooth In.

1. [MENU] button → "Audio Follow" → and select the audio input that will be the object of Audio Follow.

Ð	🚺 Audio Follow	۲
Audio In 1		Off ▶
Audio In 2		Off ▶
Audio In 3		Off ▶
Audio In 4		Off ▶
Audio In 5		Off ▶

2. Use the [VALUE] knob to select one of "Input 1"-"Input 8".

Value	Explanation
Input 1–8, HDMI 1–6, SDI 1–6, Still 1–16, V.Player	For each audio source, these settings specify the input video that will use the audio follow function. Audio is output only when the specified input video is selected.
Off	The audio is always output regardless of the video selection.

3. Press the [MENU] button to close the menu.

MEMO

You can synchronize the audio with the on/off state of the PinP&Key or DSK (p. 136).

Removing Noise from the Audio (Adaptive Noise Reduction / Low Frequency Cut)

You can remove noise from the input audio. Two effects are provided: "adaptive noise reduction" and "low frequency cut.

Adaptive Noise Reduction

By continuously monitoring the input audio to detect noise during periods of silence, this removes only the noise component. Unlike conventional noise reduction that removes sound of a specified frequency, this analyzes the frequency of the noise and removes it as appropriate for the environment, resulting in a more natural sound.

* The presence or absence of voice in the input signal is determined according to the "Talking Detector" settings.

Low Frequency Cut

This divides the region below 200 Hz into four bands, and cuts unneeded low-frequency regions while continuously analyzing each band. Unlike conventional low cut, this does not weaken the sound of the low-frequency region.

Adaptive Noise Reduction

1. Press the AUDIO EFFECT [SETUP] button to turn on (lit).



The Audio Effect Assign setup screen appears.

2. Press the AUDIO EFFECT [ADAPTIVE NR] button to turn on (lit).

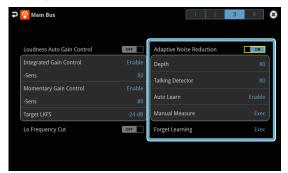


Adaptive noise reduction function turns on.

3. Touch Audio Effect 3 <Setup>.



The adaptive noise reduction setup screen appears.



4. Touch <Auto Learn> to set it to "Enable".

The noise is automatically detected, and the noise is reduced.

* If you want to detect noise manually, touch Manual Measure <Exec>. When you touch Manual Measure <Exec>, measurement occurs automatically. When measurement finishes, the message "Completed" appears.

- 5. Touch <Depth> to set the depth (how aggressive the noise reduction is).
- 6. If the ambient noise level is high, touch <Talking Detector> to adjust the sensitivity.
 - * Increasing the value raises the sensitivity of the talking detector, making detection easier even in noisy environments.
- 7. If you want to reset the noise-reduced result to its original state, touch <Forget Learning>.
 - * For details on the menu, refer to "9: Audio Output" (p. 128).

MEMO

Using <Forget Learning> to reset the set values

Setting values for both the adaptive noise reduction and the loudness auto gain control are reset.

Low Frequency Cut

Configure the Low Frequency Cut on the same page of the setup screen for Adaptive Noise Reduction.

🤗 Main Bus		1 2	3 4
Loudness Auto Gain Control	OFF	Adaptive Noise Reduction	ON
Integrated Gain Control	Enable	Depth	
-Sens	80	Talking Detector	
Momentary Gain Control -Sens	Enable 80	Auto Learn	
Target LKFS	-24 dB	Manual Measure	
Lo Frequency Cut	OFF	Forget Learning	Exec

 Touch <Lo Frequency Cut> to turn it "ON". Low frequency cut turns on.

¢	Nain Bus		1 2 3	4 😫
	Loudness Auto Gain Control	OFF	Adaptive Noise Reduction	
	Integrated Gain Control	Enable	Depth	80
	-Sens	80	Talking Detector	80
1	Momentary Gain Control	Enable		
	-Sens	80	Auto Learn	Enable
ŀ	Target LKFS	-24 dB	Manual Measure	Exec
	Lo Frequency Cut		Forget Learning	
			Sen l	

Automatically Setting a Comfortable Volume (Auto Mastering Effect)

Based on "loudness" (an index of perceptual volume), this automatically adjusts the volume appropriately for broadcast. Loudness measurement can be either long-term or short-term; these differ in the interval of time to which volume adjustment applies.

Loudness Auto Gain Control (Loudness AGC)

The long-term average loudness is measured, and the volume is adjusted so that it is appropriate overall. Use this for audio whose dynamics you want to preserve, such as music.

Loudness Auto Gain Control (Loudness AGC)

1. Press the AUDIO EFFECT [SETUP] button to turn on (lit).



The Audio Effect Assign setup screen appears.

2. Touch Audio Effect 2 <Setup>.



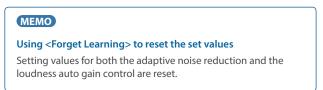
The loudness auto gain control setup screen appears.

- 3. Touch <Target LKFS> to set the target level for the output audio.
- 4. Press the AUDIO EFFECT [LOUDNESS AGC] button to turn on (lit).



Loudness auto gain control function turns on.

- Touch <Sens> and then use the [VALUE] knob to adjust the sensitivity, adjusting the speed at which the target level (Target LKFS) is approached.
 - * High settings make the loudness approach the target level rapidly, and low settings make the loudness approach the target level gradually.
- 6. To reset the adjusted value and return to the original state, touch <Forget Learning>.
 - * For details on the menu, refer to "9: Audio Output" (p. 128).



Controlling the Volume Automatically (Auto Mixing)

The volume adjustments that would normally be done by the operator can be controlled automatically (auto mixing function).

Since this lets you leave the volume adjustments up to the VR-120HD, it can be used in situations where there is no dedicated operator. This is especially useful for meetings, discussions, debates, and other situations where multiple microphones are used.

1. Press the AUDIO EFFECT [SETUP] button to turn on (lit).



The Audio Effect Assign setup screen appears.

2. Touch Audio Effect 1 <Setup>.



The auto mixing setup screen appears.

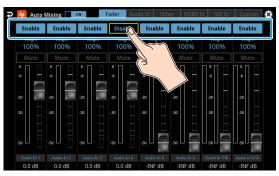
帅 Auto I	Mixing OFF	F	ader Aud	io In Oth	er HDMI	In SDI In	Custom
Enable							
Weight 100%							
Mute							
.6	.e	.e	.e	.6	.6	.6	-6 -
-20	-20	-20	-20	-20	-20	-20	-20
-30	-30	-30	-30	-30	-30	-30	-30
.50	-50	-50	-50	-50	-50		
0.0 dB	0.0 dB	0.0 dB	0.0 dB	-INF dB	-INF dB	-INF dB	-INF dB

3. Press the AUDIO EFFECT [AUTO MIXING] button to turn on (lit).



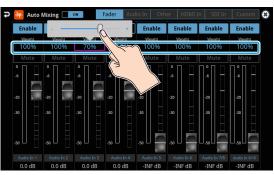
Auto mixing function turns on.

4. Touch the screen to specify whether auto mixing is enabled or disabled for each audio source.



Auto mixing is applied to audio sources that are set to "Enable". For audio that does not require auto mixing, such as background music, choose "Disable".

5. Touch the screen to set the priority for volume distribution (Weight).



If there is audio that you want to make more prominent, such as when you want to raise the volume level of an emcee microphone, raise the weight level of that audio to emphasize it, and lower the weight level for other audio.

When air-conditioner noise or the like is a concern, specify the weight level to a low value.

- 6. Press the AUDIO EFFECT [SETUP] button to close the menu.
- 7. To turn off auto mixing function, press the AUDIO EFFECT [AUTO MIXING] button once again.

Silencing Only Specific Audio (Mute)

Here's how you can temporarily mute specific audio (the mute function).

Muting Input Audio

1. Press the [MUTE] button on the channels you wish to mute.



The button lights up, and the mute function turns on.

Setting on the audio level screen

- 1. Press the [AUDIO LEVEL] button. The Audio Level screen appears.
- 2. Touch <Fader> tab.
- **3.** Touch <Mute> on the channel you wish to mute. The mute function for the selected channel turns on.





MEMO

You can also mute the channels by touching <Mute> on the setup screen of the respective channel.

Muting the Output Audio

This shows you how to mute the audio from the main bus, USB output, and AUX bus.

1. Press the MAIN [MUTE] button.



The button lights up, and the mute function turns on.

Setting on the audio level screen

- 1. Press the [AUDIO LEVEL] button. The Audio Level screen appears.
- 2. Touch <Audio Out> tab.
- **3.** Touch <Mute> on the bus you wish to mute. The mute function for the selected bus turns on.





MEMO

You can also mute the buses by touching <Mute> on the setup screen of the respective channel.

Checking a Specific Audio Input (Solo)

Here's how you can temporarily monitor a specific audio input via the headphones (solo function).

* The solo function applies to the headphone output. It does not affect output other than the headphones.

Soloing the Input Audio

1. Press the [SOLO] button on the channels you wish to solo.



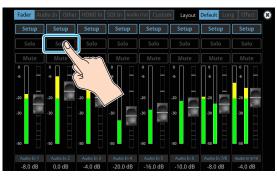
The button lights up, and the solo function turns on. In the headphones, you hear only the audio of the channels that are set to solo.

Setting on the audio level screen

1. Press the [AUDIO LEVEL] button.

The Audio Level screen appears.

- 2. Touch <Fader> tab.
- **3.** Touch <Solo> for the channel you wish to solo. The solo function for the selected channel turns on.





MEMO

You can also solo the channels by touching <Solo> on the setup screen of the respective channel.

Soloing the Output Audio

This shows you how to solo the audio from the main bus and AUX bus.

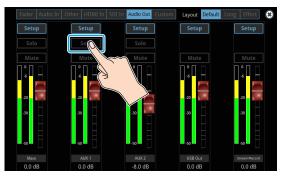
1. Press the MAIN [SOLO] button.

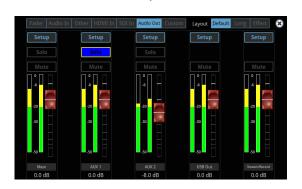


The button lights up, and the solo function turns on.

Setting on the audio level screen

- 1. Press the [AUDIO LEVEL] button. The Audio Level screen appears.
- 2. Touch <Audio Out> tab.
- **3.** Touch <Solo> for the bus you wish to solo. The solo function for the selected bus turns on.





MEMO

You can also solo the buses by touching <Solo> on the setup screen of the respective channel.

Playing Back Audio Files (Audio Player)

Audio files that you created on your computer can be loaded (imported) into this unit as materials, and then played back by using the pads. You can save up to 16 audio files on this unit.

Importing an Audio File

To begin, save the audio files that you created on your computer beforehand to the root directory of your SD card or USB flash drive. Here's an example of how to import an audio file into pad [1].

- 1. Insert the SD card containing material files into the SDXC card slot.
 - * When using a USB flash drive, connect the USB flash drive to the USB HOST port.
- 2. Press the AUDIO PLAYER [SETUP] button.



The Audio Player screen appears.

3. Touch Player Setup <Setup>.

The Audio Player setup screen appears.

4. Touch <1> in the audio clip area.



The audio clip setup screen appears.

5. Touch Import <Enter>.



A list of audio files on your storage media is shown.

D	Root Rec	File List	SD Card USB	Memory
0	BGM1.wav	6076KB	2023/01/31	09:50
0	BGM2.wav	6076KB	2023/01/31	09:50
0	Opening.wav	2027KB	2023/01/31	09:46
0	SE001.wav	254KB	2023/01/31	09:45
0	SE002.wav	254KB	2023/01/31	09:45

- * Use the "SD Card" or "USB Memory" selector at the top right-hand corner of the screen to switch between the storage media to load from.
- * Select "Root" or "Rec" in the upper left part of the screen to switch between folders from which the files are loaded.
- 6. Touch the filename of the audio file you want to load.
- * You can audition the file in headphones by touching the preview icon ().
- 7. When the confirmation dialog box appears, select "OK" and press the [VALUE] knob.

The file is imported, and the data is placed in pad [1] (Audio Player 1) as an audio clip.

Supported files

Format	WAV (Linear PCM, 48 kHz, 16 bit, stereo/ 44.1 kHz, 16 bit, stereo)
File name	No more than 64 single-byte alphanumeric characters * The extension ".wav" must be added.

Playing Back Audio Clips

1. Set the AUDIO PLAYER [LEVEL] knob to "0dB".



2. Press a pad from [1]–[8] corresponding to the position of the audio clip you want to play back.



This plays back the corresponding audio clips.

3. While playing back the audio clips, use the AUDIO PLAYER [LEVEL] knob to adjust the overall volume for all audio clips. Adjust the input gain so that the SIG/PEAK indicator of the audio player doesn't light up red when the sound level is at its loudest.

MEMO

If you leave this information showing on the audio player setup screen, you can play back the audio clips while checking their information (clip name, playback time, loop, etc.).

NOTE

If the Audio Fader/Knob Mode is set to "Catch", the fader operations are ignored until the fader's position "catches up" to the current level. (p. 148)

* The [SETUP] button for the respective channel blinks while the fader operations are being ignored.

Setting an Audio Clip

- 1. Press the AUDIO PLAYER [SETUP] button.
- 2. Touch Player Setup <Setup>. The Audio Player setup screen appears.
- 3. Touch the number you want to set in the audio clip area.

			Number selector					Bank selector				
Ð	5	Player 1	2	3	4	5	6	7	8	Bank A Bank B	8	
	\square	Import					Na	me			J	
		Duration		00	00:00:00		Off	set Time				
		Level										
		Fade In Time					Fac	le Out Tir	ne			
		Pad Mode					Pac	d Color				
÷		Repeat		9	OFF		Pla	ying Mod	e		J	

The audio clip setup screen appears.

4. Touch the screen to access the settings.

Parameter	Explanation
Import	Imports the audio.
Name	Sets the name for an audio clip.
Duration	Shows the length of an audio clip.
Offset Time	Sets the playback start position of the audio clip.
Level	Sets the volume of the audio clip.
Fade In Time	Sets the fade-in time.
Fade Out Time	Sets the fade-out time.
Pad Mode	Sets what happens when the audio clip plays back.
Pad Color	Specifies the color of the corresponding pad when it lights up.
Repeat	When this is set to "ON", the audio clip plays back in a loop.
Playing Mode	Specifies how the audio clip plays back.

* For details on the parameter, refer to "12: Audio Player" (p. 137).

Swapping, copying and deleting clips

You can copy and swap clips, and you can also initialize and delete the audio clips you no longer need.

1. Press the AUDIO PLAYER [SETUP] button.

The Audio Player screen appears.

- 2. Touch Player Setup <Setup>. The Audio Player setup screen appears.
- **3.** Touch <Copy>, <Swap> or <Initialize> to make the settings. The option you touch blinks.

Function	Operation
Сору	Touch the areas for the two audio clips: first the copy source and then the copy destination.
Swap	Touch the areas for the two audio clips you want to swap.
Initialize	Touch the area for the audio clip you want to initialize.

A border appears and blinks around the area you touch. A confirmation message appears.

4. Select "OK" and press the [VALUE] knob.

Inputting the name of an audio clip

You can give each audio clip a name.

- **1.** Press the AUDIO PLAYER [SETUP] button. The Audio Player screen appears.
- 2. Touch Player Setup <Setup>.

The Audio Player setup screen appears.

3. Touch the audio clip area.

Ð	🞵 Play	yer Setup						Bank A Bank B
	1	Player 1	2	Player 2	3	Player 3	4	Player 4
	Latch	00:00:00	Latch	DUR 00:00:00	Latch	DUR 00:00:00	Latch	DUR 00:00:00
	BGM	0:00:00	BGM	-00:00:00	BGM	-00:00:00	BGM	-00:00:00
				01 4		- 10	6	al a)
	5	λ.		Player 6	1	Player 7	8	Player 8
	5 Latch		h		/ Latch		8 Latch	DUR 00:00:00
	-	DUR	1		Latch	DUR 00:00:00	-	

The setup screen appears.

4. Touch the clip name.

P 🞵 Player 🛛 1 🛛 2	3 4 5	6 7 8	Bank A Bank B
Import		Name	P Or 1
Duration	00:00:00	Offset Time	
Level			
Fade In Time		Fade Out Time	0.0
Pad Mode		Pad Color	Whit
Repeat	OFF	Playing Mode	BGM

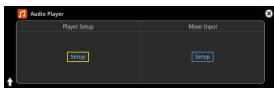
This brings up the software keyboard for input.

- 5. Input the desired clip name.
- 6. Touch <Enter> in software keyboard.

q	w	е	r I i	t 📘 :	/ ι		i I i	p p
а	s	d	f	g	h	j	k	I
Ŷ	z	x	c	v	b	n	m	\mathbf{x}
123	<	Ι					`	

Mixer Settings for the Audio Player

1. Press the AUDIO PLAYER [SETUP] button.



The Audio Player screen appears.

2. Touch Mixer Input <Setup>.

The Audio Player mixer screen appears.



3. Touch the screen to configure the send amount for each bus. On page 2, you can configure the effects as with the other audio channels.

Outputting AUX-bus Audio

The VR-120HD has four different audio buses: the Main bus, AUX 1 bus, AUX 2 bus and Monitor bus. You can assign a desired bus to each output connector or jack.

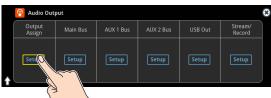
-	
Audio bus	Explanation
Main bus	All input audio is mixed and output (main output).
AUX 1 bus AUX 2 bus	This mixes and outputs only the input audio that is sent to the AUX bus. This allows you to output audio that is different than the master output. For example, in a live event, you might output a mix of all audio inputs, while separately outputting a mix of only specific audio inputs (the AUX bus) for recording or streaming.
Monitor bus	This outputs the same audio as what you hear in the headphones. Use "Monitor Level" to adjust the volume.

Assigning the AUX Bus

1. Press the MASTER OUT [SETUP] button.

The Audio Output screen appears.

2. Touch Output Assign <Setup>.



The Output Assign screen appears.

¢	🔞 Output Assign			1	2	8
	Audio Out 1/2(XLR)	Main Bus	Audio Out 3/4(XLR)	Audio Out 5/6(RCA)		
	HDMI Out 1		HDMI Out 2	HDMI Out 3		
			SDI Out 2	SDI Out 3		J

3. Touch the screen to configure the bus to assign to each jack or connector.

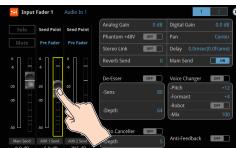
connector	Selected bus
Audio Out 1/2(XLR)– Audio Out 5/6(RCA) HDMI Out 1–3 SDI Out 1–3	Main Bus, AUX 1 Bus, AUX 2 Bus, Monitor
Phones Out/Monitor USB Out Stream/Record Audio Record	Main Bus, AUX 1 Bus, AUX 2 Bus

Sending Audio to the AUX Bus

- * Use the [AUX 1] and [AUX 2] knobs to adjust the volume of audio output from the AUX bus.
- 1. Press the [SETUP] button for the channel you wish to send to the AUX bus.

The setup screen for the channel you pressed appears.

2. Touch <Aux 1 Send> to set the send amount.



* For the AUX 2 bus, touch <AUX 2 Send>.

Setting the character of the sound

You can select whether to send either the original audio or the audio processed with effects to the AUX bus.

1. Press the [SETUP] button for the channel you wish to send to the AUX bus.

The setup screen for the channel you pressed appears.

2. Touch <Send Point> to make that setting.

🔡 Input Fader 1				1	2 8
Solo Send Poir	nt Send Point	Analog Gain	0 dB	Digital Gain	0.0 dB
Mute Pre Fa	Pre Fader	Phantom +48V	OFF	Pan	Center
mate		Stereo Link	OFF	Delay 0.0mse	c(0.0frame)
	Y	Reverb Send		Main Send	ON
° 🗖					

Value	Explanation
Dry	Sends the source audio with no effects applied.
	Sends the effect-applied audio.
Pre Fader	The send volume is constant, regardless of the volume
	(Input Level).
	Sends the effect-applied audio.
Post Fader	The send volume can be changed by adjusting the
	volume (Input Level).

MEMO

On the setup screens for the Main Bus, AUX 1 Bus and AUX 2 Bus, you can adjust the send amounts for each channel all at once while checking each channel's status.



NOTE

If the Audio Fader/Knob Mode is set to "Catch", the fader operations are ignored until the fader's position "catches up" to the current level. (p. 148)

* The SIG/PEAK indicators for the [AUX 1] and [AUX 2] knobs blink while operations are being ignored.

Adding Input Audio to an HDMI or SDI Video for Output

The HDMI OUT and SDI OUT connectors support 8-channel embedded audio. You can add input audio (sound) to an HDMI or SDI video that is output.

Assigning HDMI/SDI embedded audio and sound

You can assign the input audio signal you like to channels 3–8 of HDMI or SDI embedded audio.

* These settings are common for the HDMI OUT 1–3 and SDI OUT 1–3 connectors.

Embedded-audio	Audio		
Channel 1	Bus (L) assigned in Output Assign (p. 61)		
Channel 2	Bus (R) assigned in Output Assign (p. 61)		
Channel 3/4	Audio In 1/2, Audio In 3/4 Audio In 5/6, Audio In 7/8, Audio In 9/10 USB In, Bluetooth In, Audio Player		
Channel 5/6			
Channel 7/8	HDMI 1–6, SDI 1–6, Video Player		

As a backup for visual or sound recording...

Digital audio is extracted from the HDMI or SDI embedded audio one channel at a time, so after visual recording or sound recording, you can edit the audio channel by channel.

For multilingual support...

Taking multilingual narration or other such audio, making it embedded audio and adding it to HDMI video or SDI video lets you later extract and use the digital audio for the required language.

 [MENU] button → "Audio Output" → select "HDMI/SDI Audio Embedded", and press the [VALUE] knob.

Audio Output	۲
Output Assign	Þ
Main Bus	•
AUX 1 Bus	►
AUX 2 Bus	►
Phones Out/Monitor	Þ
USB Out	Þ
Stream/Record	Þ
HDMI/SDI Audio Embedded	Þ

Assigning the audio

2. Use the [VALUE] knob to select the HDMI or SDI embedded audio channel, and press the [VALUE] knob.

HDMI/SDI Audio Embedded		8
HDMI Out 1-3 Send		I
- Channel 3/4	N/A	▶
- Channel 5/6	N/A	►
- Channel 7/8	N/A	►
SDI Out 1-3 Send		
- Channel 3/4	N/A	►
- Channel 5/6	N/A	►
- Channel 7/8	N/A	►
Audio In 1 Pre F	Fader	►
Audio In 2 Pre F	Fader	►

3. Use the [VALUE] knob to select the input audio you wish to assign to the channel, and press the [VALUE] knob.

Input audio	Explanation
Audio In 1– 9/10	Audio from AUDIO IN 1–9/10 jacks
USB In	Audio from USB STREAM port
Bluetooth In Bluetooth In audio	
Audio Player	Audio from an audio player
HDMI In 1–6	Audio from HDMI IN 1–6 connectors
SDI In 1–6	Audio from SDI IN 1–6 connectors
Video Player	Audio from a video player

Setting the character of the sound

4. Use the [VALUE] knob to select the input audio, and press the [VALUE] knob.

🖘 🔞 HDMI/SDI Audio Er	nbedded 🛞
Audio In 1	Pre Fader 🕨
Audio In 2	Pre Fader 🕨
Audio In 3	Pre Fader 🕨
Audio In 4	Pre Fader 🕨
Audio In 5	Pre Fader 🕨
Audio In 6	Pre Fader 🕨
Audio In 7/8	Pre Fader 🕨
Audio In 9/10	Pre Fader 🕨
USB In	Pre Fader 🕨
Bluetooth In	Pre Fader 🕨

5. Use the [VALUE] knob to select "Dry", "Pre Fader", or "Post Fader", and press the [VALUE] knob.

Value	Explanation
Off	Audio is not sent.
Dry	Sends the source audio with no effects applied.
Pre Fader	Sends the effect-applied audio. The send volume is constant, regardless of the volume
ricrader	(Input Level).
	Sends the effect-applied audio.
Post Fader	The send volume can be changed by adjusting the volume (Input Level).

6. Press the [MENU] button to close the menu.

The audio including channel 3–8 embedded audio is output from the HDMI OUT 1–3 connectors or the SDI OUT 1–3 connectors.

Live Streaming

Outputting Video/Audio to a Computer for Streaming

Here's how the video and audio mixed by the VR-120HD can be output to a connected computer. You can also input audio that's played back by the computer.

By using an internet-connected computer with streaming app, you can distribute content as a live internet stream.

In order for the audio and video from the VR-120HD to be correctly viewed on the computer, app that supports the USB video class and USB audio class must be installed on the computer.

* For the latest operating requirements, refer to the Roland website (https://proav.roland.com/).

Outputting Video and Audio to the Computer

- 1. Using a USB 3.0 cable, connect a USB 3.0 port on the computer to the USB STREAM port on the VR-120HD.
- 2. Turn on the power to the VR-120HD.
- 3. Start the computer.

When communication with the computer has been established, the computer recognizes the VR-120HD as a USB video device and USB audio device. The first time that the VR-120HD is connected to the computer, the standard drivers of the operating system are installed automatically.

- **4.** Operate the VR-120HD to prepare the video and audio that you want to output to the computer.
- 5. On your computer, verify the input from the VR-120HD.

Start app that supports the USB video class and audio class, and verify the video and audio that are being input from the VR-120HD.

MEMO

If the video is garbled or operation is otherwise unstable

Press the [MENU] button \rightarrow "Video Output" \rightarrow USB Out" \rightarrow execute "Connection Reset" to try reconnecting the computer with the VR-120HD.

Video formats

You can change the USB output video format and compression method from the livestreaming app or other app used at the output destination. The following video formats are supported.

USB OUT frame rate	Video formats			
59.94Hz	1080/59.94p	720/59.94p	640×480/59.94p	
60Hz	1080/60p	720/60p	640 x 480/60p	
29.97Hz	1080/29.97p	720/29.97p	640×480/29.97p	
30Hz	1080/30p	720/30p	640×480/30p	
50Hz	1080/50p	720/50p	640×480/50p	
25Hz	1080/25p	720/25p	640×480/25p	
23.98Hz	1080/23.98p	720/23.98p	640×480/23.98p	
24Hz	1080/24p	720/24p	640×480/24p	

* Uncompressed (YUY2) and compressed (Motion JPEG) video are supported.

Using the Loopback Function

Audio from the computer can be input to the VR-120HD via USB, mixed with other audio, and returned to the computer (the loopback function). You can add a narration to music that's played back from your computer and live-stream it, or record it using app on your computer.

Streaming Video from a Computer

Use the dedicated "Roland Live Streamer" app to stream the video and audio from the USB output of the VR-120HD with your computer. For details on operation, refer to the Owner's Manual of "Roland Live Streamer".



You can download "Roland Live Streamer" from the Roland website. https://proav.roland.com/

* Compressed (Motion JPEG) video is not supported.

Capturing Video on the Computer

Using dedicated "Roland Live Recorder" app, the video and audio that are output from the VR-120HD via USB can be recorded on your computer. For details on operation, refer to the Owner's Manual of "Roland Live Recorder".



You can download "Roland Live Recorder" from the Roland website. https://proav.roland.com/

* Compressed (Motion JPEG) video is not supported.

What to do when an HD video (1920 x 1080) output via USB changes to SD video (640 x 480)

If you are using a USB cable that doesn't conform to USB 3.0 specs or later, the video output resolution is changed to SD (640 x 480). To output video for streaming to your computer in HD (1920 x 1080), be sure to use a cable that meets the USB 3.0 specs (or later).

* If you connect via an extension cable or a USB hub, the computer might not recognize the unit.

You can check the status of the connected USB cable by following these steps.

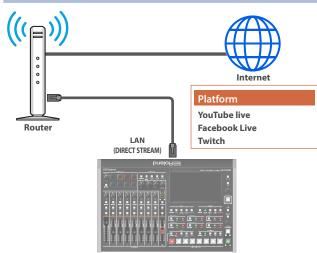
 [MENU] button → "Video Output" → select "USB Out", and press the [VALUE] knob.

This shows the status of the USB cable that's connected.

p 🔽 USB Out 🛞	Output Status	Status
Dutput Status Connected (3.0)	Connected (3.0)	Connected using USB 3.0.
Dutput Format YUY2 & MIPEG >	Connected (2.0)	Connected using USB 2.0.
Connection Reset Exec	Not Connected	No connection.

Streaming/Capturing Video Directly

Network Requirements



Internet connection, including DNS server settings

- To access the Internet, the IP address, subnet mask and default gateway must be configured.
- To access the server hosting the streaming service, you must connect to the DNS (Domain Name System) server, which converts the server's domain name and IP address.
- * The above settings are usually retrieved from the DHCP server and assigned.

Continuous TCP communications

To broadcast the livestream via the RTMP or RTMPS protocol over TCP, continuous communication without interruptions or restrictions between devices is required.

HTTPS connection to an Internet server

To configure the livestream for a Web app, you must have an HTTPS connection to an Internet server.

Points to Be Aware of When Livestreaming

Set the appropriate Video Bitrate (p. 137) to match the speed of your Internet connection.

Press the [MENU] button \rightarrow "Stream/Record" \rightarrow "Target Bitrate" \rightarrow select "Video".

The video bit rate is a target bit rate that's used when compressing (encoding) video.

For complex video sequences and the like, the video may be livestreamed at a bit rate of up to around 1.5 times the value that's set.

We recommend that you test the speed of your Internet connection to ensure that a bandwidth of around twice the Video Bitrate value is available before beginning the livestream.

Starting/Stopping the Livestream, Audio or Video Recording

The livestream, audio recording and video recording on the VR-120HD start and stop all at the same time, and cannot be started or stopped separately.

* You can separately set whether to livestream, record audio or video.

Turning Livestreaming, Audio and Video Recording ON/OFF

MEMO

When the streaming/recording function is assigned to a USER button, you can set this from the setup screen.

* The streaming/recording setup screen function is assigned to the USER [3] button by factory default.

NOTE

If the bitrate setting for Streaming and Recording and the bitrate of the file played on Video Player exceeds 20,000 kbps, Streaming and Recording and Video player cannot be used simultaneously.

Turning the livestream on/off

1. Press the USER [SETUP] button.

The User Assign screen appears.

2. Touch User 3 <Setup>.



The Record/Stream setup screen appears.

Ð	LIVE Stream/Record			1 2 3	8
(Stream/Record	Storage	Status	Network	
	ON AIR::	Target : UNKNOWN	Service 1 Service 2		
		Remain : 0B	Video Rec Audio Rec	Tethering :	
	Target Video Bitrate Current Video Bitrate	6,000kbps			=
ا	Target Audio Bitrate	128kbps	Safety In	nage	

- **3.** Touch the page tab at the top right-hand part of the screen to select page 2.
- 4. Touch either Service 1 or Service 2 to select the platform for streaming.

Ə 🗤 Stream	/Record		Off		2	3	8
Service		YouTube Live	Custom			Off	
Service		Tourube Live	YouTube Live	~			
URL			Facebook Live				
Stream I	(ey		Twitch				
Use Web	Application						J

Select "Off" when you're not streaming.

Turning video and audio recording on/off

- 5. Touch the page tab at the top right-hand part of the screen to select page 3.
- 6. Touch "Video Rec" and "Audio Rec" to turn them on/off.



Livestreaming via YouTube Live

Getting ready

- Create a Google account beforehand.
- Make sure that the VR-120HD is connected to the Internet for livestreaming.
- To record audio/video, set Audio Rec and Video Rec to "On" (p. 64).

Operating this unit

1. On the streaming/recording setup screen (page 2), touch either <Service 1> or <Service 2> and select "YouTube Live".



2. Touch <Use Web Application>.

The shortened URL and QR code for the Web app are shown.



Operating your computer or smartphone

- 3. On the Web browser of your computer or smartphone, open the link that's shown.
- 4. Select your Google account.
- 5. Set the following parameters.

Item	Explanation			
Title	Input the title of the livestream.			
Description	Input the description to be shown on YouTube Live for your content.			
	Selects the privacy settings (the scope of release) for the livestream.			
Select privacy	Public	Anyone can search for and view the content.		
scope	Unlisted	The content can be accessed only via the link.		
	Private	Only the content creator (publisher) can view the content.		
	Selects the la	atency setting.		
Select latency	normal	Normal latency		
Preference	low	Low latency		
	ultralow	Ultra-low latency		

6. Click "CREATE BROADCAST AND GET STREAM KEY".

7. Click "SEND TO DEVICE".

When the data transmission is finished, the message "Success" appears.

The URL and stream key are applied to the VR-120HD.

NOTE

Don't close the QR code screen until the "URL" and "Stream Key" have been applied.

- 8. Click "OK".
- 9. Close the page.

Operating this unit

10. Select page 1 on the streaming/recording setup screen.

The parameters for stopping/starting the livestream, audio and video recording are shown in the status area.

ρ	LIVE Stream/Record			1 2 3	Ξ.
ĺ	Stream/Record	Storage	Status	Network	
	ON AIR::	Target : UNKNOWN Remain : 0B	Service 1 Service 2 (Video Rec) (Audio Rec)	LAN :	
	Target Video Bitrate Current Video Bitrate	6,000kbps			
	Target Audio Bitrate		Safety In	nage	

11. Touch <ON AIR>.

The message "Are you sure you want to start streaming?" is shown.

12. Touch <OK>.

Livestreaming starts. If audio/video recording is turned on, the audio/video starts at the same time as the livestream.

13. Touch <ON AIR> once more to stop streaming.

The message "Are you sure you want to stop streaming?" is shown.

14. Touch <OK>.

The livestream ends.

NOTE

- Stream keys that are acquired have an expiration date, so they need to be acquired prior to livestreaming.
- When acquiring the stream key, you can select a livestream for which the schedule has already been set by using "SELECT YOUR BROADCAST".

MEMO

You can assign streaming start/stop to the USER buttons.

On the User Assign screen, select the "Stream/Record" Category, and select "Start/Stop" for Value.



Livestreaming via Facebook Live

Getting ready

- Create a Facebook account beforehand.
- Make sure that the VR-120HD is connected to the Internet for livestreaming.
- To record audio/video, set Audio Rec and Video Rec to "On" (p. 64).

Operating this unit

1. On the streaming/recording setup screen (page 2), touch either <Service 1> or <Service 2> and select "Facebook Live".

₽ UVE Stream/Record			1 2 3 😣
Service 1	Facebook Live	Service 2	Off
URL			
Stream Key			
Use Web Application			J

2. Touch <Use Web Application>.

The shortened URL and QR code for the Web app are shown.



Operating your computer or smartphone

- 3. On the Web browser of your computer or smartphone, open the link that's shown.
- 4. Log in to your Facebook account.
- 5. Set the following parameters.

Item	Explanation			
Title	Input the title of the livestream.			
Description	Input the description to be shown on Facebook Live for your content.			
	Sets where to ' can view the c	'post" the livestream (meaning who ontent).		
Select destination for live-streaming	Timeline	The content is streamed to your personal timeline.		
	Page	The content is streamed to a Facebook page.		
	Group The content is streamed to a group.			
	Selects the privacy settings (the scope of release) for the livestream.			
Select privacy scope	SELF	The livestream is only visible to you.		
	ALL FRIENDS	Only friends can view the livestream.		
	EVERYONE	Anyone can view the livestream.		

6. Click "SUBMIT TO DEVICE!".

When the data transmission is finished, the message "Success" appears.

The URL and stream key are applied to the VR-120HD.

NOTE

Don't close the QR code screen until the "URL" and "Stream Key" have been applied.

- 7. Click "OK".
- 8. Close the page.

Operating this unit

9. Select page 1 on the streaming/recording setup screen.

The parameters for stopping/starting the livestream, audio and video recording are shown in the status area.

ρ	uve Stream/Record			1 2 3	(
	Stream/Record	Storage	Status	Network	ſ
	ON AIR::	Target : UNKNOWN Remain : 0B	Service 1 Service 2 Video Rec Audio Rec	📥 LAN :	
	Target Video Bitrate Current Video Bitrate	6,000kbps		;	
	Target Audio Bitrate		Safety In	nage	J

10. Touch <ON AIR>.

The message "Are you sure you want to start streaming?" is shown.

11. Touch <OK>.

Livestreaming starts.

If audio/video recording is turned on, the audio/video starts at the same time as the livestream.

12. Touch <ON AIR> once more to stop streaming.

The message "Are you sure you want to stop streaming?" is shown.

13. Touch <OK>.

The livestream ends.

NOTE

Facebook stream keys that are acquired have an expiration date, so they need to be acquired prior to livestreaming.

MEMO

You can assign streaming start/stop to the USER buttons.

On the User Assign screen, select the "Stream/Record" Category, and select "Start/Stop" for Value.



Livestreaming via Twitch

Getting ready

- Create a Twitch account beforehand.
- Make sure that the VR-120HD is connected to the Internet for livestreaming.
- To record audio/video, set Audio Rec and Video Rec to "On" (p. 64).

Operating this unit

1. On the streaming/recording setup screen (page 2), touch either <Service 1> or <Service 2> and select "Twitch".



2. Touch <Use Web Application>.

The shortened URL and QR code for the Web app are shown.



Operating your computer or smartphone

3. On the Web browser of your computer or smartphone, open the link that's shown.

4. Log in to your Twitch account.

5. Select the server to connect to in "Select ingest server location".

To stream your content in a more stable network environment, select a server in a region that's close to you.

* You can still livestream, regardless of which server you choose.

6. Click "SUBMIT TO DEVICE!".

When the data transmission is finished, the message "Success" appears.

The URL and stream key are applied to the VR-120HD.

NOTE

Don't close the QR code screen until the "URL" and "Stream Key" have been applied.

7. Click "OK".

8. Close the page.

Operating this unit

9. Select page 1 on the streaming/recording setup screen. The parameters for stopping/starting the livestream, audio and video recording are shown in the status area.



10. Touch <ON AIR>.

The message "Are you sure you want to start streaming?" is shown.

11. Touch <OK>.

Livestreaming starts.

If audio/video recording is turned on, the audio/video starts at the same time as the livestream.

12. Touch <ON AIR> once more to stop streaming. The message "Are you sure you want to stop streaming?" is shown.

13. Touch <OK>.

The livestream ends.

MEMO

You can assign streaming start/stop to the USER buttons. On the User Assign screen, select the "Stream/Record" Category, and select "Start/Stop" for Value.

🗘 User Assign			
User 1	User 2	User 3	User 4
Category Freeze	Category Auto Switching	Category Stream/Record	Category Sequencer
Value 	Value 	Value Start/Stop	Value
Setup	Setup	Setup	Setup

Streaming with Custom Settings

Getting ready

- Make sure that the VR-120HD is connected to the Internet for livestreaming.
- To record audio/video, set Audio Rec and Video Rec to "On" (p. 64).

Operating this unit

 On the streaming/recording setup screen (page 2), touch either <Service 1> or <Service 2> and select "Custom".

₽ LIVE Stream/Record			1 2	3
Service 1	Custom	Service 2		Off
URL				
Stream Key				
Use Web Application				

2. Touch <Use Web Application>.

The shortened URL and QR code for the Web app are shown.



Operating your computer or smartphone

3. On the Web browser of your computer or smartphone, open the link that's shown.

4. Input the "RTMP URL" and "Stream Key".

MEMO

You can find the "RTMP URL" and "Stream Key" on the website or other resource of the streaming platform you are going to use.

5. Click "SUBMIT!".

When the data transmission is finished, the message "Success!" appears.

The URL and stream key are applied to the VR-120HD.

NOTE

Don't close the QR code screen until the "URL" and "Stream Key" have been applied.

- 6. Click "OK".
- 7. Close the page.

Operating this unit

8. Select page 1 on the streaming/recording setup screen. The parameters for stopping/starting the livestream, audio and video recording are shown in the status area.



9. Touch <ON AIR>.

The message "Are you sure you want to start streaming?" is shown.

10. Touch <OK>.

Livestreaming starts.

If audio/video recording is turned on, the audio/video starts at the same time as the livestream.

11. Touch <ON AIR> once more to stop streaming.

The message "Are you sure you want to stop streaming?" is shown.

12. Touch <OK>.

The livestream ends.

MEMO

You can assign streaming start/stop to the USER buttons. On the User Assign screen, select the "Stream/Record" Category, and select "Start/Stop" for Value.

🗘 User Ass	ign			
User	1	User 2	User 3	User 4
Category		Category Auto Switching	Category Stream/Record	Category Sequencer
Value		Value 	Value Start/Stop	Value
Setu	р	Setup	Setup	Setup

Tethering

You can connect your smartphone to this unit and use it for tethering.



iPhone:

- 1. Use the Lightning to USB-A cable included with your iPhone to connect to the USB HOST port of the VR-120HD.
- 2. On your iPhone, select "Settings" → "Personal Hotspot", and turn "Allow Other to Join" on.
- 3. When you see the message, "Trust this Computer?", tap "Trust".
- 4. If you see the message "Enter Device Passcode to Trust This Computer", enter your passcode.
- 5. Select page 3 on the streaming/recording setup screen.

Stream/Record		Network	2 3
Video Rec 🛛 🔤	DN Browse	Priority	
Audio Rec 🛛 🕅	DN Browse	LAN Setup	
Safety Delay		Start Tethering	
-Import Still Image		Network Information	
File Name : Safety	/Image.png	MAC Address	0 00 00 00 00 00

- 6. Touch <Priority> and select "Tethering"
- 7. Touch <Start Tethering>.
- 8. Select page 1 on the streaming/recording setup screen.

Once the Network display in the status area changes from "Tethering: ----" to "Tethering: Up", you can use the mobile network connection of your iPhone.



9. To stop tethering, return to page 3 and touch <Stop Tethering>.

Android devices:

.

NOTE

The method of operation differs depending on the smartphone model. Check the owner's manual for your device for details.

 Connect the USB HOST port of the VR-120HD to your smartphone with a USB cable.

A notification is shown at the top of your smartphone screen.

- On your smartphone, select "Settings" → "Network and Internet" → "Hotspot and tethering".
- 3. Activate "USB tethering".
- 4. Select page 3 on the streaming/recording setup screen.

we Stream/Record		Network	2 3
Video Rec	N Browse	Priority	LAN
Audio Rec 📃 🗖	N Browse	LAN Setup	
Safety Delay		Start Tethering	
-Import Still Image		Network Information	
File Name : Safety	Image.png	MAC Address	00.00.00.00.00.00

- 5. Touch "Priority" and select "Tethering"
- **6.** Touch <Start Tethering>.
- 7. Select page 1 on the streaming/recording setup screen.

Once the Network display in the status area changes from "Tethering: ---" to "Tethering: Up", you can use the mobile network connection of your iPhone.



8. To stop tethering, return to page 3 and touch <Stop Tethering>.

MEMO

You can also make the tethering start/stop from the menu. [MENU] button \rightarrow "Network" \rightarrow select "Start Tethering" or "Stop Tethering", and then press the [VALUE] knob.

Avoiding Sporadic Issues When Livestreaming (Safety Delay)

The VR-120HD comes with a built-in "safety delay" function that helps you to avoid unexpected troubles during livestreaming.

You can set the video and audio buffer (streaming delay time: "Stream Delay") for the safety delay function.

If an accidental issue occurs within the streaming delay time, you can control the "switch to still image" and "mute audio" functions with the press of a button, which prevents undesirable content from being streamed.

The safety delay function thus helps you to feel more at ease when livestreaming content, especially in situations like live events where there is no script or guide.





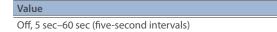
- The streaming delay time can be set in five-second intervals, to a maximum of 60 seconds.
- This unit switches to the still image you imported as the "safety image".
- The unit switches to the safety image only during livestreaming. You can only check the switch to the safety image by looking at the livestreamed video. The image shown on this unit's display or the video outputted via the HDMI OUT connector doesn't switch to the safety image.
- Use this function by assigning the USER buttons to switch to the still image and to mute the audio.

Setting the Streaming Delay Time

1. Select page 3 on the streaming/recording setup screen.

UVE Stream/Record	Network	2 3
Video Rec ON Browse	Priority	LAN
Audio Rec ON Browse	LAN Setup	
Safety Delay Off	Start Tethering	
-Import Still Image Exec	Network Information	
File Name : SafetyImage.png	MAC Address	

2. Touch <Safety Delay> to configure the setting.



3. Press the [MENU] button to close the menu.

Using the safety delay function

- 1. Select page 1 on the streaming/recording setup screen.
- **2.** Touch <ON AIR>.
- 3. Touch <OK>. Livestreaming starts.
- Touch <Safety Image> at the lower right corner of the screen.

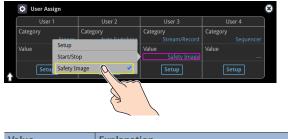
đ	LUVE Stream/Record			1 2 3 🛞
	Stream/Record	Storage	Status	Network
	ON AIR::	Target : UNKNOWN	Service 1 Service 2	💼 LAN :
		Remain : 0B	Video Rec Audio Rec	Tethering :
	Target Video Bitrate Current Video Bitrate	6,000kbps	_	;
t	Target Audio Bitrate	128kbps	Safet	page
				A

The streaming video switches to a still image, and the streaming audio is muted.

Assigning safety delay to a USER button

You can assign the safety delay function to a USER button. This example shows how to assign the safety delay function to the USER [3] button.

- 1. Press the USER [SETUP] button. The User Assign screen appears.
- For User 3, set the Category to "Stream/Record", and the Value to "Safety Image".



Value	Explanation
	The safety delay function switches the streaming video to a still image and mutes the streaming audio.
	audio.

3. Press the [SETUP] button to close the screen.

Saving/Recalling Settings (Scene Memory)

You can save the current settings, including the video/audio settings and the state of the operating panel, in scene memory and recall those settings for use when necessary.

The VR-120HD is provided with 32 scene memories.

* The demo data in this unit includes some scene memories by factory default.

About the Last Memory function

The VR-120HD has a built-in Last Memory feature. Last Memory is a feature that saves the state of the unit that is in effect immediately before power-down, and automatically restores the state at the next startup. The Last Memory feature is enabled by default.

If you want the unit to recall a scene memory when it starts up, press the [MENU] button \rightarrow "Scene Memory" \rightarrow "Start Up" to specify the scene memory number.

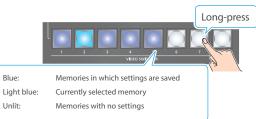
Saving to a Scene Memory

Only for scene memories 1–8

1. Press the [SCENE MEMORY] button.



2. Long-press the VIDEO SWITCHER button for the number where you want to save the settings.



All VIDEO SWITCHER buttons briefly light up blue, and the current settings are saved in the selected scene memory.

Scene memory 1–32

1. With the [SCENE MEMORY] button lit up, press the MODE [SETUP] button.

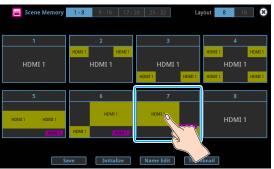
The Scene Memory setup screen appears.



2. Touch <Save>.

The "Save" text blinks.

3. Touch the area of the scene memory number where you want to save.



A confirmation message appears.

4. Select "OK" and press the [VALUE] knob.

This saves the current settings to the selected scene memory.

MEMO

• About scene memories 9–32

You can use the buttons to save or recall scene memories 9–32. Press the [MENU] button and select "Scene Memory" → "Button Assign" to set the memory to recall for each VIDEO SWITCHER button.

• You can prohibit settings from being saved or initialized (p. 72) to protect the scene memories.

Use the [MENU] button → "Scene Memory" → and set "Memory Protect" to "ON".

• Since settings related to the system, network and so on are common to the entire unit, they are not saved in a memory.

About the demo data

Once you perform a factory reset (p. 99), any demo data you have edited or deleted is restored to its factory default settings.

Recalling a Scene Memory

Only for scene memories 1–8

1. Press the [SCENE MEMORY] button.



2. Press the VIDEO SWITCHER button for the number whose setting you want to recall.



The settings are recalled.

Scene memory 1–32

1. With the [SCENE MEMORY] button lit up, press the MODE [SETUP] button.

The Scene Memory setup screen appears.

2. Touch the area of the scene memory number whose settings you wish to recall.



The settings are recalled.

MEMO

• You can choose not to recall a certain setting when recalling a scene memory.

For each item selected using the [MENU] button \rightarrow "Scene Memory" \rightarrow "Load Parameter", you can set whether to recall that setting.

• You can apply video transition effects, make an inset screen fade in and so on when you recall a scene memory.

Configure the settings of the following menu items from the [MENU] button \rightarrow "Scene Memory".

Menu item	Explanation
Fade Time	Sets how long the transition to the next video takes when recalling a scene memory. * The time you set is used for the parameters below.
Mix/Wipe	When this is "ON", the transition effect is applied when the scene memory is recalled.
PinP & Key 1–4	When this is "ON", the inset screen fades in when you recall a scene memory that includes a PinP composite.
DSK 1, 2	When this is "ON", the superimposed caption and video fades in when you recall a scene memory that includes a DSK composite.

Initializing a Scene Memory

Here's how you can initialize the settings of a specific preset memory.

1. With the [SCENE MEMORY] button lit up, press the MODE [SETUP] button.

The Scene Memory setup screen appears.



2. Touch <Initialize>.

The "Initialize" text blinks.

3. Touch the area of the scene memory number that you want to initialize.

A confirmation message appears.

- * If you decide to cancel, press the [EXIT] button.
- **4.** Select "OK" and press the [VALUE] knob. The scene memory is initialized.

Renaming a Scene Memory

Here's how to rename a preset memory.

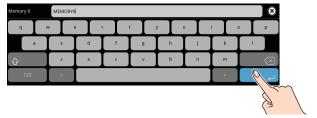
1. With the [SCENE MEMORY] button lit up, press the MODE [SETUP] button.

The Scene Memory setup screen appears.

- 2. Touch <Name Edit>. The "Name Edit" text blinks.
- 3. Touch the area of the scene memory number whose name you wish to edit.

This brings up the software keyboard for input.

- **4.** Input the scene memory name.
- * You can input up to 8 characters.
- 5. Touch <Enter> in software keyboard.



6. Touch <Name Edit>.

The "Name Edit" text goes back to being lit up.

Changing the Thumbnail Position

You can change the position of the thumbnail used for checking the video/image content, shown on the scene memory setup screen.

1. With the [SCENE MEMORY] button lit up, press the MODE [SETUP] button.

The Scene Memory setup screen appears.



2. Touch <Thumbnail>.

The "Thumbnail" text blinks.

3. Touch the area of the scene memory number that you want to change.



This shows the thumbnail layout screen.

- 4. Touch the screen to access the settings.
- 5. Press the [EXIT] button.

Saving Scene Memories to an SD Card or USB Flash Drive

You can group together the scene memories (1–32) into a single file (.VR120SCENE) and save it to a storage (SD card, USB flash drive,) connected to the VR-120HD. You can access the saved scene memory file on the storage and load it into the unit for use when needed.

* The scene memory file is saved to and recalled from the "Roland/VR-120HD/scene_memory" folder.

NOTE

- When using a SD card or USB flash drive for the first time, you must format it using the VR-120HD (p. 13).
- Never turn off the power or remove the SD card or USB flash drive while the message "Processing..." is shown.
- Depending on the SD card or USB flash drive, it may take some time to be recognized.

Saving a new file

1. Insert the SD card into the SDXC card slot.

- * When using a USB flash drive, connect the USB flash drive to the USB HOST port.
- [MENU] button → "Scene Memory" → select "Save To Storage", and press the [VALUE] knob.

Jump To Setup	Enter
Start Up	Last Memory 🕨
- Priority	Memory 🕨
Memory Protect	OFF
Load From Storage	Enter
Save To Storage	Enter

The scene memory files in the storage are listed.

	File Save	SD Card	USB Memory
scene1.vr120scene	32	KB 2023/01	/09 15:26

- * Use the "SD Card" or "USB Memory" selector at the top right-hand corner of the screen to switch between the storage media to load from.
- Select "File Name" and press the [VALUE] knob. This brings up the software keyboard for input.

4. Input the scene memory file name.

- * You can input up to 32 characters.
- 5. Touch <Enter> in software keyboard.

File Name		scene_da	ita						×
q	w		e	r	t	у	u	I I	o p
a		s	d	f	g	h	J	k	
ô		z	х	c	v	b	n	m	\mathbf{x}
123		<	Γ					>	A + 9

Other Functions

 Use the [VALUE] knob to select "Save", and then press the [VALUE] knob.

A confirmation message appears.
Are you sure you want to save "scene_data.vr120scene"?
Cancel OK

- * If you decide to cancel, press the [EXIT] button.
- 7. Use the [VALUE] knob to select "OK", and then press the [VALUE] knob.

The scene memory file (.VR120SCENE) is saved to the storage. When the operation is finished, the message "Completed" appears.

8. Press the [MENU] button to close the menu.

Overwrite-saving

- 1. Insert the SD card into the SDXC card slot.
- * When using a USB flash drive, connect the USB flash drive to the USB HOST port.
- [MENU] button → "Scene Memory" → select "Save To Storage", and press the [VALUE] knob.

Scene Memo	ry 🛞
Jump To Setup	Enter
Start Up	Last Memory 🕨
- Priority	Memory 🕨
Memory Protect	OFF
Load From Storage	Enter
Save To Storage	Enter
Button Assign	•

The scene memory files in the storage are listed.

	File Save		SD Card USB	Memory
scene1.vr120scene		32KB	2023/01/09	15:26
e Name scene_data.vr120scene		_		Save

- * Use the "SD Card" or "USB Memory" selector at the top right-hand corner of the screen to switch between the storage media to load from.
- **3.** Touch the scene memory file that you want to overwrite. The filename shown in the list of filenames is used.
- 4. Use the [VALUE] knob to select "Save", and then press the [VALUE] knob.
 - A confirmation message appears.
 - * If you decide to cancel, press the [EXIT] button.
- 5. Use the [VALUE] knob to select "OK", and then press the [VALUE] knob.

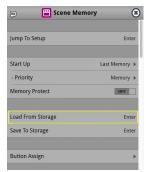
The scene memory file is overwritten. When the operation is finished, the message "Completed" appears.

6. Press the [MENU] button to close the menu.

Loading

Here's how to load the scene memory settings that are saved on a storage. Loading the settings overwrites the current settings for the scene memories.

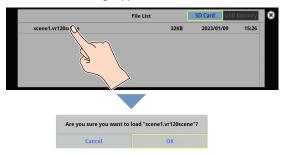
- 1. Insert the SD card into the SDXC card slot.
- * When using a USB flash drive, connect the USB flash drive to the USB HOST port.
- [MENU] button → "Scene Memory" → select "Load From Storage", and press the [VALUE] knob.



The scene memory files in the storage are listed.

	File List		SD Card USB	Memory
scene1.vr120scene		32KB	2023/01/09	15:26

- * Use the "SD Card" or "USB Memory" selector at the top right-hand corner of the screen to switch between the storage media to load from.
- **3.** Touch the scene memory file that you want to recall. A confirmation message appears.



- * If you decide to cancel, press the [EXIT] button.
- 4. Use the [VALUE] knob to select "OK", and then press the [VALUE] knob.

The scene memory settings are loaded. When the operation is finished, the message "Completed" appears.

5. Press the [MENU] button to close the menu.

Recording Multiple Operations to Automatically Execute (Macros)

This feature lets you record multiple operations and then automatically execute them (as a macro function). You only need to record the macro operation beforehand and then select the macro to perform the series of operations you recorded. This function is useful for executing exactly the same operations, even when a different operator is using the unit.

You can create up to 100 macros.

Recording a Macro

A single macro can contain up to 10 different operations. You can include a macro within another macro, to make a single macro execute a more complicated set of functions.

* The demo macro data in this unit that's available by factory default includes some recorded operations.

1. Press the [MACRO] button.



2. Press the MODE [SETUP] button.

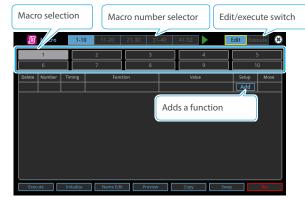
🗐 Macro	1-25 26-	50 51-75	76-100		Edit Execute
1		2	3	4	5
6		7	8	9	10
11	1	12	13	14	15
16	1	17	18	19	20
21	í	22	23	24	25

The Macro setup screen appears.

3. Touch <Edit>.

Macro 1-2	26-50 51	-75 76-100		Execute 🙁
1	2	3	4	
6	7	8	9	
11	12	13	14	15
16	17	18	19	20
21	22	23	24	25

The Macro edit screen appears.



- Touch the screen to select a macro to edit. This shows the list of operations recorded in the macro.
- 5. Touch <Add>.



The function edit menu appears.

- Touch <Function> to select the operation to record to the macro.
 - * See "Editing a macro" (p. 76) for details on which operations you can record to a macro.

7. Touch the screen to configure the related parameters.



8. Touch <Timing> to set the timing used to execute the operation.

Value	Explanation
After Previous	The function is executed after the preceding one. The next sequential list number is used.
Same As Previous	Executes the operation at the same time as the preceding one. The same list number as the previous operation is used.

- * If you place a function at the beginning of the macro, setting the timing has no effect.
- 9. Press the [EXIT] button to return to the previous screen.



10. Repeat steps 5–9 to finish making the macro.

j	Macro		1-10 11-2	0 21-30	31-4	0 41-	-50	E	dit Exec	ute 😫		
	1 2		1		2		3		4		5	
	6		7		8		9		10)		
Delete	Number	Timin	vg	Function			Value		Setup	Move		
8	1		PinP&K	ey 1 On/Off(Au	to)	PGI	M:On/PVW:On		Setup	† ↓		
8	2		PinP&Key 2 On/Off(Auto) PGM:On/PVW:On			Setup	† ↓					
8	3		PinP&K	PinP&Key 3 On/Off(Auto)			M:On/PVW:On		Setup	† ↓		
8	4		PinP&K	ey 4 On/Off(Au	to)	PGM:On/PVW:On			Setup	† ↓		
									Add			
Exec	ute	Initia	lize Nam	e Edit	Preview	(ору	Swap		Rec		

11. Press the [EXIT] button to close the screen.

Editing a macro

You can edit the contents of a function, change the order in which it is executed, or copy/delete a function either while creating a macro or after the macro is finished.

Editing the contents of a function

 In step 4 of "Recording a Macro" (p. 75), select the function that you want to edit in the list by pressing <Setup>.

J	Macro		1-10	11-20	21-30	31-40	41-5	0	Edit	Exe	tute 🙁
	1			2		3		4		5	i.
	6					8		9		1	D
Delete	Number	Tim	iing	Fun	ction			Value	Se	tup	Move
8	1			PinP&Key 1	On/Off(Auto)		PGM:	On/PVW:On	Se	tup	↑↓
8	2			PinP&Key 2	PinP&Key 2 On/Off(Auto)		PGM:	On/PVW:On	<u>al</u>	tun	↑ ↓
8	3			PinP&Key 3	On/Off(Auto)	PGM:	On/PVW:On	Se		†↓
8	4			PinP&Key 4	On/Off(Auto)	PGM:	On/PVW:On	- لیے		2 and a
									A	dd	∖` \
										(3

The function edit menu appears.

Menu	Value		Explanation
Function	PGM Take PGM/PST Select AUX Select Input Assign Transition Time Transition Type PinP&Key On/Off PinP&Key Vorce PinP&Key Window PinP&Key Window PinP&Key View DSK On/Off DSK Source Split Type	Split Position Audio Input Level Audio Input Mute Audio Output Level Audio Output Mute Audio Player Control Scene Memory Memory Fade Time Memory Fade Time Memory Fade On/Off Macro Output Fade External Rec Control GPO Alternate Camera Preset Recall Wait	Sets the operation to record to the macro. * The related menu is shown according to the operation you set. WAIT: Sets the waiting time before the next operation is executed.

2. Follow steps 5–9 in "Recording a Macro" (p. 75) to edit the operation.



Copying a function

- * Copying is disabled if the number of recorded functions have reached the limit (10).
- In step 4 of "Recording a Macro" (p. 75), press <Setup> for the operation you want to copy from the list of operations. The function edit menu appears.
- 2. Touch <Copy This Function>.



The copied operation is added to the last line of the list.



Moving a function

- In step 4 of "Recording a Macro" (p. 75), bring up the operation list.
- Use the < ↑ ↓ > (Move) icons shown on the right-hand side to drag the operation line you want to move to the destination, and release it.

Delete Numb	er Timing	Function	Value	Setup	Move
8		PinP&Key 1 On/Off(Auto)	PGM:On/PVW:On	Setup	† ↓
2		PinP&Key 2 On/Off(Auto)	PGM:On/PVW:On	Setup	† ↓
8 3		PinP&Key 3 On/Off(Auto)	PGM:On/PVW:On	Setup	†↓
8 4		PinP&Key 4 On/Off(Auto)	PGM:On/PVW:On	Setup	
8 5		Input 1 Assign	Assign:HDMI 1	Setup	↑ 4
				Add	
					(

This moves the operation line that you dragged.



Deleting a function

- In step 4 of "Recording a Macro" (p. 75), bring up the operation list.
- Touch the <X> (Delete) icon to the left of the operation you want to delete.

Delete	Number	Timing	Function	Value	Setup	Move
8	1		PinP&Key 1 On/Off(Auto)	PGM:On/PVW:On	Setup	†∔
8	2		PinP&Key 2 On/Off(Auto)	PGM:On/PVW:On	Setup	†↓
	3		PinP&Key 3 On/Off(Auto)	PGM:On/PVW:On	Setup	↑ ↓
	4		PinP&Key 4 On/Off(Auto)	PGM:On/PVW:On	Setup	†↓
	~~~				Add	
	(J					

 ${<}\textsc{Delete}{>}$  is shown on the right-hand side of the operation line you touched.

#### 3. Touch <Delete>.



This deletes the operation line.

Delete	Number	Timing	Function	Value	Setup	Move
8	1		PinP&Key 1 On/Off(Auto)	PGM:On/PVW:On	Setup	†↓
8	2		PinP&Key 2 On/Off(Auto)	PGM:On/PVW:On	Setup	<b>↑</b> ↓
8	3		PinP&Key 3 On/Off(Auto)	PGM:On/PVW:On	Setup	<b>†</b> ↓
					Add	

#### MEMO

#### What's the difference between "Preview" and "Execute"?

When you touch <Preview> or <Execute> at the bottom of the edit screen, this executes the macro. With "Preview", the action reverts to the previous state once it is executed; but with "Execute", the results are reflected and remain in Program Out.

### Directly recording the panel operations to a macro

You can record the panel operations to a macro, just as you did them.



- 1. In step 4 of "Recording a Macro" (p. 75), bring up the operation list.
- 2. Touch <Rec>.



The macro recording screen appears.



3. Operate the controls you want to record.

Each time you operate a control, the operation is added to the list.

- * To stop recording, touch <Cancel>.
- * Touch <Clear> to erase all the recorded operations.

#### **4.** Touch <Apply> to close the screen.

This confirms the operations you've recorded.

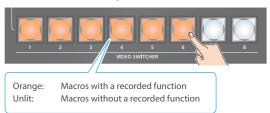
### **Executing a Macro**

#### Only for macros 1–8

1. Press the [MACRO] button.



2. Press the VIDEO SWITCHER button corresponding to the number of the macro you wish to execute.



This executes the macro.

#### Macro 1–100

1. Press the [MACRO] button.



- 2. Press the MODE [SETUP] button.
- 3. Touch <Execute>.

	Macro 1-2	5 26-50 51-	75 76-100		Edit Exec De
	Demo 1	Demo 2	Demo 3	Demo 4	Demo 5
	Demo 6	Demo 7	Demo 8	Demo 9	Demo 10
	11	12	13	14	15
	16	17	18	19	20
٠	21	22	23	24	25

This shows the macro execution screen.

4. Touch the macro (1–100) you want to execute.

N	lacro selectio	n Macro number se	lector	Edit/execute switch
	<b>1</b> -25	5 26-50 51-75 76-100		Edit Execute 🛞
	Demo 1	Demo 2 Demo 3	Demo 4	Demo 5
	Demo 6	Demo 7 Demo 8	Demo 9	Demo 10
	11	12 3 13	14	15
	16	17	19	20
î	21	22 23	24	25

This executes the macro.

### MEMO

#### Assigning macros to the VIDEO SWITCHER buttons

You can change which macros are assigned to each VIDEO SWITCHER button.

Press the [MENU] button and select "Macro"  $\rightarrow$  "Button Assign" and then the menu items listed below to assign macros (1–100) to the respective VIDEO SWITCHER buttons.

#### **Other Functions**

### **Copying Macro Settings**

Here's how to copy the settings from one macro to another.

- 1. Follow steps 1–3 in "Recording a Macro" (p. 75) to bring up the macro setup screen.
- 2. Touch <Copy>.



The "Copy" text blinks.

**3.** Touch the macros: first the copy source and then the copy destination.



A confirmation message appears.

- * If you decide to cancel, press the [EXIT] button.
- 4. Use the [VALUE] knob to select "OK", and then press the [VALUE] knob.

The macro settings are copied.

### Swapping the Macro Settings

Here's how to swap settings between macros.

- 1. Follow steps 1–3 in "Recording a Macro" (p. 75) to bring up the macro setup screen.
- 2. Touch <Swap>.



The "Swap" text blinks.

3. Touch the two macros to swap.

Demo	6	0 11-20 Demo 2 Demo 7	21-30 31- Demo 3 Demo 8	40 41-50 Demo 4 Demo 9	Edit Execute X Demo 5 Demo 10
Delete Nu S Nu Nu Nu Nu Nu Nu Nu	1 2 3	Funct PinP&Key 1 O PinP&Key 2 O PinP&Key 3 O	Dn/Off(Auto) Dn/Off(Auto)	Value PGM:On/PVW:On PGM:On/PVW:On PGM:On/PVW:On	Setup     Move       Setup     ↑↓       Setup     ↑↓       Setup     ↑↓
8	4	PinP&Key 4 C	Dn/Off(Auto)	PGM:On/PVW:On	Setup ↑↓
Execute	Initialize	Name Edit	Preview	Сору	Swap Rec

A confirmation message appears.

- * If you decide to cancel, press the [EXIT] button.
- 4. Use the [VALUE] knob to select "OK", and then press the [VALUE] knob.

This swaps the settings of the macros.

### Initializing a Macro

You can initialize a macro and completely erase its settings.

- 1. Follow steps 1–3 in "Recording a Macro" (p. 75) to bring up the macro setup screen.
- 2. Touch <Initialize>.

J	Macro	1-1	0 11-20	21-30 31	-40 41-50	Edit Execute
0	emo 1		Demo 2	Demo 3	Demo 4	Demo 5
C	emo 6		Demo 7	Demo 8	Demo 9	Demo 10
Delete	Number	Timing	Funct	tion	Value	Setup Move
8	1		PinP&Key 1 C	)n/Off(Auto)	PGM:On/PVW:On	Setup ↑↓
8	2		PinP&Key 2 C	On/Off(Auto)	PGM:On/PVW:On	Setup ↑↓
8	3		PinP&Key 3 C	Dn/Off(Auto)	PGM:On/PVW:On	Setup ↑↓
8	4		PinP&Key 4 C	On/Off(Auto)	PGM:On/PVW:On	Setup ↑↓
						Add
Exec	ute	Initializ	Name Edit	Preview	Copy :	Swap Rec

The "Initialize" text blinks.

#### 3. Touch the macro to initialize.



A confirmation message appears.

- * If you decide to cancel, press the [EXIT] button.
- 4. Use the [VALUE] knob to select "OK", and then press the [VALUE] knob.

The macro is initialized.

#### MEMO

About the macro demo data

Once you perform a factory reset (p. 99), any demo data you have edited or deleted is restored to its factory default settings.

### Renaming a Macro

Here's how to rename a macro.

- 1. Follow steps 1–3 in "Recording a Macro" (p. 75) to bring up the macro setup screen.
- 2. Touch the macro to rename.
- 3. Touch <Name Edit>.



This brings up the software keyboard for input.

- 4. Input the macro name.
- * You can input up to 8 characters.
- 5. Touch <Enter> in software keyboard.

	Macro	1-1	0	11-20	21-30	31-40	4	1-50		Edit Exe	ecute
C	emo 1		Der	no 2	D	emo 3		De	mo 4	De	mo 5
C	emo 6		Der	no 7	D	emo 8		Dei	mo 9	Der	mo 10
Delete	Number	Timing	$\square$		tion			Value		Setup	Move
8	1			PinP&Key 1	On/Off(Auto)	)	P	5M:On/PV	W:On	Setup	t∔
8	2			PinP&Key 2	On/Off(Auto)	)	P	5M:On/PV	W:On	Setup	†∔
8	3			PinP&Key 3	On/Off(Auto		P	6M:On/PV	W:On	Setup	<b>↑</b> ↓
acro 3		Demo 33	<u>.</u>								
1	2	3		4	5	6	Ι	7	8	9	0
•	[ /	1 :		;	(		Ι	X	&	@	
#+-				T		?	- I	Т	•		$\langle \times \rangle$
ABC		<								>	<i>→ Ø</i>
											A

This changes the macro's name.

### Saving/Loading the Macro Settings

You can group together the macro settings (1–100) into a single file (.RMC) and save it to a storage (SD card, USB flash drive,) connected to the VR-120HD. You can access the saved macro setting file on the storage and load it into the unit for use when needed.

* The macro setting file is saved to and recalled from the "Roland/VR-120HD/macro" folder.

#### NOTE

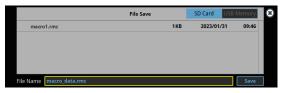
- When using a SD card or USB flash drive for the first time, you must format it using the VR-120HD (p. 13).
- Never turn off the power or remove the SD card or USB flash drive while the message "Processing..." is shown.
- Depending on the SD card or USB flash drive, it may take some time to be recognized.

### Saving a new file

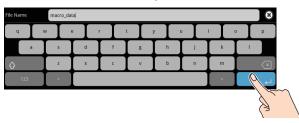
- 1. Insert the SD card into the SDXC card slot.
  - * When using a USB flash drive, connect the USB flash drive to the USB HOST port.
- [MENU] button → "Macro" → select "Save To Storage", and press the [VALUE] knob.



The macro setting files in the storage are listed.



- * Use the "SD Card" or "USB Memory" selector at the top right-hand corner of the screen to switch between the storage media to load from.
- **3.** Select "File Name" and press the [VALUE] knob. This brings up the software keyboard for input.
- 4. Input the macro setting file name.* You can input up to 32 characters.
- 5. Touch <Enter> in software keyboard.



6. Use the [VALUE] knob to select "Save", and then press the [VALUE] knob.

A confirmation message appears.

Are you sure you want to	save "macro_data.rmc"?
Cancel	ок

- * If you decide to cancel, press the [EXIT] button.
- 7. Use the [VALUE] knob to select "OK", and then press the [VALUE] knob.

The macro settings file (.RMC) is saved to the storage. When the operation is finished, the message "Completed" appears.

8. Press the [MENU] button to close the menu.

### Overwrite-saving

- 1. Insert the SD card into the SDXC card slot.
- * When using a USB flash drive, connect the USB flash drive to the USB HOST port.
- [MENU] button → "Macro" → select "Save To Storage", and press the [VALUE] knob.

۲
Enter
Enter
Enter
Þ.
Exec

The macro setting files in the storage are listed.

macro1.rmc 1KB 2023/01/31 09:46		File Save		SD Card	USB	Memory
	macro1.rmc		1KB	2023/0	1/31	09:46
File Name macro_data.rmc Save	et a		_	_	_	

- * Use the "SD Card" or "USB Memory" selector at the top right-hand corner of the screen to switch between the storage media to load from.
- **3.** Touch the macro settings file that you want to overwrite. The filename shown in the list of filenames is used.
- 4. Use the [VALUE] knob to select "Save", and then press the [VALUE] knob.

A confirmation message appears.

- * If you decide to cancel, press the [EXIT] button.
- 5. Use the [VALUE] knob to select "OK", and then press the [VALUE] knob.

The macro settings file is overwritten. When the operation is finished, the message "Completed" appears.

6. Press the [MENU] button to close the menu.

### Loading

Here's how to load the macro settings that are saved on a storage. Loading the settings overwrites the current settings for the macros (1–100).

#### 1. Insert the SD card into the SDXC card slot.

- * When using a USB flash drive, connect the USB flash drive to the USB HOST port.
- [MENU] button → "Macro" → select "Load From Storage", and press the [VALUE] knob.

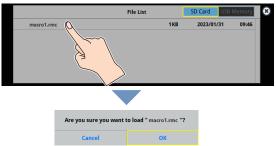
Ð	📕 Macro	۲
Jump To Setup		Enter
Load From Stor	age	Enter
Save To Storage		Enter
Button Assign		Þ
Initialize		Exec

The macro setting files in the storage are listed.



- * Use the "SD Card" or "USB Memory" selector at the top right-hand corner of the screen to switch between the storage media to load from.
- **3.** Touch the macro settings file that you want to recall.

A confirmation message appears.



- * If you decide to cancel, press the [EXIT] button.
- 4. Use the [VALUE] knob to select "OK", and then press the [VALUE] knob.

The macro settings are loaded. When the operation is finished, the message "Completed" appears.

5. Press the [MENU] button to close the menu.

### **Initializing All Macros**

Here's how to initialize and erase all the macros.

 [MENU] button → "Macro" → select "Initialize", and press the [VALUE] knob.

A confirmation message appears.

P 🖪 Macro	۲			
Jump To Setup	Enter			
Load From Storage	Enter			
Save To Storage	Enter			
Button Assign	×.			
Initialize	Exec		Macro I	initialize
				u Sure?
		r -	Cancel	ОК

- * If you decide to cancel, press the [EXIT] button.
- 2. Use the [VALUE] knob to select "OK", and then press the [VALUE] knob.

The macros are initialized.

3. Press the [MENU] button to close the menu.

### Combining Scene Memories and Macros for Operations (Sequencer)

The sequencer function lets you record functions such as recalling scene memories or macros, and then execute them in the order you specify. This lets you recreate the desired functions like editing the screen layout or inserting a title, by preparing the functions in line with how the events progress and then simply pressing the [AUTO] button. This feature is useful for smoothly carrying out operations at the place where you're working.

### **Recording to the Sequencer**

Three types of functions can be recorded in the sequencer, including recalling a scene memory, executing a macro and switching between final output videos. Create a list of the functions you want to execute in order.

A list can contain up to 1,000 functions.

#### MEMO

- The demo data in this unit that's available by factory default includes a list of recorded functions. You can completely erase the contents of this list by initializing it (p. 87).
- When the sequencer function is assigned to a USER button, you can set this from the setup screen.
- * The sequencer function is assigned to the USER [4] button by factory default.

#### 1. Press the USER [SETUP] button.

The User Assign screen appears.

#### 2. Touch User 4 < Setup>.



The list of operations recorded in the sequencer is shown.



3. Touch <Add New Function>.



The operation is added to the first line of the list.

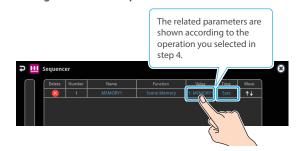


4. Touch the "Function" column of the line you want to add, and select the operation to record to the sequencer.



Value	Explanation	
PGM Take	Switches the final output video.	
Scene Memory	Recalls a scene memory.	
Macro	Executes a macro.	

#### 5. Configure the related parameters.



6. Repeat steps 3–5 to finish making the list.

ory 1: MEMORY1 5sec	
	- <b>†</b> ,
1: Macro1 5sec	<b>†</b> ,
ory 2: MEMORY2 5sec	<b>†</b> ,
ory 3: MEMORY3 5sec	<b>†</b> ,
8: Macro8 5sec	t,
ory 13:MEMORY13 5sec	<b>†</b> ,
ory 6: MEMORY6 Ssec	<b>†</b> ,
Input 1 5sec	<b>†</b> ,
	ory 2: MEMORY2 5sec ory 3: MEMORY3 5sec 8: Macro8 5sec ory 13:MEMORY13 5sec ory 6: MEMORY6 5sec

7. Press the [EXIT] button to close the menu.

### **Editing a list**

You can edit the contents of a function, change the order in which it is executed, or copy/delete a function while creating a list or after you've finished the list.

#### Editing the contents of a function

- 1. In step 2 of "Recording to the Sequencer" (p. 82), bring up the operation list.
- **2.** Touch the "Function" column of the line you want to edit, and edit the operation to record to the sequencer.

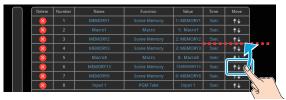


#### 3. Configure the related parameters.

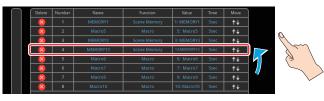
Menu	Value	Explanation			
	Sets the operation to record to the sequencer. * The related menu is shown according to the operation you set.				
Function	PGM Take	Switches the final output video.			
	Scene Memory	Recalls a scene memory.			
	Macro	Executes a macro (a series of recorded operations).			
Name	_	Shows the name of the operation.			
	Sets the operation when auto sequence is on.				
	Pause	Pauses the auto sequence.			
Time	Auto	Executes the next operation in the sequence.			
	1- <b>5</b> -120sec	Executes the next operation after delaying for a specified amount of time.			

#### Moving a function

- 1. In step 2 of "Recording to the Sequencer" (p. 82), bring up the operation list.
- Use the < ↑ ↓ > (Move) icons shown on the right-hand side to drag the operation line you want to move to the destination, and release it.



This moves the operation line that you dragged.



#### Copying a function

1. In step 2 of "Recording to the Sequencer" (p. 82), bring up the operation list.

#### 2. Touch <Add Copy Function>.



The "Add Copt Function" text blinks.

3. Touch the copy source line.

]	Delete	Number	Name	Function	Value	Time	Move
	8	1	MEMORY1	Scene Memory	1: MEMORY1	5sec	<b>↑</b> ↓
	8	2	Macro5	Macro	5: Macro5	5sec	<b>↑</b> ↓
	8	3	MEMORY3	Scene Memory	3: MEMORY3	5sec	<b>↑</b> ↓
		4	MEMORY13	Scene Memory	13:MEMORY13	5sec	↑↓
	8	5	Macro7	Macro 🚫	7: Macro7	5sec	<b>↑</b> ↓
	8	6	Macro9	Macro	Lauro9	5sec	↑↓
	8	7		Macro	y10		<b>↑</b> ↓

The line is copied and added to the last line of the list.

Delete	Number	Name	Function	Value		Move
8	1	MEMORY1	Scene Memory	1: MEMORY1	5sec	<b>↑</b> ↓
8	2	Macro5	Macro	5: Macro5	5sec	<b>↑</b> ↓
8	3	MEMORY3	Scene Memory	3: MEMORY3	5sec	<b>↑</b> ↓
8	4		Scene Memory	13:MEMORY13		<b>↑</b> ↓
8	5	Macro7	Macro	7: Macro7	5sec	<b>↑</b> ↓
8	6		Macro	9: Macro9		<b>↑</b> ↓
×	7	Macro10	Macro	10: Macro10	5sec	†↓
8	8	Macro7	Macro	7: Macro7	5sec	<b>↑</b> ↓

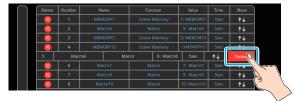
#### Deleting a function

- 1. In step 2 of "Recording to the Sequencer" (p. 82), bring up the operation list.
- Touch the <X> (Delete) icon to the left of the operation you want to delete.

$\cap$ I	Delete	Number	Name	Function	Value	Time	Move
	8	1	MEMORY1	Scene Memory	1: MEMORY1	5sec	<b>↑</b> ↓
	8	2	Macro5	Macro	5: Macro5	5sec	<b>↑</b> ↓
	8	3	MEMORY3		3: MEMORY3	5sec	<b>↑</b> ↓
		4			13:MEMORY13		<b>↑</b> ↓
		5	Macro6	Macro	6: Macro6	5sec	<b>↑</b> ↓
	<b>N</b>	مملي	Macro7	Macro	7: Macro7	5sec	<b>↑</b> ↓
	8	Č,	Macro9	Macro	9: Macro9	5sec	<b>↑</b> ↓
	8	(3	Macro10	Macro	10: Macro10	5sec	<b>↑</b> ↓

<Delete> is shown on the right-hand side of the operation line you touched.

3. Touch <Delete>.



This deletes the operation line.

$\cap$	Delete	Number	Name	Function	Value	Time	Move
	8	1	MEMORY1	Scene Memory	1: MEMORY1	5sec	<b>↑</b> ↓
	8	2	Macro5	Macro	5: Macro5		<b>↑</b> ↓
	8	3	MEMORY3	Scene Memory	3: MEMORY3	5sec	<b>↑</b> ↓
	8	4	MEMORY13	Scene Memory	13:MEMORY13		<b>↑</b> ↓
	8	5	Macro7	Macro	7: Macro7	5sec	<b>↑</b> ↓
	8	6	Macro9	Macro	9: Macro9	5sec	<b>↑</b> ↓
	8	7	Macro10	Macro	10: Macro10	5sec	<b>↑</b> ↓

### **Running the Sequencer**

Press the button to make the functions recorded in the sequencer execute one at a time.

### **1.** Press the USER [4] (SEQUENCER) button to turn the sequencer function on (the button lights up).

The sequencer execution screen is shown, where you can check the list of operations that are recorded to the sequencer.



Cu Ne	irrent : Start				
	ext : Start			PANEL	
	1: MEMORY1		5sec		
	2: Macro1		5sec	PREVIOUS	
	3: MEMORY5		5sec		
	4: MEMORY3		5sec	CUT	
	5: Macro8		5sec		
	6: MEMORY13		5sec		
	7: MEMORY6		5sec	NEXT	
	8:Input 1		5sec	AUTO	
	Setup	Auto Sequence	OFF		

#### 2. Press the [AUTO] (NEXT) button.



The first function in the list is executed. The button blinks while the function is executing. When the function ends, the button remains lit.

**3.** Press the [AUTO] (NEXT) button at the timing when you want the next function to execute.

The function is executed.

#### [CUT] (PREVIOUS) button

Press the [CUT] button if you want to return to the state at which the previous function was completed.

#### MEMO

You can also touch <NEXT> or <PREVIOUS> on the screen to operate the sequencer.

- 4. Repeat step 3.
- 5. Press the USER [4] (SEQUENCER) button again to turn the sequencer function off.

#### MEMO

#### Repeatedly executing a function in the list

You can repeatedly execute functions that are in a list. Once the last function is finished, press the [AUTO] button to execute the function at the beginning of the list.

Use the [MENU] button  $\rightarrow$  "Sequencer"  $\rightarrow$  and set "Repeat Execute" to "ON".

#### Executing a function from the middle of the list

When you directly touch the desired operation in the list, <Jump> is shown. Touch <Jump> to set that line's operation as completed. You can press the [AUTO] button to execute the next operation afterwards.



### Making the Sequencer Run Automatically (Auto Sequence)

Use the auto sequence feature when you want to make the functions recorded in the sequencer execute automatically.

### Configuring the auto sequence settings

Set the action or function that's executed when the sequencer advances to the next function. You can add some delay time before the next function is executed, or pause the execution of a function.

- 1. In step 2 of "Recording to the Sequencer" (p. 82), bring up the operation list.
- 2. To change what happens when moving to the next operation, touch the "Time" column of the line you want to edit.

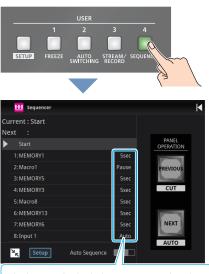
	Number			Value		Move
8	1	MEMORY1	Scene Memory	1: MEMORY1	5sec	<b>↑</b> ↓
8	2	Macro1	Macro	1: Macro1	5sec	<b>A</b> 1
8	3	MEMORY5	Scene Memory	0		
8	4	MEMORY3	Scene Memory	S. MEMORIS		τ÷
8	5	Macro8	Macro	8: Macro8	5sec	<b>↑</b> ↓
8	6	MEMORY13	Scene Memory	13:MEMORY13	SSEC	1
8	7	MEMORY6	Scene Memory	6: MEMORY6	5sec	
8	8	Input 1	PGM Take	Input 1	5sec	(a

Value	Explanation
Pause	Pauses the auto sequence.
Auto	Executes the next operation in the sequence.
1–120sec	Executes the next operation after delaying for a specified amount of time.

#### 3. Repeat step 2.

### Running the auto sequence

 Press the USER [4] (SEQUENCER) button to turn the sequencer function on (the button lights up). The list of operations recorded in the sequencer is shown.



This lets you check which action occurs when the sequencer moves to the next operation.

 Touch <Auto Sequence> to turn the auto sequencer function on.



The functions in the list are executed, starting at the beginning. The [AUTO] button blinks while a function is executing.

When the last function is finished, the sequence stops automatically.

#### When a function is set to "PAUSE"

When the function is finished, auto sequence is paused. You can press the [AUTO] (NEXT) button to manually execute the next function.

- * When executing a function that's set to a value other than "PAUSE", the auto sequence is resumed.
- Touch <Auto Sequence> again to turn off the auto sequence.
- Press the USER [4] (SEQUENCER) button again to turn the sequencer function off.

#### MEMO

You can repeatedly execute functions that are in a list. When the last function is finished, the sequencer returns to the beginning. Use the [MENU] button  $\rightarrow$  "Sequencer"  $\rightarrow$  and set "Repeat Execute" to "ON".

### Saving/Loading the Sequencer Settings

You can save the sequencer settings as a single file (.RSQ) to a storage (SD card, USB flash drive) connected to the VR-120HD. You can access the saved sequence file on the storage and load it into the unit for use when needed.

* The sequence file is saved to and recalled from the "Roland/VR-120HD/sequencer" folder.

#### NOTE

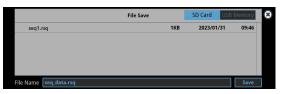
- When using a SD card or USB flash drive for the first time, you must format it using the VR-120HD (p. 13).
- Never turn off the power or remove the SD card or USB flash drive while the message "Processing..." is shown.
- Depending on the SD card or USB flash drive, it may take some time to be recognized.

### Saving a new file

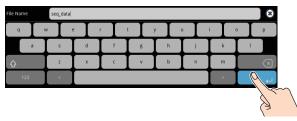
- 1. Insert the SD card into the SDXC card slot.
  - * When using a USB flash drive, connect the USB flash drive to the USB HOST port.
- [MENU] button → "Sequencer" → select "Save To Storage", and press the [VALUE] knob.



The sequence files in the storage are listed.



- * Use the "SD Card" or "USB Memory" selector at the top right-hand corner of the screen to switch between the storage media to load from.
- **3.** Select "File Name" and press the [VALUE] knob. This brings up the software keyboard for input.
- 4. Input the sequence file name.
- * You can input up to 32 characters.
- 5. Touch <Enter> in software keyboard.



Use the [VALUE] knob to select "Save", and then press the [VALUE] knob.

A confirmation message appears.

Are you sure you want	to save "seq_data.rsq"?
Cancel	ок

- * If you decide to cancel, press the [EXIT] button.
- 7. Use the [VALUE] knob to select "OK", and then press the [VALUE] knob.

The sequence file (.RSQ) is saved to the storage. When the operation is finished, the message "Completed" appears.

8. Press the [MENU] button to close the menu.

#### **Overwrite-saving**

- 1. Insert the SD card into the SDXC card slot.
- * When using a USB flash drive, connect the USB flash drive to the USB HOST port.
- [MENU] button → "Sequencer" → select "Save To Storage", and press the [VALUE] knob. The sequence files in the storage are listed.

	File Save	SD Card	USB Memory	8
seq1.rsq	1KB	2023/0	1/31 09:46	
File Name seq_data.rsq			Save	

- * Use the "SD Card" or "USB Memory" selector at the top right-hand corner of the screen to switch between the storage media to load from.
- **3.** Touch the sequence file that you want to overwrite. The filename shown in the list of filenames is used.
- 4. Use the [VALUE] knob to select "Save", and then press the [VALUE] knob.

A confirmation message appears.

- * If you decide to cancel, press the [EXIT] button.
- Use the [VALUE] knob to select "OK", and then press the [VALUE] knob.

The sequence file is overwritten. When the operation is finished, the message "Completed" appears.

6. Press the [MENU] button to close the menu.

### Loading

Here's how to load the sequencer settings that are saved on a storage. When you load settings, the current sequencer settings are overwritten.

- 1. [MENU] button → "Sequencer" → select
  - "Load From Storage", and press the [VALUE] knob.

Sequencer	0
Jump To Setup	Enter
Sequencer	OFF
- Repeat Execute	OFF
- Auto Sequence	OFF
Load From Storage	Enter
Save To Storage	Enter
Initialize	Exec

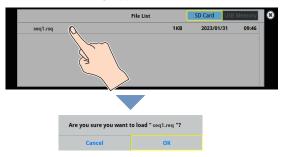
The sequence files in the storage are listed.

	File List		SD Card USE	3 Memory
seq1.rsq		1KB	2023/01/31	09:46

* Use the "SD Card" or "USB Memory" selector at the top right-hand corner of the screen to switch between the storage media to load from.

#### 2. Touch the sequence file that you want to load.

A confirmation message appears.



- * If you decide to cancel, press the [EXIT] button.
- 3. Use the [VALUE] knob to select "OK", and then press the [VALUE] knob.

The sequencer settings are loaded. When the operation is finished, the message "Completed" appears.

4. Press the [MENU] button to close the menu.

### Initializing the Sequencer

Here's how to initialize the sequencer and erase all the settings.

 [MENU] button → "Sequencer" → select "Initialize", and press the [VALUE] knob.

A confirmation message appears.

Sequencer	۲		
Jump To Setup	Enter		
Sequencer	OFF		
- Repeat Execute	OFF		
- Auto Sequence	OFF		
Load From Storage	Enter		
Save To Storage	Enter		r Initialize
Initialize	Exec	Are yo	u Sure?
Indunee	LACE	Cancel	ОК

- * If you decide to cancel, press the [EXIT] button.
- 2. Use the [VALUE] knob to select "OK", and then press the [VALUE] knob.
- 3. Press the [MENU] button to close the menu.

#### MEMO

#### About the sequencer demo data

Once you perform a factory reset (p. 99), any demo data you have edited or deleted is restored to its factory default settings.

### Backing Up and Restoring the Unit's Settings

You can group together the unit's settings into a single file (.VR120) and back up it to a storage (SD card, USB flash drive) connected to the VR-120HD. You can access the backed up setting file on the storage and restore it into the unit for use when needed.

* The setting file is saved to and recalled from the "Roland/VR-120HD/backup" folder.

#### NOTE

- When using a SD card or USB flash drive for the first time, you must format it using the VR-120HD (p. 13).
- Never turn off the power or remove the SD card or USB flash drive while the message "Processing..." is shown.
- Depending on the SD card or USB flash drive, it may take some time to be recognized.

### **Backing Up**

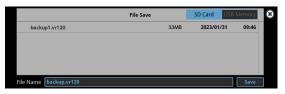
### Saving a new file

#### 1. Insert the SD card into the SDXC card slot.

- * When using a USB flash drive, connect the USB flash drive to the USB HOST port.
- [MENU] button → "SD Card/USB Memory" → select "Backup All Settings", and press the [VALUE] knob.

SD Card/USB Memory	۲
SD Card	
- Eject	Exec
- Format	Exec
- Speed Test	Exec
USB Memory	
- Eject	Exec
- Format	Exec
- Speed Test	Exec
Restore All Settings	Enter
Backup All Settings	Enter

The backup files in the storage are listed.



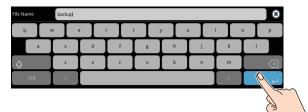
- * Use the "SD Card" or "USB Memory" selector at the top right-hand corner of the screen to switch between the storage media to load from.
- 3. Select "File Name" and press the [VALUE] knob.

This brings up the software keyboard for input.

#### 4. Input the backup file name.

* You can input up to 32 characters.

5. Touch <Enter> in software keyboard.



6. Use the [VALUE] knob to select "Save", and then press the [VALUE] knob.

A confirmation message appears.



- * If you decide to cancel, press the [EXIT] button.
- Use the [VALUE] knob to select "OK", and then press the [VALUE] knob.

The settings file (.VR120) is backed up on the storage. When the operation is finished, the message "Completed" appears.

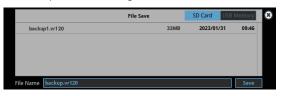
#### 8. Press the [MENU] button to close the menu.

#### MEMO

Some settings are not saved to the file, such as the "Test Pattern" and "Test Tone" settings in the System menu.

### **Overwrite-saving**

- 1. Insert the SD card into the SDXC card slot.
- * When using a USB flash drive, connect the USB flash drive to the USB HOST port.
- [MENU] button → "SD Card/USB Memory" → select "Backup All Settings", and press the [VALUE] knob. The backup files in the storage are listed.



- * Use the "SD Card" or "USB Memory" selector at the top right-hand corner of the screen to switch between the storage media to load from.
- **3.** Touch the backup file that you want to overwrite. The filename shown in the list of filenames is used.
- 4. Use the [VALUE] knob to select "Save", and then press the [VALUE] knob.
  - A confirmation message appears.
  - * If you decide to cancel, press the [EXIT] button.
- 5. Use the [VALUE] knob to select "OK", and then press the [VALUE] knob.

The settings file is overwrite-saved. When the operation is finished, the message "Completed" appears.

6. Press the [MENU] button to close the menu.

#### MEMO

Some settings are not saved to the file, such as the "Test Pattern" and "Test Tone" settings in the System menu.

### Restoring

Here's how to restore this unit's settings that you saved on a storage. When you restore settings, the current settings are overwritten.

 [MENU] button → "SD Card/USB Memory" → select "Restore All Settings", and press the [VALUE] knob.

SD Card/USB Memory	۲
SD Card	
- Eject	Exec
- Format	Exec
- Speed Test	Exec
USB Memory	
- Eject	Exec
- Format	Exec
- Speed Test	Exec
Restore All Settings	Enter
Backup All Settings	Enter

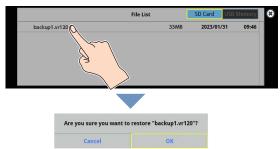
The backup files in the storage are listed.

File List		SD Card	USB M	emory
	33MB	2023/01	/31	09:46
	File List			

* Use the "SD Card" or "USB Memory" selector at the top right-hand corner of the screen to switch between the storage media to load from.

#### 2. Touch the settings file that you want to restore.

A confirmation message appears.



- * If you decide to cancel, press the [EXIT] button.
- 3. Use the [VALUE] knob to select "OK", and then press the [VALUE] knob.

The settings are restored. When the operation is finished, the message "Completed" appears.

### Assigning Functions to the USER Buttons

You can assign the functions you want to the USER [1]–[4] buttons. By doing this, the function you assigned is executed when you press a USER button.

The functions printed on the operation panel are assigned to the USER buttons by factory default.

#### 1. Press the USER [SETUP] button.

The User Assign screen appears.

 Select the function by touching the "Category" and "Value" of the USER button you want to reassign.



#### Category

Value	Explanation		
N/A	No function is assigned.		
Freeze	Turns the freeze function on/off.		
Auto Switching	Turns the auto switching function on/off.		
Input Assign	Each time you press a button, the video source assigned to the specified cross-point button switches to the following sources in order: $HDMI 1 \rightarrow 6 \rightarrow SDI 1 \rightarrow 6 \rightarrow STILL 1 \rightarrow 16$		
Still Output         Pauses the normal output, and pre- final outputs a cut of the still imag			
Video Player Output	Pauses the normal output, and cuts to the preview/final output of the video player image.		
Load Memory	Recalls a scene memory.		
Input Scan	Each time you press a button, the Input 1-8 video changes in order.		
Scene Memory Scan	Each time you press a button, scene memories 1–32 are recalled in order.		
PinP&Key 1–4 Scan	The PinP & KEY 1–4 inset screen videos switch in order each time you press the button.		
DSK 1, 2 Scan	The DSK 1 and 2 caption video switches in order each time you press the button.		
External Rec Control	Controls the recorder's video record start/ stop if a recorder that supports REC control functionality is connected (p. 90).		
Macro Execute	Executes a macro (a series of recorded operations).		
Sequencer	Shows the sequencer execution screen.		
Stream/Record	Assigns a streaming-related function.		
Video Player	Assigns a video player-related function.		
GPO (One Shot)	Outputs a control signal for 0.5 seconds.		
GPO (Alternate)	The control signal output is switched on/ off while the button is pressed.		
Camera Control	Turns the camera control function on/off.		
System	Assigns a system-related function.		

#### ● Value

Configures the detailed settings related to "Category".

3. Press the lit [SETUP] button to close the setup screen.

### Controlling an External Recorder's Video Record Start/Stop from the VR-120HD

Connect a recorder that supports REC control functionality via HDMI to control rec start/stop on the recorder from the VR-120HD (REC control function).

For more about recorders that support the REC control function, refer to the Roland website.

https://proav.roland.com/

### Setting

#### Assigning a USER button

To use the external REC control function, you must assign the recorder's video recording start/stop functions to a USER button.

 Assign the "External Rec Control" function to a USER button by following the steps in "Assigning Functions to the USER Buttons" (p. 90).

#### Turning REC control on/off

 [MENU] button → "Video Output" → "HDMI Out 1–3" → and set "External Rec Control" to "ON".

Color Space	YPbPr(4:4:4)
DVI-D/HDMI Signal	HDMI )
Brightness -	-0- + 0
Contrast -	-0- + 0
Saturation -	-0
Red -	-0- + 0
Green -	-0- + 0
Blue -	+ (

### Operation

- 1. Press the USER button to which Rec Start/Stop is assigned.
  - Each time you press the button, the recorder switches between video record start/stop.



* This example shows the function assigned to the USER [3] button.

#### NOTE

The lights of the USER buttons show the status of the VR-120HD, and are not linked with the recorder's status.

For instance, if the recorder stops recording for some reason while the USER button are lit, these buttons do not automatically go dark in response.

### Remotely Controlling a PTZ Camera

You can connect up to twelve cameras via the DIRECT STREAM port and remotely control them from the VR-120HD.

This allows you to control cameras made by JVC, Panasonic, Canon, PTZOptics, and Avonic, and cameras that support VISCA over IP (such as Sony).

* Refer also to the owner's manual of your camera.

### Network Settings on the Camera

In order to control a camera from the VR-120HD, you need to make network settings on the camera. You can register up to twelve cameras.

#### Assigning a USER button

To use the camera control function, you must assign the camera control function to a USER button.

 Assign the "Camera Control" function to a USER button by following the steps in "Assigning Functions to the USER Buttons" (p. 90).

#### Network settings for the camera

2. Press the USER [SETUP] button.

The User Assign screen appears.

**3.** Touch <Setup> for the USER button to which you assigned the camera control function.



The camera control setup screen appears.

4. Touch the screen to configure the camera's network settings.



Menu item	Explanation	
Camera ID	Selects the camera to be controlled.	
Protocol Specifies the camera's protocol.		
IP Address Input the camera's IP address.		
	When "Protocol" is "JVC"	
Login Name	Touch <login name=""> to bring up the software keyboard for input, and enter the log-in name needed to connect with the camera.</login>	
	When "Protocol" is "JVC"	
Password	Touch <password> to bring up the software keyboard for input, and enter the password needed to connect with the camera.</password>	

5. Press the lit [SETUP] button to close the setup screen.

### Registering Camera Settings in a Preset

Up to 8 sets of settings such as camera position and focus can be registered as presets.

A registered preset can be recalled when needed.

- * Presets are saved in the camera itself.
- 1. In step 2 of "Network Settings on the Camera", bring up the camera control setup screen.
- 2. Touch the screen to operate the camera settings.

Camera Control						
Camera 1	Camera 2	Camera 3	Camera 4	Camera 5	Camera 6	
Camera 7	Camera 8	Camera 9	Camera 10	Camera 11	Camera 12	
Protocol			IP Address		68.0.101	
Login Nam	ne		Password			
Position	FC	Fast Wide Slow Wide Icus Near	Tele Rese	t Exposure M	anual Auto HDMI 1	
Pan Tilt Speed 12						
1	2	3	4	All C	ameras Load	
5	6	7	8		Store	

Menu item	Explanation		
Positioner	Adjusts the horizontal/vertical position. Drag on the screen to operate the camera.	Por see	
Pan Tilt Speed	Adjusts the speed at which the camera changes direction.		
Zoom	Adjusts the zoom position. (*1)		
Focus	Adjusts the focal point. (*1)		
Auto Focus	When this is "ON", the focal point is set automatically.		
Exposure	Specifies the exposure mode.		
Tally Channel	Specifies the connector from which the camera video is input. When the camera video from the VR-120HD is the final output, the camera's tally light is lit.		

(*1) You can operate the camera while touching the screen.

3. Touch <Store>.

4. Touch the preset number (Camera Preset 1–8) area where you want to register the settings.



5. Press the lit [SETUP] button to close the setup screen.

#### **Other Functions**

### **Recalling a Preset**

This shows you how to recall the presets registered in your camera. You can also recall presets from multiple cameras at the same time.

 In step 3 of "Network Settings on the Camera", bring up the camera control setup screen.

#### Recalling presets from a single camera

Menu item	Explanation
Camera ID	Select the camera from which you want to recall a preset.
All Cameras Load	Turns "All Cameras Load" off.



#### Recalling from all cameras simultaneously

Menu item		Exp	lanation			
All Came	Il Cameras Load Turns "All Cameras Load" on.			Load" on.		
Camera Preset						
Camera Preset	2	3	;	4		All Cameras Load

2. Touch the preset number (Camera Preset 1–8) area you want to recall.



3. Press the lit [SETUP] button to close the setup screen.

#### Recalling presets with the buttons

By assigning a USER button to the camera control function, you can recall presets using the button.

To use the camera control function, you must assign the camera control function to a USER button.

#### Assigning a USER button

1. Assign the "Camera Control" function to a USER button by following the steps in "Assigning Functions to the USER Buttons" (p. 90).

#### Recalling a preset

- 2. On the camera control setup screen, set "All Cameras Load" to on (all cameras) or off (a single camera).
- Press the USER button to which you've assigned the camera control function to turn camera control on (the button lights up).



- * This example shows the function assigned to the USER [3] button.
- Touch < <>> or <>> to change the "Camera ID", and select the camera (1–12) for which you want to recall the preset.

Camera Preset	Setup
Camera 1	

5. Press the VIDEO SWITCHER button for the preset number whose setting you want to recall.



The settings are recalled from the cameras.

6. Press the USER button again to turn the camera control function off.

### Using a Footswitch

You can use a footswitch connected to the CTL/EXP 1 and 2 jacks to control the VR-120HD with your foot. You can assign various functions to the footswitch.

 [MENU] button → "Ctl/Exp" → "Ctl/Exp 1" or "Ctl/Exp 2" → select "Ctl/Exp Type", and press the [VALUE] knob.

Ş	Ctl/Exp 1	8
Ctl/Exp Type	Cti A & Cti B	Þ
Ctl A		
- Category	PGM Channel Select	۲
- Value	Input 1	Þ
Ctl B		
- Category	Still Output	Þ
- Value	Still 1	Þ

- 2. Set the connected device to "Ctl A & Ctl B" (the footswitch) using the [VALUE] knob, and press the [VALUE] knob.
- 3. Use the [VALUE] knob to select Ctl A Or Ctl B "Category" and "Value", and press the [VALUE] knob.
- 4. Use the [VALUE] knob to select the function that you want to assign to Ctl A or Ctl B of the footswitch, and press the [VALUE] knob.

#### Category

Value	Explanation
N/A	No function is assigned.
PGM Channel Select	Switches the video sent to the PGM bus.
PST Channel Select	Switches the video sent to the PST bus.
AUX Channel Select	Switches the video sent to the AUX bus.
Input 1–8 Assign	Changes the video assigned to Input 1–8.
Still Output	Pauses the normal output, and previews or final outputs a cut of the still image.
Video Player Output	Pauses the normal output, and cuts to the preview/final output of the video player image.
PinP&Key 1–4 Source	Switches the video source of the inset screen.
DSK 1, 2 Source	Switches the DSK video source.
Button Control	This works the same as when you press the button selected in "VALUE".
Audio Input Mute	Turns the mute function on/off for the input audio.
Audio Output Mute	Turns the mute function on/off for the output audio.
Audio Input Solo	Turns the solo function on/off for the input audio.
Audio Output Solo	Turns the solo function on/off for the output audio.
Voice Changer	Turns the voice changer on/off.
Auto Mixing	Turns the auto mixing on/off.
Reverb (Momentary)	Reverb turns on only while you press the footswitch.
Reverb (Alternate)	Turns reverb on/off.
Output Fade	The final output video fades in/out.
Load Memory	Recalls a scene memory.
Input Scan	Each time you press the footswitch, the Input 1–8 video changes in order.
Scene Memory Scan	Each time you press the footswitch, scene memories 1–32 are recalled in order.

Value	Explanation
PinP&Key 1–4 Scan	The PinP & KEY 1–4 inset screen videos switch in order each time you press the footswitch.
DSK 1, 2 Scan	The DSK 1 and 2 caption video switches in order each time you press the footswitch.
Macro Execute	Executes a macro (a series of recorded operations).
Sequencer	When the sequencer function is on, this works the same as when you press the button selected in "VALUE".
GPO (One Shot)	Outputs a control signal for 0.5 seconds.
GPO (Alternate)	The control signal output is switched on/ off with each press of the footswitch.

#### ● Value

Configures the detailed settings related to "Category".

#### 5. Press the [MENU] button to close the menu.

#### MEMO

- See "Connecting a Footswitch" (p. 9) for how to connect a footswitch to this unit.
- If a single-pedal type footswitch such as the BOSS FS-5U is connected using a phone cable (mono), the function assigned by "Ctl B" is enabled.

### Using an Expression Pedal

You can use an expression pedal connected to the CTL/EXP 1 and 2 jacks to control the VR-120HD with your foot.

### Adjusting the Pedal (Pedal Calibration)

The first time you use an expression pedal, you must calibrate (adjust) the pedal so that it will operate optimally.

In some cases, an expression pedal might no longer operate optimally due to the passage of time or changes in the operating conditions. If you notice problems such as slight movements of the pedal causing a major change in volume, or if the video fails to switch when you press the pedal, you should execute calibration.

 [MENU] button → "Ctl/Exp" → "Ctl/Exp 1" Or "Ctl/Exp 2" → select "Ctl/Exp Type", and press the [VALUE] knob.

P	Ctl/Exp 1	(	3
Ctl/Exp Type		Ехр	Þ
Exp			
- Category		Audio Input Level	Þ
- Value		Audio In 1	Þ
Exp Calibration		Ent	er

- 2. Set the connected device to "Exp" (the expression pedal) using the [VALUE] knob, and press the [VALUE] knob.
- 3. Use the [VALUE] knob to select "Exp Calibration", and press the [VALUE] knob.

The Exp Calibration screen appears.



- 4. As directed by the screen, step on the pedal in the fully heeldown position, and press the [VALUE] knob.
- 5. As directed by the screen, step on the pedal in the fully toedown position, and press the [VALUE] knob.

When the "Completed" indication appears, calibration is completed.

6. Press the [MENU] button to close the menu.

#### MEMO

You should normally use the EV-5 with its minimum volume knob left in the zero position. If you change the position of the minimum volume knob, you must execute pedal calibration.

### Assigning a Function to the Pedal

You can assign various functions to the expression pedal.

 [MENU] button → "Ctl/Exp" → "Ctl/Exp 1" Or "Ctl/Exp 2" → select "Ctl/Exp Type", and press the [VALUE] knob.

Ctl/Exp Type	Exp
Exp	
- Category	Audio Input Level
- Value	Audio In 1
Exp Calibration	Ente

- 2. Set the connected device to "Exp" (the expression pedal) using the [VALUE] knob, and press the [VALUE] knob.
- Use the [VALUE] knob to select Exp "Category" and "Value", and press the [VALUE] knob.
- 4. Use the [VALUE] knob to select the function that you want to assign to the expression pedal, and press the [VALUE] knob.

Category		
Value	Explanation	
N/A	No function is assigned.	
	Fade:	
	Operates the video fader.	
Video Fader	Cut:	
	Cuts between the final output video and the preview video.	
Still Output	Pauses the normal output, and previews or final outputs a cut of the still image.	
Video Player Output	Pauses the normal output, and cuts to the preview/final output of the video player image.	
Audio Input Level	Adjusts the input volume.	
Audio Output Level	Adjusts the output volume.	
Voice Changer	Adjusts the balance between the unprocessed voice (0) and the voice processed by the effect (100).	
Reverb Level	Adjusts the amount of sound that is returned from the reverb (return level).	

#### Value

Configures the detailed settings related to "Category".

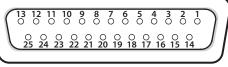
#### 5. Press the [MENU] button to close the menu.

### Control Using the TALLY/GPIO Connector

You can use control signals inputted to the TALLY/GPIO connector via GPI to remotely control the VR-120HD from an external device. Also, you can output tally signals or GPO control signals from the TALLY/GPIO connector.

### Specification of the TALLY/GPIO Connector

#### **Pin layout**



DB-25 type (female)

#### **Tally output**

Trigger method	Open collector	
Maximum input	12 V/120 mA	

#### **Control input**

Trigger method	No-voltage contact (make-contact) triggering
Contact capacity DC 24 V 0.1 A or higher	
Input method Photocoupler	

#### **Pin assignments**

Pin no.	Pin name	Function (default value)
1	TALLY/GPO 1	PGM HDMI 1
2	TALLY/GPO 2	PST HDMI 1
3	TALLY/GPO 3	PGM HDMI 2
4	TALLY/GPO 4	PST HDMI 2
5	TALLY/GPO 5	PGM HDMI 3
6	TALLY/GPO 6	PST HDMI 3
7	TALLY/GPO 7	PGM HDMI 4
8	TALLY/GPO 8	PST HDMI 4
9	TALLY/GPO 9	PGM HDMI 5
10	TALLY/GPO 10	PST HDMI 5
11	TALLY/GPO 11	PGM HDMI 6
12	TALLY/GPO 12	PST HDMI 6
13	TALLY/GPO 13	GPO 1
14	TALLY/GPO 14	GPO 2
15	TALLY/GPO 15	GPO 3
16	TALLY/GPO 16	GPO 4
17	GND	
18	GPI 1	Not assigned
19	GPI 2	Not assigned
20	GPI 3	Not assigned
21	GPI 4	Not assigned
22	GPI 5	Not assigned
23	GPI 6	Not assigned
24	GPI 7	Not assigned
25	GPI 8	Not assigned

### **Inputting a Control Signal**

When an external control signal is input, the functions assigned to GPI 1–8 are executed.

- [MENU] button → "RS-232/Tally/GPO/GPI" → "GPI" → select GPI 1-8 "Category" and "Value", and press the [VALUE] knob.
- Use the [VALUE] knob to select the functions assigned to GPI 1–8, and then press [VALUE].



#### Category

Value	Explanation
N/A	No function is assigned.
PGM Channel Select	Switches the video sent to the PGM bus.
PST Channel Select	Switches the video sent to the PST bus.
AUX Channel Select	Switches the video sent to the AUX bus.
Input 1–8 Assign	Changes the video assigned to Input 1–8.
Still Output	Pauses the normal output, and previews or final outputs a cut of the still image.
Video Player Output	Pauses the normal output, and cuts to the preview/final output of the video player image.
PinP&Key 1–4 Source	Switches the video source of the inset screen
DSK 1, 2 Source	Switches the DSK video source.
Button Control	This works the same as when you press the button selected in "VALUE".
Audio Input Mute	Turns the mute function on/off for the input audio.
Audio Output Mute	Turns the mute function on/off for the output audio.
Audio Input Solo	Turns the solo function on/off for the input audio.
Audio Output Solo	Turns the solo function on/off for the output audio.
Voice Changer	Turns the voice changer on/off.
Auto Mixing	Turns the auto mixing on/off.
Reverb (Momentary)	Reverb turns on only while a control signal is input.
Reverb (Alternate)	Turns reverb on/off.
Output Fade	The final output video fades in/out.
Load Memory	Recalls a scene memory.
Input Scan	Each time a control signal is input, the Input 1–8 video changes in order.
Scene Memory Scan	Each time a control signal is input scene memories 1–32 are recalled in order.
PinP&Key 1–4 Scan	Each time a control signal is input, the PinP&Key 1–4 inset screen videos changes in order.
DSK 1, 2 Scan	Each time a control signal is input, the DSK 1 and 2 caption video changes in order.
Macro Execute	Executes a macro (a series of recorded operations).
Sequencer	When the sequencer function is on, this works the same as when you press the button selected in "Value".
GPO (One Shot)	Outputs a control signal for 0.5 seconds.
GPO (Alternate)	The control signal output is switched on/ off each time a control signal is input.

#### Value

Configures the detailed settings related to "Category".

3. Press the [MENU] button to close the menu.

### **Outputting a Tally Signal**

Pins 1–16 of the TALLY/GPIO connector can be used to output a tally. A tally signal is output from the connector pins whenever a VIDEO SWITCHER button is selected.

 [MENU] button → "RS-232/Tally/GPO/GPI" → "Tally/GPO" → select "Tally/GPO 1"-"Tally/GPO 16", and press the [VALUE] knob.

Ð	Tally/GPO 1	۲
PGM HDMI 1		~
PGM HDMI 2		
PGM HDMI 3		
PGM HDMI 4		
PGM HDMI 5		
PGM HDMI 6		
PGM SDI 1		
PGM SDI 2		
PGM SDI 3		

2. Use the [VALUE] knob to select the tally signal assigned to the connector pins and then press the [VALUE] knob.

Value	Explanation
PGM HDMI 1-6	Video for which the final output is HDMI IN 1–6.
PGM SDI 1–6 Video for which the final output is SDI IN 1–	
PGM Still 1–16	The final output is still images 1–16.
PGM Video Player	The final output is the video from the video player.
PGM Input 1–8	Use the VIDEO SWITCHER [1]–[8] buttons to select the final output video.
PST HDMI 1–6	Video for which the preview output is HDMI IN 1–6.
PST SDI 1–6	Video for which the preview output is SDI IN 1-6.
PST Still 1–16	The preview output is still images 1–16.
PST Video Player	The preview output is the video from the video player.
PST Input 1–8	Use the VIDEO SWITCHER [1]–[8] buttons to select the preview output video.

3. Press the [MENU] button to close the menu.

#### MEMO

Use a settings template to change the assignments for the connector pins all at once.

Select a template from "Template" in the Tally/GPO menu and then press the [VALUE] knob to apply the settings.

### **Outputting a Control Signal**

You can use connector pins 1–16 of the TALLY/GPIO connector as GPOs to output control signals.

### Assigning the GPOs

You can assign pins 1–16 of the TALLY/GPIO connector to the GPOs (1–16) in order to output control signals.

 [MENU] button → "RS-232/Tally/GPO/GPI" → "Tally/GPO" → select "Tally/GPO 1"-"Tally/GPO 16", and press the [VALUE] knob.



- Use the [VALUE] knob to select one of "GPO 1"-"GPO 16", and press the [VALUE] knob.
- 3. Press the [MENU] button to close the menu.

#### MEMO

Use a settings template to change the assignments for the connector pins all at once.

Select a template from "Template" in the Tally/GPO menu and then press the [VALUE] knob to apply the settings.

### Outputting a control signal

Control signals are outputted when you operate a USER button, footswitch or other control to which a GPO output function has been assigned.

#### **Using the USER buttons**

The USER buttons light up while control signals are being output. ➡ "Assigning Functions to the USER Buttons" (p. 90)

#### **Using a footswitch**

➡ "Using a Footswitch" (p. 93)

#### Inputting an external control signal (GPI)

➡ "Inputting a Control Signal" (p. 95)

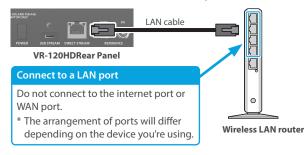
### **Using Smart Tally**

Roland's own Smart Tally system turns your smart device or computer that's connected to the VR-120HD into a tally box. This lets you access your smart device or computer via a wireless LAN access point to display a tally on that device.

### Connecting via a Wireless LAN Router

Connect your Wi-Fi enabled smart device or computer to the wireless LAN router via Wi-Fi.

- * If you connect multiple smart devices or computers, operation might be slower.
- 1. Use a LAN cable to connect the LAN port on your wireless LAN master device to the DIRECT STREAM port on the VR-120HD.



2. Turn on the wireless LAN master device, and connect your smart device or computer via wireless LAN (Wi-Fi).

Enable the DHCP function of the wireless LAN router.

* For details on how to connect the wireless LAN (Wi-Fi), refer to the manual of the device that you're using.

- 3. Power-on the VR-120HD.
- [MENU] button → "Network" → "LAN Setup" → set "Configure" to "Using DHCP", and press the [VALUE] knob.

The IP address, subnet mask, and default gateway are obtained automatically.

LAN Setup	۲
Configure	Using DHCP
IP Address	192.168.11.2
Subnet Mask	255.255.255.0
Default Gateway	192.168.11.1
DNS Server	192.168.0.1
Cancel	Apply

- 5. Use the [VALUE] knob to select "Apply", and press the [VALUE] knob.
- Use the [VALUE] knob to select "Network Information", and press the [VALUE] knob.
  - * Network Information screen appears.

Network Information	۲
Link Status	Connected
IP Address	192.168.11.2
Subnet Mask	255.255.255.0
Default Gateway	192.168.11.1
DNS Server	192.168.0.1

When "Link Status" indicates "Connected", the connection settings are complete.

#### MEMO

If you fix the IP address, you'll always be able to start Smart Tally with the same IP address.

For details on how to specify a fixed IP address, refer to the manual of the wireless LAN router that you're using.

### **Starting Smart Tally**

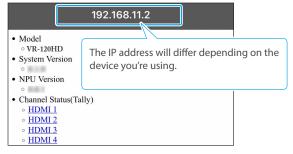
 From the VR-120HD's [MENU] button → "Network" → select "Network Information", and press the [VALUE] knob.

The Network Information screen appears.

Network Information	۲
Link Status	Connected
IP Address	192.168.11.2
Subnet Mask	255.255.255.0
Default Gateway	192.168.11.1
DNS Server	192.168.0.1

- 2. Start a browser on your smart device or computer.
- 3. In the URL input field of your browser, enter the IP address that's shown in the Network Information screen to access the website.

The Smart Tally settings screen appears.



- * You can also access the website by scanning a QR code. The QR code is shown when you press "2D Code for Smart Tally" on the screen in step 1.
- 4. In "Channel Status (Tally)", select the video source that you want to assign to the smart device or computer.

The device's display switches to the tally information screen.

This shows the tally information corresponding to the video source output from the VR-120HD.



#### NOTE

- Depending on the network conditions, the wireless LAN (Wi-Fi) communication speed or connection might be unstable, so that the tally indication is not displayed correctly. In this case, reload the page.
- Depending on the version of the browser that you're using, the tally indication might not be displayed correctly. Use the latest version of the browser whenever possible.

### Preventing Unintended Operation (Panel Lock)

You can disable operation of the panel's buttons and knobs to prevent unintended operations (Panel Lock function).

#### [MENU] button → "System" → select "Panel Lock", and press the [VALUE] knob.

The Panel Lock m	enu ap	opears.
Panel Lo	ck	۲
All	All Off	All On
Touch Panel		OFF
VIDEO SWITCHER All	All Off	All On
- VIDEO SWITCHER Button 1 - VIDEO SWITCHER Button 2		OFF
- VIDEO SWITCHER Button 3		OFF
- VIDEO SWITCHER Button 4 - VIDEO SWITCHER Button 5		OFF

2. Use the [VALUE] knob to select a target for panel lock, and press the [VALUE] knob.

AllThe following settings are turned on/off together.Touch PanelTouch panel operationVIDEO SWITCHER AllButtons in VIDEO sectionVIDEO SWITCHER 1-8 ButtonVIDEO SWITCHER [1]-[8] buttonsCUT Button[CUT] buttonAUTO Button[AUTO] buttonMODE AllButtons in MODE sectionSETUP ButtonMODE [SETUP] buttonINPUT SELECT Button[INPUT SELECT] buttonAUX Button[SCENE MEMORY] buttonSCENE MEMORY Button[SCENE MEMORY] buttonMACRO Button[MACRO] buttonTRANSITION AllButtons in TRANSITION sectionSETUP Button[MIX] buttonWIPE Button[WIPE] buttonMIX Button[WIPE] buttonSPLIT 1 Button[SPLIT 1] buttonSPLIT 2 Button[SPLIT 2] buttonPinP&KEY 1-4 AllButtons in PinP&KEY 1-4 sectionSETUP ButtonPinP&KEY 1-4 [SETUP] buttonPVW ButtonPinP&KEY 1-4 [PGM] buttonPVW ButtonDSK1-2 [SETUP] buttonPGM ButtonDSK1-2 [PCW] buttonPGM ButtonDSK1-2 [PGM] buttonUSER Button AllButtons in USER sectionSETUP Button AllButtons in SETUP] buttonONITOR Button AllButtons in MONITOR sectionSETUP ButtonUSER [SETUP] buttonONITOR Button AllButtons in MONITOR sectionSETUP ButtonUSER [SETUP] buttonDESK 1-4 Button AllButtons in MONITOR section	Menu item	Explanation			
VIDEO SWITCHER AIIButtons in VIDEO sectionVIDEO SWITCHER 1-8 ButtonVIDEO SWITCHER [1]–[8] buttonsCUT Button[CUT] buttonAUTO Button[AUTO] buttonMODE AIIButtons in MODE sectionSETUP ButtonMODE [SETUP] buttonINPUT SELECT Button[INPUT SELECT] buttonAUX Button[AUX] buttonSCENE MEMORY Button[SCENE MEMORY] buttonTRANSITION AIIButtons in TRANSITION sectionSETUP Button[MIX] buttonWIPE Button[SPLIT 2] buttonMIX Button[MIX] buttonSPLIT 1 Button[SPLIT 1] buttonSPLIT 2 Button[SPLIT 2] buttonPinP&KEY 1-4 AIIButtons in PinP&KEY 1-4 sectionSETUP ButtonPinP&KEY 1-4 [PGM] buttonPW ButtonPinP&KEY 1-4 [PGM] buttonPW ButtonDSK1-2 [SETUP] buttonPW ButtonDSK1-2 [SETUP] buttonPGM ButtonDSK1-2 [PCW] buttonPGM ButtonDSK1-2 [PCW] buttonUSER Button AIIButtons in USER sectionSETUP ButtonDSK1-2 [PGM] buttonPGM ButtonDSK1-2 [PGM] buttonPGM ButtonDSK1-2 [PGM] buttonMONITOR Button AIIButtons in MONITOR sectionSETUP ButtonUSER [SETUP] button	All				
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	MONITOR Button All	Buttons in MONITOR section			
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	MONITOR 1-4 Button	MONITOR [1]–[4] button			
CAPTURE IMAGE Button [CAPTURE IMAGE] button	CAPTURE IMAGE Button	[CAPTURE IMAGE] button			
AUDIO LEVEL Button [AUDIO LEVEL] button	AUDIO LEVEL Button	[AUDIO LEVEL] button			
OUTPUT FADE Button [OUTPUT FADE] button					

Menu item	Explanation	
AUDIO MIXER 1-9/10 AII	Buttons and knobs in AUDIO INPUT section	
GAIN 1–9/10 Knob	GAIN [1]–[9/10] knob	
SETUP 1–9/10 Button	SETUP [1]–[9/10] buttons	
SOLO 1–9/10 Button	SOLO [1]–[9/10] buttons	
MUTE 1–9/10 Button	MUTE [1]–[9/10] buttons	
Level 1–9/10 Fader	Level [1]–[9/10] fader	
MAIN AII	Buttons and knobs in AUDIO OUTPUT section	
SETUP Button	MAIN [SETUP] button	
SOLO Button	MAIN [SOLO] button	
MUTE Button	MAIN [MUTE] button	
Level Fader	MAIN [Level] fader	
AUX 1 Knob	[AUX 1] knob	
AUX 2 Knob	[AUX 2] knob	
USB OUT Knob	[USB OUT] knob	
STREAM/RECORD Knob	[STREAM/RECORD] knob	
AUDIO EFFECT All	Buttons in AUDIO EFFECT section	
SETUP Button	AUDIO EFFECT [SETUP] button	
AUDIO EFFECT 1-4 Button	AUDIO EFFECT [1]–[4] button	
AUDIO PLAYER AII	Buttons in AUDIO PLAYER section	
SETUP Button	AUDIO PLAYER [SETUP] button	
AUDIO PLAYER 1-8 Pad	AUDIO PLAYER [1]–[8] pads	
Level Knob	AUDIO PLAYER [LEVEL] knob	

- **3.** Use the [VALUE] knob to specify whether panel lock is enable (ON) or disable (OFF), and press the [VALUE] knob.
- 4. Press the [MENU] button to close the menu.

#### MEMO

The [MENU] button blinks when you try to operate a locked button, knob or other control.

### Returning to the Factory Settings (Factory Reset)

Here's how you can return the settings of the VR-120HD to their factory-set state.

If following the procedures described in this manual does not cause the result you expect, try executing a factory reset.

#### NOTE

- When you execute a factory reset, all the settings you've made as well as the data saved on the VR-120HD (preset memory, macros, sequencer, and still images) is lost.
- Do not turn off the power while the message "Processing..." is shown.
- 1. [MENU] button → "System" → select "Factory Reset", and press the [VALUE] knob.

A confirmation message appears.

Ş	System		۲
- Motion		Off	٠
Test Tone			
- Level		Off	۲
- Frequency	L	1kHz	۲
- Frequency	R	1kHz	•
Shut Down		Exe	ec
Factory Rese	et	Exe	ec
System Infor	rmation	uni. 1.05.136	Þ

- * If you decide to cancel, press the [EXIT] button.
- 2. Use the [VALUE] knob to select "OK", and then press the [VALUE] knob.

Factory reset is executed. When the operation is finished, the message "Completed" appears.

### Remotely Controlling the VR-120HD

To remotely control the VR-120HD, you can use an external device to send control signals to the unit (p. 95), use a dedicated app, or use LAN/RS-232 commands.

#### MEMO

The dedicated apps "VR-120HD RCS" and "VR-120HD Remote" are planned to be updated for compatibility with this unit.

# Using the dedicated apps "VR-120HD RCS" and "VR-120HD Remote"

Dedicated apps are available for computers ("VR-120HD RCS") and for the iPad ("VR-120HD Remote").

These apps can be downloaded from the Roland website.

#### https://proav.roland.com/

* For details on operation, refer to the Owner's Manual of "VR-120HD RCS" or "VR-120HD Remote".

#### VR-120HD RCS (Windows/Mac)

Use the dedicated "VR-120HD RCS" app to operate the VR-120HD from your computer.

You can connect either wirelessly or via cable.

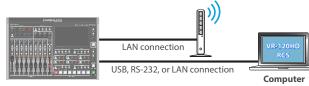
#### Wireless connection

• Connection via wireless LAN master device (Wi-Fi)

#### Wired connection (via cable)

- USB connection (USB Type-C cable)
- LAN connection (LAN cable)
- RS-232 connection (RS-232 cable)

#### Wireless LAN router



#### VR-120HD Remote

Use the dedicated "VR-120HD Remote" app to operate the VR-120HD from your iPad.

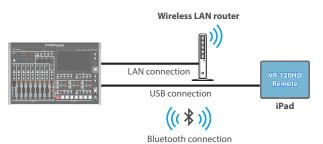
You can connect either wirelessly or via cable.

#### Wireless connection

- Bluetooth connection
- Connection via wireless LAN master device (Wi-Fi)

#### Wired connection (via cable)

USB connection (USB Type-C cable, Lightning to USB camera adapter)



### LAN/RS-232 command

The VR-120HD support two types of remote-interface communication: LAN and RS-232.

Using the DIRECT STREAM port or RS-232 connector to send specific commands to the VR-120HD from a controlling device lets you operate the VR-120HD.

See "Remote Control Guide" (PDF) for details on each interface and for a list of LAN/RS-232 commands.

https://roland.cm/vr-120hd

#### MEMO

#### **MIDI** implementation

The VR-120HD supports MIDI remote control.

See "MIDI Implementation" in the "Remote Control Guide" (PDF) for details.

# Menu List

# 1: Video Assign

Menu item	Value (hold toyt default uslue)	Evaluation	
	Value (bold text: default value)	Explanation	
Jump To Setup Enter J HDMI 1–6, SDI 1–6,		Jumps to the setup screen.	
Input 1–8	HDMI 1–6, SDI 1–6, Still 1–16, V.Player, Stream/Record Status 1–2, Date&Time (Analog/Digital (*)), N/A The default values are as follows. Input 1: HDMI 1 Input 2: HDMI 2 Input 3: HDMI 3 Input 4: HDMI 4 Input 5: HDMI 5 Input 6: HDMI 6 Input 7: Still 1 Input 8: Still 2	Sets the video source (input video and still images) to assign to the VIDEO SWITCHER [1]– [8] buttons. (*) The analog/digital display changes in the "System → Date&Time → Clock Display Type" setting.	
	Specifies the video bus that is assic	ned to the HDMI OUT 1–3 connectors.	
	Program	Final output video. This is the default setting for "HDMI Out 1".	
	Sub Program	Sub Program bus video	
	Preview	Preview output video. This is the default setting for "HDMI Out 2".	
HDMI Out 1–3	AUX	AUX bus video	
	Multi-View	Multi-view. This is the default setting for "HDMI Out 3".	
		The input video from the HDMI IN and SDI IN connectors (shown as 16 separate sections	
	Input-View	on the screen)	
	Still-View	Still images loaded into the unit (shown as 16 separate sections on the screen)	
SDI Out 1–3	Specifies the video bus that is assig	ned to the SDI OUT 1–3 connectors.	
	Program	Final output video. This is the default setting for "SDI Out 1".	
	Sub Program	SUB PROGRAM bus video	
	Preview	Preview output video. This is the default setting for "SDI Out 2".	
	AUX	AUX bus video	
Multi-View		Multi-view. This is the default setting for "SDI Out 3".	
	Input-View	The input video from the HDMI IN and SDI IN connectors (shown as 16 separate sections on the screen)	
	Still-View	Still images loaded into the unit (shown as 16 separate sections on the screen)	
	Specifies the video bus that is assic		
	Program	Final output video.	
	Sub Program	SUB PROGRAM bus video	
USB Out	Preview	Preview output video.	
	AUX	AUX bus video	
	Multi-View	Multi-view.	
	Input-View	The input video from the HDMI IN and SDI IN connectors (shown as 16 separate sections on the screen)	
	Still-View	Still images loaded into the unit (shown as 16 separate sections on the screen)	
	Specifies the video bus that is assic		
Stream/Record	Program	Final output video.	
	Sub Program	SUB PROGRAM bus video	
	Preview	Preview output video.	
	AUX	AUX bus video	
Stream/Record		Multi-view.	
Stream/Record	Multi-View	Multi-view.	
Stream/Record		Multi-view. The input video from the HDMI IN and SDI IN connectors (shown as 16 separate sections on the screen)	

#### Menu List

Menu item         Value (bold text: default value)         Explanation		Explanatio	n				
	Specifies the video b	Specifies the video bus to which this unit's display is assigned.					
	Program	Program		Final output video.			
	Sub Program		SUB PROGRAM bus video				
	Preview		Preview ou	tput video.			
LCD Monitor	AUX		AUX bus vi	deo			
	Multi-View		Multi-view.				
	Input-View	Input-View		video from the HDMI IN and SDI IN connectors (shown as 16 separate sections en)			
	Still-View		Still images	s loaded into the unit (shown as 16 separate sections on the screen)			
AUX Source	HDMI 1–6, SDI 1–6, Still 1–16, V.Player, Ir	When "AUX"		video that is sent to the AUX bus. "is selected on the [MODE] button, you can use the VIDEO SWITCHER [1]–[8] select the video that is sent to the AUX bus.			
	Enter	Displays the		e Program Layer menu.			
	Menu item	Value		Explanation			
Program Layer	PinP & KEY 1-4	Disable, Enable		Sets whether each layer is displayed (Enable) or hidden (Disable) in the fina output video.			
	DSK 1, 2	Disable, <b>Enable</b>					
	Enter	Displays the		e Sub Program Layer menu.			
Sub Program Layer	Menu item	Value		Explanation			
Pir	PinP & KEY 1–4	Disable, En	able	Sets whether each layer is displayed (Enable) or hidden (Disable) in the Sub			
	DSK 1, 2	Disable, En	able	Program bus video.			
AUX Layer	Enter		Displays th	e AUX Layer menu.			
	Menu item	Value		Explanation			
	PinP & KEY 1-4	Off, PGM S	ync, On	Sets whether each layer in the AUX bus video is shown (On), synced with			
	DSK 1, 2	Off, PGM S	ync, On	PGM (PGM Sync) or hidden (Off).			

# 2: Video Input

Menu item	Value (bold text: default value)	Explanation	
HDMI In 1–6 (SCALER)	Adjusts the video that is input from the HDMI IN 1–6 connectors.		
Input Status	Enter	Displays information about the incoming video (format, size, etc.).	
Flicker Filter	OFF, ON	When this is "ON", flickering is reduced.	
Flip H	OFF, ON	When this is "ON", the video is input with left and right flipped.	
Flip V	OFF, ON	When this is "ON", the video is input with top and bottom flipped.	
EDID (*1)	Internal           SVGA (800 x 600)           XGA (1024 x 768)           WXGA (1280 x 800)           FWXGA (1366 x 768)           SXGA (1280 x 1024)           SXGA + (1400 x 1050)           UXGA (1600 x 1200)           WUXGA (1920 x 1200)           720p, 1080i, 1080p	Specifies the input format (EDID). When this is "INTERNAL", EDID information for all formats that can be input to the VR-120HD will be transmitted. What is EDID? EDID is data that is transmitted from the VR-120HD to the source device when the VR-120HD is connected to a source device. EDID contains data such as the formats that can be input to the VR-120HD (resolution, color space, color depth) and audio information. Based on the EDID information that the source device receives, it will output the most appropriate video format to the VR-120HD.	
Zoom	10.0- <b>100.0</b> -1000.0% (*2)	Adjusts the zoom ratio.	
Scaling Type	Specifies the scaling type. Full Letterbox	Always displays the picture expanded to full screen, irrespective of the aspect ratio of the input video. Enlarges or reduces the incoming video to a full-screen view while keeping the aspect ratio	
	Crop Dot By Dot	<ul> <li>unchanged.</li> <li>Enlarges or reduces the incoming video so that the output picture has no blank margins while keeping the aspect ratio unchanged. Video extending beyond the borders is cut off.</li> <li>Performs no scaling.</li> </ul>	
	Manual	Scale according to the "Manual Size H" and "Manual Size V" settings below.	
Manual Size H (*3)	-2000– <b>0</b> –2000 (*2)	Adjusts the horizontal size.	
Manual Size V (*3)	-2000– <b>0</b> –2000 (*2)	Adjusts the vertical size.	
Position H	-1920– <b>0</b> –1920	Adjusts the position in the horizontal direction.	
Position V	-1200- <b>0</b> -1200	Adjusts the position in the vertical direction.	
Brightness	-32 <b>-0</b> -31	Adjusts the brightness.	
Contrast	-32-0-31	Adjusts the contrast.	
Saturation	-32- <b>0</b> -31	Adjusts the saturation.	
Red	-64-0-63	Adjusts the red level.	
Green	-64–0–63	Adjusts the green level.	
Blue	-64– <b>0</b> –63	Adjusts the blue level.	
SDI In 1–6	Adjusts the video that is input fr	om the SDI IN 1–6 connectors.	
Input Status	Enter	Displays information about the incoming video (format, size, etc.).	
Flip H	OFF, ON	When this is "ON", the video is input with left and right flipped.	
Flip V	OFF, ON	When this is "ON", the video is input with top and bottom flipped.	
Brightness	-32 <b>-0</b> -31	Adjusts the brightness.	
Contrast	-32 <b>-0</b> -31	Adjusts the contrast.	
Saturation	-32-0-31	Adjusts the saturation.	
Video Player	Adjusts the video that is input fr	Adjusts the video that is input from the video player.	
Flip H	OFF, ON	When this is "ON", the video is input with left and right flipped.	
FlipV	OFF, ON	When this is "ON", the video is input with top and bottom flipped.	

(*1) A change in the setting is not applied until you press the [VALUE] knob to confirm.

(*2) The valid range of setting values depends on conditions such as the input/output format.

(*3) This can be set if "Scaling Type" Is "Manual".

# 3: Video Output

Menu item	Value (bold text: default value)	Explanation	
HDMI Out 1–3	Adjusts the video that is output from the HDMI OUT 1–3 connectors.		
Output Status		Shows the format and an HDCP signal presence. If there is no connection, "Not Connected" is shown.	
Color Space	<b>YPbPr (4: 4: 4)</b> , YPbPr (4: 2: 2), RGB (0–255), RGB (16–235)	Specifies the color space.	
DVI-D/HDMI Signal	HDMI, DVI-D	Specifies the type of output signal.	
Brightness	-64-0-63	Adjusts the brightness.	
Contrast	-64-0-63	Adjusts the contrast.	
Saturation	-64-0-63	Adjusts the saturation.	
Red	-64-0-63	Adjusts the red level.	
Green	-64-0-63	Adjusts the green level.	
Blue	-64-0-63	Adjusts the blue level.	
External Rec Control	OFF, <b>ON</b>	<ul> <li>Turns the External Rec control on/off. When this is "ON", REC START/STOP commands can be sent to a recorder that supports REC control functionality.</li> <li>To use the External Rec control function, the REC START/STOP functions must be assigned to the USER button. From the System menu → "User Assign" → "User 1"-"User 4" set "Category" to "External Rec Control".</li> </ul>	
SDI Out 1–3	Adjusts the video that is output f	from the SDI OUT 1–3 connectors.	
Output Status	_	Shows the format.  * When "HDCP" in the SYSTEM menu is "ON", "HDCP MASKED" is displayed, and video/audio is not outputted from the SDI OUT connectors.	
3G-SDI Mapping	Level-A, Level-B	Specifies the mapping structure of the 3G-SDI output.	
Brightness	-64-0-63	Adjusts the brightness.	
Contrast	-64-0-63	Adjusts the contrast.	
Saturation	-64-0-63	Adjusts the saturation.	
USB Out	Adjusts the video that is output from the USB STREAM port. * You can edit the USB output video format and compression method from the livestreaming app or other app used at the outp destination.		
Output Status	-	<ul> <li>Indicates whether the connection uses USB 2.0 (HIGH SPEED) or USB 3.0 (SUPER SPEED). If no connected to a computer, this indicates "Not Connected".</li> <li>* When "HDCP" in the SYSTEM menu is "ON", "HDCP MASKED" is displayed, and video/audio is not outputted from the USB STREAM port.</li> </ul>	
	Sets the output destination formats that can be selected from the livestreaming app.		
Output Format	YUY2 & MJPEG	YUY2 and Motion JPEG are selectable.	
	YUY2	Only YUY2 is selectable.	
Connection Reset	Exec	Reconnects the computer and the VR-120HD when the video is garbled or when operation is otherwise unstable.	

# 4: Transition

Menu item	Value (bold text: default value)	Explanation	
Mix	These are the detailed mix settings.		
Jump To Setup	Enter	Jumps to the setup screen.	
	Specifies the transition pattern for mix.		
Mix Type	Mix	The two videos are mixed as the transition occurs.	
	Fam	Video transitions are made with the luminance levels of the two video streams maintained unchanged. This is an abbreviation of "full additive mix".	
	Nam	The two video streams are compared, and transitions are made with display during transition starting with levels of high luminance. This is an abbreviation of "non-additive mix".	
Mix Time	0.0– <b>1.0</b> –4.0sec	Specifies the video transition time.	
Wipe	These are the detailed wipe settings.		
Jump To Setup	Enter	Jumps to the setup screen.	
	Specifies the transition pattern for wig	A	
Wipe Type	Horizontal Vertical Upper	er Left Upper Right Lower Left Lower Right H-Center V-Center	
Wipe Time	0.0– <b>1.0</b> –4.0sec	Specifies the video transition time.	
Direction	Normal, Reverse, Round Trip	Specifies the direction of wipe.	
Border Color	White, Yellow, Cyan, Green, Magenta, Red, Blue, Black, Soft Edge	Specifies the color of the border added to the edge of the wipe area. When this is set to "Soft Edge", the wipe border is blurred.	
Border Width	0-3-14	Specifies the width of the border added to the edge of the wipe area.	
Split 1, 2	These are the detailed settings for the	split composite.	
Jump To Setup	Enter	Jumps to the setup screen.	
	These parameters configure the split s	screen layout.	
Split Type	Split V	This vertically crops the center section of the video (split left/right). This is the default setting for "Split 1". <b>A B A B</b>	
	Split H	This horizontally crops the center section of the video (split upper/lower). This is the default setting for "Split 2". A $A$ $B$ $B$ $B$ $B$	
PGM Source	HDMI 1–6, SDI 1–6, Still 1–16, V.Player, <b>Input 1</b> –8	Selects the video source to display on the left or upper side.	
PGM Source PST Source		Selects the video source to display on the left or upper side.	
	V.Player, <b>Input 1</b> –8 HDMI 1–6, SDI 1–6, Still 1–16,	Selects the video source to display on the left or upper side. When at SPLIT V Adjusts the horizontal position of the video placed on the left. When at SPLIT H Adjusts the horizontal position of the video placed above.	
PST Source	V.Player, <b>Input 1</b> –8 HDMI 1–6, SDI 1–6, Still 1–16, V.Player, Input 1, <b>Input 2</b> –8	Selects the video source to display on the left or upper side.          When at SPLIT V         Adjusts the horizontal position of the video placed on the left.         When at SPLIT H         Adjusts the horizontal position of the video placed above.         * This positions the PGM bus video to the left or upper side.         When at SPLIT V         Adjusts the horizontal position of the video placed on the right.         When at SPLIT H         Adjusts the horizontal position of the video placed on the right.         When at SPLIT H         Adjusts the horizontal position of the video placed below.	
PST Source PGM Center	V.Player, Input 1–8 HDMI 1–6, SDI 1–6, Still 1–16, V.Player, Input 1, Input 2–8 -50.0– <b>0.0</b> –50.0%	Selects the video source to display on the left or upper side. When at SPLIT V Adjusts the horizontal position of the video placed on the left. When at SPLIT H Adjusts the horizontal position of the video placed above. * This positions the PGM bus video to the left or upper side. When at SPLIT V Adjusts the horizontal position of the video placed on the right. When at SPLIT H Adjusts the horizontal position of the video placed below. * This positions the PST bus video to the right or lower side.	
PST Source PGM Center PST Center	V.Player, Input 1–8 HDMI 1–6, SDI 1–6, Still 1–16, V.Player, Input 1, Input 2–8 -50.0– <b>0.0</b> –50.0%	Selects the video source to display on the left or upper side.          When at SPLIT V         Adjusts the horizontal position of the video placed on the left.         When at SPLIT H         Adjusts the horizontal position of the video placed above.         * This positions the PGM bus video to the left or upper side.         When at SPLIT V         Adjusts the horizontal position of the video placed on the right.         When at SPLIT H         Adjusts the horizontal position of the video placed on the right.         When at SPLIT H         Adjusts the horizontal position of the video placed below.	

# 5: PinP & Key

Menu item	Value (bold text: default value)	Explanation		
PinP & Key 1–4	These are the detailed settings for PinP and key co	omposition for each PinP and key layer.		
Jump To Setup	Enter	Jumps to the setup screen.		
	Specifies the type of PinP compositing.			
	PinP	Composites the inset screen on top of the background video.		
		A combination of PinP and luminance key (white).		
	Luminance-White Key	Makes the white portions of the inset screen transparent, and composites the		
Туре		image with the background.		
Type	Luminance-Black Key	A combination of PinP and luminance key (black). Makes the black portions of the inset screen transparent, and composites the		
		image with the background.		
		A combination of PinP and chroma key.		
	Chroma Key	Makes the specified key color portions of the inset screen transparent, and		
		composites the image with the background.		
Source	HDMI 1–6, SDI 1–6, Still 1–16, V.Player, Input 1–8	Specifies the video source of the inset screen.		
Time	0.0– <b>1.0</b> –4.0sec	Specifies the video transition time.		
When Type = PinP				
Window	Adjusts the inset screen.			
Position H	-50.0- <b>-40.0</b> -50.0%	Adjusts the horizontal position of the inset screen.		
Position V	-50.0- <b>-40.0</b> -50.0%	Adjusts the vertical position of the inset screen.		
Size	0.0- <b>35.0</b> -100.0%	Adjusts the size of the inset screen.		
Cropping H	0.0-100.0%	Adjusts the horizontal size of the inset screen.		
Cropping V	0.0-100.0%	Adjusts the vertical size of the inset screen.		
Shape	Rectangle, Circle, Diamond	Specifies the shape of the inset screen.		
Border Color	White, Yellow, Cyan, Green, Magenta, Red, Blue,	Specifies the color of the border for the inset screen.		
Davidau MCalda	Black, Soft Edge	When this is set to "Soft Edge", the edge of the inset screen is blurred.		
Border Width		Adjusts the width of the border for the inset screen.		
View Position H	Adjusts the video that is shown in the inset screer			
	-50.0 <b>-0.0</b> -50.0%	Adjusts the horizontal position at which the inset screen is shown.		
Position V	-50.0- <b>0.0</b> -50.0%	Adjusts the vertical position at which the inset screen is shown.		
Zoom	<b>100</b> –400%	Adjusts the zoom of the video shown in the inset screen.		
Window	nce-White Key or Luminance-Black Key Adjusts the inset screen.			
Position H	-50.0- <b>-40.0</b> -50.0%	Adjusts the horizontal position of the inset screen.		
Position V	-50.040.0-50.0%	Adjusts the vertical position of the inset screen.		
Size	0.0-35.0-100.0%	Adjusts the size of the inset screen.		
Cropping H	0.0-100.0%	Adjusts the horizontal size of the inset screen.		
Cropping V	0.0-100.0%     Adjusts the vertical size of the inset screen.			
View Position H	Adjusts the video that is shown in the inset screer	Adjusts the horizontal position at which the inset screen is shown.		
Position H	-50.0 <b>-0.0</b> -50.0% -50.0 <b>-0.0</b> -50.0%	Adjusts the vertical position at which the inset screen is shown.		
Zoom	<b>100</b> –400%	Adjusts the zoom of the video shown in the inset screen.		
Key	Adjusts the key.			
Key Level	0- <b>64</b> -255	Adjusts the degree of extraction (transparency) for the key.		
Key Gain		Adjusts the degree of edge blur (semi-transmissive region) for the key.		
Mix Level	0-255 0-255	Adjusts the key's overall density (output level).		

Menu item	Value (bold text: default value)	Explanation	
When Type = Chron	na Key		
Window	Adjusts the inset screen.		
Position H	-50.0– <b>-40.0</b> –50.0%	Adjusts the horizontal position of the inset screen.	
Position V	-50.0– <b>-40.0</b> –50.0%	Adjusts the vertical position of the inset screen.	
Size	0.0- <b>35.0</b> -100.0%	Adjusts the size of the inset screen.	
Cropping H	0.0-100.0%	Adjusts the horizontal size of the inset screen.	
Cropping V	0.0-100.0%	Adjusts the vertical size of the inset screen.	
View	Adjusts the video that is shown in th	Adjusts the video that is shown in the inset screen.	
Position H	-50.0- <b>0.0</b> -50.0%	Adjusts the horizontal position at which the inset screen is shown.	
Position V	-50.0- <b>0.0</b> -50.0%	Adjusts the vertical position at which the inset screen is shown.	
Zoom	100-400%	Adjusts the zoom of the video shown in the inset screen.	
Кеу	Adjusts the key.	Adjusts the key.	
Key Level	0- <b>64</b> -255	Adjusts the degree of extraction (transparency) for the key.	
Key Gain	0-255	Adjusts the degree of edge blur (semi-transmissive region) for the key.	
Mix Level	0-255	Adjusts the key's overall density (output level).	
Chroma	Make detailed settings for chroma ke	Make detailed settings for chroma key.	
Color	Green, <b>Blue</b>	Specifies green or blue as the key color (the color to be removed). If you want a color other than green or blue to turn transparent, use "Sampling Marker Mode" to specify the key color.	
Hue Width	-30-0-30	Adjusts the hue width for the key color.	
Hue Fine	0- <b>240</b> -360	Adjusts the center position of the hue for the key color.	
Saturation Width	-128- <b>0</b> -127	Adjusts the saturation width for the key color.	
Saturation Fine	0-255	Adjusts the center position of saturation for the key color.	

### Menu List

Menu item	Value (bold text: default value)	Explanation	
DSK 1, 2	These settings configure the DSK com	nposite details for each DSK laver.	
Jump To Setup	Enter	Jumps to the setup screen.	
	Sets the DSK mode.		
DSK Mode	Self Key	Uses the luminance key (brightness) and chroma key (color) to cut out the video image and create a composite by overlaying the video on a background video.	
	Alpha Key	Uses alpha channels (areas which contain transparency data) to cut out still images and place them against different background video as a composite.	
	External Key	Sets the key signal (the shape to be cut out) and the fill video (the video to be composited) separately (external key). This uses the key signal to cut out the fill video and superimpose it on the background video to create the composite.	
	HDMI 1–6, SDI 1–6, <b>Still 1–2</b> –16, V.Player, Input 1–8		
DSK Source	* When DSK Mode = Self Key <b>Still 1–2–</b> 16 * When DSK Mode = Alpha Key	Specifies the source of the caption or video that is overlaid.	
Key Source (*4)	HDMI 1–6, SDI 1–6, <b>Still 1–2</b> –16, V.Player, Input 1–8	Sets the video to use as the key signal (the shape to be cut out). * Sets the default value to "HDMI 5–6" when you long-press the [VALUE] knob while DSK Mode = "External Key".	
Fill Source (*4)	HDMI 1–6, SDI 1–6, <b>Still 1–2</b> –16, V.Player, Input 1–8	Specifies the fill video (the video to be composited) source. * Sets the default value to "HDMI 5–6" when you long-press the [VALUE] knob while DSK Mode = "External Key".	
DSK Time	0.0– <b>1.0</b> –4.0sec	Specifies the video transition time.	
	Specifies the DSK type used during DSK composition.		
	Luminance-White Key	Composite using luminance key. Makes white portions transparent according to brightness.	
<b>DSK Type</b> (*5)	Luminance-Black Key	Composite using luminance key. Makes black portions transparent according to brightness.	
	Chroma Key	Composite using chroma key. Makes the specified key color transparent according to hue.	
DSK Level (*5)	0- <b>64</b> -255	Adjusts the degree of extraction (transparency) for the key.	
DSK Gain (*5)	0-255	Adjusts the degree of edge blur (semi-transmissive region) for the key.	
Mix Level	0-255	Adjusts the key's overall density (output level).	
Chroma (*6)	Make detailed settings for chroma ke	у.	
Color	Green, <b>Blue</b>	Specifies green or blue as the key color. If you want a color other than green or blue to turn transparent, use "Sampling Marker Mode" to specify the key color.	
Hue Width	-30 <b>-0</b> -30	Adjusts the hue width for the key color.	
Hue Fine	0- <b>240</b> -360	Adjusts the center position of the hue for the key color.	
Saturation Width	-128– <b>0</b> –127	Adjusts the saturation width for the key color.	
Saturation Fine	0-255	Adjusts the center position of saturation for the key color.	
	Sets the fill material type (the video used for key compositing).		
Fill Type	Bus	Uses the video specified in "DSK Source".	
Fill Type	Matte	Uses the internal color matte (a single-color image). The superimposed caption or video is filled in with the matte color. Specify the matte color using the "Matte Color" setting below.	
Matte Color (*7)	White, Yellow, Cyan, Green, Magenta, <b>Red</b> , Blue, Black	Specifies the matte color.	
Edge Type	Off, Border, Drop, Shadow, Outline	Specifies the type of edge applied to the superimposed caption or video.	
Edge Color	White, Yellow, Cyan, Green, Magenta, Red, Blue, <b>Black</b>	Specifies the color of the edge applied to the superimposed caption or video.	
Edge Width	0- <b>3</b> -14	Specifies the width of the edge applied to the superimposed caption or video.	

(*4) This can be set if "DSK Mode" is "External Key".

(*5) This can be set if "DSK Mode" is "Self Key".

(*6) This can be set if "DSK Type" is "Chroma Key".

(*7) This can be set if "Fill Type" is "Matte".

# 7: Audio Fader Assign

Menu item	Value (bold text: default value)	Explanation
Jump To Setup	Enter	Jumps to the setup screen.
Input Fader 1–9/10	Audio In 1–9/10, USB In, Bluetooth In, Audio Player, HDMI 1–6, SDI 1–6, V.Player The default values are as follows. Input Fader 1: Audio In 1 Input Fader 2: Audio In 2 Input Fader 3: Audio In 3 Input Fader 4: Audio In 4 Input Fader 5: Audio In 5 Input Fader 6: Audio In 6	
	Input Fader 7/8: <b>Audio In 7/8</b> Input Fader 9/10: <b>Audio In 9/10</b>	

### 8: Audio Input

Menu item	Value (bold text: default value)	Explanation
Audio In 1, 2	Adjusts the audio that is input from t	he AUDIO IN 1 and 2 jacks.
Audio In 1/2 (Linked)	* "Audio In 1/2 (Linked)" is shown wh	nen "Stereo Link" is "ON".
Jump To Setup	Enter	Jumps to the setup screen.
Analog Gain	0–68dB	Adjusts the input gain (sensitivity) in the analog domain.
Digital Gain	-42.0 <b>-0.0</b> -42.0dB	Adjusts the input gain (sensitivity) in the digital domain (after conversion from analog to digital).
Input Level	-INF-0.0-10.0dB	Adjusts the input volume. This can also be adjusted by the [1] or [2] fader. (*8)
Input Mute	OFF, ON	Turns the mute function on/off. When this is "ON", the input audio is temporarily silenced.
Phantom +48V	OFF, ON	Turns the phantom power on/off. When this is "ON", phantom power is supplied via the AUDIO IN jacks (XLR). * Changing "Stereo Link" settings automatically turns "Phantom +48V" settings "OFF".
Pan (*9)	Left- <b>Center</b> -Right	Adjusts the stereo position (pan).
Stereo Link	OFF, ON	Turns the stereo link function on/off. When this is "ON", Audio In 1 and 2 are linked, and operate as a stereo channel. * When stereo link is turned on, the settings of Audio In 1 are applied to Audio In 2.
Solo	<b>OFF</b> , ON <b>0.0</b> –500msec	<ul> <li>Turns the solo function on/off. Only the audio for which this is "ON" is heard in the headphones.</li> <li>* The solo function applies to the headphone output. It does not affect output other than the headphones.</li> <li>Adjusts the delay time of the audio.</li> </ul>
Delay	(0-25.0/29.9/30.0frame)	Effect Outputs audio with a delay.
Reverb Send	0-127	Adjusts the amount of audio sent to reverb.
Main Bus	This configures the Main bus.	
Send	5	
	OFF, ON	When this is "ON", audio is sent to the Main bus.
AUX 1 Bus	This configures the AUX 1 bus.	
Send Level	-INF-10.0dB	These parameters adjust the amount of audio sent to the AUX 1 bus.
	Dry	Sends the source audio with no effects applied.
Send Point	Pre Fader Post Fader	Sends the effect-applied audio. The send volume is constant, regardless of the volume (Input Level). Sends the effect-applied audio.
		The send volume can be changed by adjusting the volume (Input Level).
AUX 2 Bus	This configures the AUX 2 bus.	1
Send Level	-INF-10.0dB	These parameters adjust the amount of audio sent to the AUX 2 bus.
	Dry	Sends the source audio with no effects applied.
Send Point	Pre Fader	Sends the effect-applied audio. The send volume is constant, regardless of the volume (Input Level).
	Post Fader	Sends the effect-applied audio. The send volume can be changed by adjusting the volume (Input Level).
High Pass Filter 80Hz	OFF, ON	Turns the high-pass filter on/off.  Effect Cuts off unneeded low-band audio. The cutoff frequency is 80 Hz.
Echo Canceller	OFF, ON	Turns the echo canceller on/off.         Effect       Suppresses the voice echo that can occur when using a web conferencing system that includes a speaker and mic.
Depth	1- <b>5</b> -10	Adjusts the depth of the echo canceller.
Anti Feedback	OFF, ON	Turns the anti-feedback on/off. Effect Suppresses audio feedback.
Noise Gate	OFF, ON	Turns the noise gate on/off.Eliminates audio that is lower than the specified threshold level. This is effective when the noise that you want to remove is separate from the audio that you want to keep, and can be used to remove hiss or other noise that is heard during periods of silence.
Threshold	-80 <b>48</b> -0dB	Specifies the level used as the threshold for removing audio. Audio below the level set here is removed.
Release	30- <b>500</b> -5000msec	Adjusts the length of time until the audio is fully attenuated after audio falls below the threshold.
De-Esser	OFF, ON	Turns the de-esser on/off.  Effect Reduces sibilant noise (the sounds you hear when pronouncing "s" words and other hissing sounds).

Menu item	Value (bold text: default value)	Explanation
Sens	0- <b>80</b> -100	Adjusts the sensitivity with which sibilants are detected.
Depth	0- <b>64</b> -100	Adjusts the intensity of the effect.
		Turns the compressor on/off.
Compressor	OFF, ON	Effect Audio that exceeds the specified threshold level is compressed. This reduces the difference between the maximum volume and minimum volume, making the audio more comfortable for listening.
Threshold	-50– <b>-8</b> –0dB	Specifies the level used as the threshold at which the compressor is applied. Compression is applied to audio that exceeds the threshold.
Ratio	1.00: 1, 1.12: 1, 1.25: 1, 1.40: 1, 1.60: 1, 1.80: 1, 2.00: 1, <b>2.50: 1</b> , 3.20: 1, 4.00: 1, 5.60: 1, 8.00: 1, 16.0: 1, INF: 1	Specifies the degree of compression applied to the audio. The state in which no compression is applied is defined as "1".
Attack	0.0- <b>30</b> -100msec	Specifies the time until compression starts when audio exceeding the threshold is input.
Release	30– <b>250</b> –5000msec	Adjusts the length of time until compression ends after audio falls below the threshold.
Makeup Gain	-40- <b>0</b> -40dB	Adjusts the final output volume level after applying the compressor.
		Turns the equalizer on/off.
Equalizer	OFF, ON	Effect This is a 4-band parametric equalizer. It lets you shape the character of the sound by boosting or cutting four frequency regions.
Hi Gain	-12.0- <b>0.0</b> -12.0dB	Boosts or attenuates the high band.
Hi Freq	1.00– <b>10.0</b> –20.0kHz	Adjusts the center frequency when changing the tone quality in the high band.
Hi-Mid Gain	-12.0- <b>0.0</b> -12.0dB	Boosts or attenuates the high-midrange band.
Hi-Mid Freq	20.0Hz- <b>2.00kHz</b> -20.0kHz	Adjusts the center frequency when changing the tone quality in the high-midrange band.
Hi-Mid Q	0.5– <b>1.0</b> –16.0	Adjusts the width of the frequency band when boosting or attenuating high-midrange band.
Lo-Mid Gain	-12.0- <b>0.0</b> -12.0dB	Boosts or attenuates the low-midrange band.
Lo-Mid Freq	20.0Hz- <b>500Hz</b> -20.0kHz	Adjusts the center frequency when changing the tone quality in the low-midrange band.
Lo-Mid Q	0.5– <b>1.0</b> –16.0	Adjusts the width of the frequency band when boosting or attenuating low-midrange band.
Lo Gain	-12.0- <b>0.0</b> -12.0dB	Boosts or attenuates the low band.
Lo Freq	20.0Hz- <b>100Hz</b> -2.00kHz	Adjusts the center frequency when changing the tone quality in the low band.
Voice Changer	OFF, ON	Turns the voice changer on/off.         Effect       Transforms the pitch or character of the voice.
Pitch	-12- <b>+12</b>	Adjusts the pitch of the voice in semitone steps. A setting of "0" is the original pitch.
Formant	-10- <b>+4</b> -+10	Adjusts the character (formant) of the voice. Settings in the negative (–) direction produce a more masculine vocal character, and settings in the positive (+) direction produce a more feminine vocal character. A setting of "0" is the original voice.
Robot	OFF, ON	If this is "ON", the voice is held at a fixed pitch, creating a mechanical robot-like impression.
Mix	0-100	Adjusts the balance between the unprocessed voice (0) and the voice processed by the effect (100).

(*8) The [2] fader is disabled when "Stereo Link" is "ON".

(*9) This can be set if "Stereo Link" is "OFF".

Menu item	Value (bold text: default value)	Explanation
Audio In 3–6 Audio In 3/4 (Linked), Audio In 5/6 (Linked)	Adjusts the audio that is input fro * "Audio In 3/4 (Linked)""Audio In	m the AUDIO IN 3 – 6 jacks. 5/6 (Linked)" is shown when "Stereo Link" is "ON".
Jump To Setup	Enter	Jumps to the setup screen.
Analog Gain	<b>0</b> –68db	Adjusts the input gain (sensitivity) in the analog domain.
Digital Gain	-42.0- <b>0.0</b> -42.0dB	Adjusts the input gain (sensitivity) in the digital domain (after conversion from analog to digital).
Input Level	-INF-0.0-10.0dB	Adjusts the input volume. This can also be adjusted by the [3]–[6] fader. (*10)
Input Mute	OFF, ON	Turns the mute function on/off. When this is "ON", the input audio is temporarily silenced.
Phantom +48V	OFF, ON	<ul> <li>Turns the phantom power on/off. When this is "ON", phantom power is supplied via the AUDIO IN jacks (XLR).</li> <li>* Changing "Stereo Link" settings automatically turns "Phantom +48V" settings "OFF".</li> </ul>
<b>Pan</b> (*11)	Left-Center-Right	Adjusts the stereo position (pan).
Stereo Link	OFF, ON	Turns the stereo link function on/off. When this is "ON", Audio In 3 and 4 (5 and 6) are linked, and operate as a stereo channel. * When stereo link is turned on, the settings of Audio In 3 (5) are applied to Audio In 4 (6).
Solo	OFF, ON	<ul> <li>Turns the solo function on/off. Only the audio for which this is "ON" is heard in the headphones.</li> <li>* The solo function applies to the headphone output. It does not affect output other than the headphones.</li> </ul>
Delay	0.0–500msec (0–25.0/29.9/30.0frame)	Adjusts the delay time of the audio.EffectOutputs audio with a delay.
Reverb Send	0-127	Adjusts the amount of audio sent to reverb.
Main Bus	This configures the Main bus.	
Send	OFF, ON	When this is "ON", audio is sent to the Main bus.
AUX 1 Bus	This configures the AUX 1 bus.	
Send Level	-INF-10.0dB	These parameters adjust the amount of audio sent to the AUX 1 bus.
	Dry	Sends the source audio with no effects applied.
	Pre Fader	Sends the effect-applied audio.
Send Point	Pre Fader	The send volume is constant, regardless of the volume (Input Level).
	Post Fader	Sends the effect-applied audio.
AUX 2 Bus	This configures the AUX 2 bus.	The send volume can be changed by adjusting the volume (Input Level).
Send Level	5	These newspates adjust the ensure of sudia contro the AUV 2 hus
Send Level	-INF-10.0dB	These parameters adjust the amount of audio sent to the AUX 2 bus. Sends the source audio with no effects applied.
	Dry	Sends the effect-applied audio.
Send Point	Pre Fader	The send volume is constant, regardless of the volume (Input Level).
	Post Fader	Sends the effect-applied audio. The send volume can be changed by adjusting the volume (Input Level).
		Turns the high-pass filter on/off.
High Pass Filter 80Hz	OFF, ON	Effect Cuts off unneeded low-band audio. The cutoff frequency is 80 Hz.
Noise Gate	OFF, ON	Turns the noise gate on/off.EffectEffectEffectEffectEffectUp to the noise that you want to remove is separate from the audio that you want to keep, and can be used to remove hiss or other noise that is heard during periods of silence.
Threshold	-80– <b>-48</b> –0dB	Specifies the level used as the threshold for removing audio. Audio below the level set here is removed.
Release	30- <b>500</b> -5000msec	Adjusts the length of time until the audio is fully attenuated after audio falls below the threshold.
De-Esser	OFF, ON	Turns the de-esser on/off.         Effect       Reduces sibilant noise (the sounds you hear when pronouncing "s" words and other hissing sounds).
Sens	0- <b>80</b> -100	Adjusts the sensitivity with which sibilants are detected.
Depth	0- <b>64</b> -100	Adjusts the intensity of the effect.
		Turns the compressor on/off.
Compressor	OFF, ON	Effect Audio that exceeds the specified threshold level is compressed. This reduces the difference between the maximum volume and minimum volume, making the audio more comfortable for listening.
Threshold	-50– <b>-8</b> –0dB	Specifies the level used as the threshold at which the compressor is applied. Compression is applied to audio that exceeds the threshold.

Menu item	Value (bold text: default value)	Explanation
Ratio	1.00: 1, 1.12: 1, 1.25: 1, 1.40: 1, 1.60: 1, 1.80: 1, 2.00: 1, <b>2.50: 1</b> , 3.20: 1, 4.00: 1, 5.60: 1, 8.00: 1, 16.0: 1, INF: 1	Specifies the degree of compression applied to the audio. The state in which no compression is applied is defined as "1".
Attack	0.0- <b>30</b> -100msec	Specifies the time until compression starts when audio exceeding the threshold is input.
Release	30- <b>250</b> -5000msec	Adjusts the length of time until compression ends after audio falls below the threshold.
Makeup Gain	-40- <b>0</b> -40dB	Adjusts the final output volume level after applying the compressor.
		Turns the equalizer on/off.
Equalizer	OFF, ON	Effect This is a 4-band parametric equalizer. It lets you shape the character of the sound by boosting or cutting four frequency regions.
Hi Gain	-12.0- <b>0.0</b> -12.0dB	Boosts or attenuates the high band.
Hi Freq	1.00– <b>10.0</b> –20.0kHz	Adjusts the center frequency when changing the tone quality in the high band.
Hi-Mid Gain	-12.0- <b>0.0</b> -12.0dB	Boosts or attenuates the high-midrange band.
Hi-Mid Freq	20.0Hz- <b>2.00kHz</b> -20.0kHz	Adjusts the center frequency when changing the tone quality in the high-midrange band.
Hi-Mid Q	0.5– <b>1.0</b> –16.0	Adjusts the width of the frequency band when boosting or attenuating high-midrange band.
Lo-Mid Gain	-12.0- <b>0.0</b> -12.0dB	Boosts or attenuates the low-midrange band.
Lo-Mid Freq	20.0Hz- <b>500Hz</b> -20.0kHz	Adjusts the center frequency when changing the tone quality in the low-midrange band.
Lo-Mid Q	0.5– <b>1.0</b> –16.0	Adjusts the width of the frequency band when boosting or attenuating low-midrange band.
Lo Gain	-12.0- <b>0.0</b> -12.0dB	Boosts or attenuates the low band.
Lo Freq	20.0Hz- <b>100Hz</b> -2.00kHz	Adjusts the center frequency when changing the tone quality in the low band.

(*10) The [4] [6] fader is disabled when "Stereo Link" is "ON".

(*11) This can be set if "Stereo Link" is "OFF".

Menu item	Value (bold text: default value)	Explanation
Audio In 7/8, Audio In 9/10	Adjusts the audio that is input from	m the AUDIO IN 7/8 – 9/10 jacks.
Jump To Setup	Enter	Jumps to the setup screen.
Digital Gain	-42.0- <b>0.0</b> -42.0dB	Adjusts the input gain (sensitivity) in the digital domain (after conversion from analog to digital).
Input Level	-INF-0.0-10.0dB	Adjusts the input volume. This can also be adjusted by the [7/8]–[9/10] fader. (*10)
Input Mute	OFF, ON	Turns the mute function on/off. When this is "ON", the input audio is temporarily silenced
	Converts the input audio from ste	reo to mono.
	Off	Sends the stereo input audio without change.
Mono	LOnly	The audio of the L channel is sent to both L and R.
	R Only	The audio of the R channel is sent to both L and R.
	LR Mix	The audio of the L channel and R channel is mixed, and sent to both L and R.
Solo	OFF, ON	Turns the solo function on/off. Only the audio for which this is "ON" is heard in the headphones. * The solo function applies to the headphone output. It does not affect output other
		than the headphones.
Delay	<b>0.0</b> –500msec	Adjusts the delay time of the audio.
	(0–25.0/29.9/30.0frame)	Effect Outputs audio with a delay.
Reverb Send	0–127	Adjusts the amount of audio sent to reverb.
Main Bus	This configures the Main bus.	
Send	OFF, ON	When this is "ON", audio is sent to the Main bus.
AUX 1 Bus	This configures the AUX 1 bus.	
Send Level	-INF-10.0dB	These parameters adjust the amount of audio sent to the AUX 1 bus.
	Dry	Sends the source audio with no effects applied.
Send Point	Pre Fader	Sends the effect-applied audio. The send volume is constant, regardless of the volume (Input Level).
	Post Fader	Sends the effect-applied audio. The send volume can be changed by adjusting the volume (Input Level).
AUX 2 Bus	This configures the AUX 2 bus.	
Send Level	-INF-10.0dB	These parameters adjust the amount of audio sent to the AUX 2 bus.
	Dry	Sends the source audio with no effects applied.
	Pre Fader	Sends the effect-applied audio.
Send Point	Pre Fader	The send volume is constant, regardless of the volume (Input Level).
	Post Fader	Sends the effect-applied audio.
		The send volume can be changed by adjusting the volume (Input Level).
High Pass Filter 80Hz	OFF, ON	Turns the high-pass filter on/off.
		Effect Cuts off unneeded low-band audio. The cutoff frequency is 80 Hz.
Noise Gate	OFF, ON	Turns the noise gate on/off.EffectEliminates audio that is lower than the specified threshold level. This is effective when the noise that you want to remove is separate from the audio that you want to keep, and can be used to remove hiss or other noise that is heard during periods of silence.
Threshold	-80- <b>-48</b> -0dB	Specifies the level used as the threshold for removing audio. Audio below the level set here is removed.
Release	30– <b>500</b> –5000msec	Adjusts the length of time until the audio is fully attenuated after audio falls below the threshold.
Compressor	OFF, ON	Turns the compressor on/off.EffectAudio that exceeds the specified threshold level is compressed. This reduces the difference between the maximum volume and minimum volume, making the audio more comfortable for listening.
Threshold	-50– <b>-8</b> –0dB	Specifies the level used as the threshold at which the compressor is applied. Compression is applied to audio that exceeds the threshold.
Ratio	1.00: 1, 1.12: 1, 1.25: 1, 1.40: 1, 1.60: 1, 1.80: 1, 2.00: 1, <b>2.50: 1</b> , 3.20: 1, 4.00: 1, 5.60: 1, 8.00: 1, 16.0: 1, INF: 1	Specifies the degree of compression applied to the audio. The state in which no compression is applied is defined as "1".
Attack	0.0- <b>30</b> -100msec	Specifies the time until compression starts when audio exceeding the threshold is input.
Release	30– <b>250</b> –5000msec	Adjusts the length of time until compression ends after audio falls below the threshold.

Menu item	Value (bold text: default value)	Explanation
Equalizer	OFF, ON	Turns the equalizer on/off.         Effect       This is a 4-band parametric equalizer. It lets you shape the character of the sound by
		boosting or cutting four frequency regions.
Hi Gain	-12.0- <b>0.0</b> -12.0dB	Boosts or attenuates the high band.
Hi Freq	1.00– <b>10.0</b> –20.0kHz	Adjusts the center frequency when changing the tone quality in the high band.
Hi-Mid Gain	-12.0- <b>0.0</b> -12.0dB	Boosts or attenuates the high-midrange band.
Hi-Mid Freq	20.0Hz- <b>2.00kHz</b> -20.0kHz	Adjusts the center frequency when changing the tone quality in the high-midrange band.
Hi-Mid Q	0.5– <b>1.0</b> –16.0	Adjusts the width of the frequency band when boosting or attenuating high-midrange band.
Lo-Mid Gain	-12.0- <b>0.0</b> -12.0dB	Boosts or attenuates the low-midrange band.
Lo-Mid Freq	20.0Hz- <b>500Hz</b> -20.0kHz	Adjusts the center frequency when changing the tone quality in the low-midrange band.
Lo-Mid Q	0.5– <b>1.0</b> –16.0	Adjusts the width of the frequency band when boosting or attenuating low-midrange band.
Lo Gain	-12.0- <b>0.0</b> -12.0dB	Boosts or attenuates the low band.
Lo Freq	20.0Hz- <b>100Hz</b> -2.00kHz	Adjusts the center frequency when changing the tone quality in the low band.

Menu item	Value (bold text: default value)	Explanation	
USB In	Adjusts the audio that is input from	n the USB STREAM port.	
Jump To Setup	Enter	Jumps to the setup screen.	
Digital Gain	-42.0- <b>0.0</b> -42.0dB	Adjusts the input gain (sensitivity) in the digital domain (after conversion from analog to digital).	
Input Level	-INF- <b>0.0</b> -10.0dB	Adjusts the input volume.	
input Level	-INF- <b>0.0</b> -10.0dB	This can also be adjusted by the [7/8]–[9/10] fader. (*10)	
Input Mute	OFF, ON	Turns the mute function on/off. When this is "ON", the input audio is temporarily silenced	
	Converts the input audio from stereo to mono.		
	Off	Sends the stereo input audio without change.	
Mono	LOnly	The audio of the L channel is sent to both L and R.	
	R Only	The audio of the R channel is sent to both L and R.	
	LR Mix	The audio of the L channel and R channel is mixed, and sent to both L and R.	
Solo	OFF, ON	<ul> <li>Turns the solo function on/off. Only the audio for which this is "ON" is heard in the headphones.</li> <li>* The solo function applies to the headphone output. It does not affect output other than the headphones.</li> </ul>	
Dalari	<b>0.0</b> –500msec	Adjusts the delay time of the audio.	
Delay	(0–25.0/29.9/30.0frame)	Effect Outputs audio with a delay.	
Reverb Send	<b>0</b> –127	Adjusts the amount of audio sent to reverb.	
Main Bus	This configures the Main bus.		
Send	OFF, ON	When this is "ON", audio is sent to the Main bus.	
AUX 1 Bus	This configures the AUX 1 bus.		
Send Level	-INF-10.0dB	These parameters adjust the amount of audio sent to the AUX 1 bus.	
	Dry	Sends the source audio with no effects applied.	
		Sends the effect-applied audio.	
Send Point	Pre Fader	The send volume is constant, regardless of the volume (Input Level).	
	Post Fader	Sends the effect-applied audio. The send volume can be changed by adjusting the volume (Input Level).	
AUX 2 Bus	This configures the AUX 2 bus.		
Send Level	-INF-10.0dB	These parameters adjust the amount of audio sent to the AUX 2 bus.	
	Dry	Sends the source audio with no effects applied.	
		Sends the effect-applied audio.	
Send Point	Pre Fader	The send volume is constant, regardless of the volume (Input Level).	
		Sends the effect-applied audio.	
	Post Fader	The send volume can be changed by adjusting the volume (Input Level).	
		Turns the high-pass filter on/off.	
High Pass Filter 80Hz	OFF, ON	Effect Cuts off unneeded low-band audio. The cutoff frequency is 80 Hz.	
		Turns the noise gate on/off.	
Noise Gate	OFF, ON	Effect Effect Eliminates audio that is lower than the specified threshold level. This is effective when the noise that you want to remove is separate from the audio that you want to keep, and can be used to remove hiss or other noise that is heard during periods of silence.	
Threshold	-80- <b>-48</b> -0dB	Specifies the level used as the threshold for removing audio. Audio below the level set here is removed.	
Release	30– <b>500</b> –5000msec	Adjusts the length of time until the audio is fully attenuated after audio falls below the threshold.	
Compressor	OFF, ON	Turns the compressor on/off.         Effect         Audio that exceeds the specified threshold level is compressed. This reduces the difference between the maximum volume and minimum volume, making the audio more comfortable for listening.	
Threshold	-50– <b>-8</b> –0dB	Specifies the level used as the threshold at which the compressor is applied. Compression is applied to audio that exceeds the threshold.	
Ratio	1.00: 1, 1.12: 1, 1.25: 1, 1.40: 1, 1.60: 1, 1.80: 1, 2.00: 1, <b>2.50: 1</b> , 3.20: 1, 4.00: 1, 5.60: 1, 8.00: 1, 16.0: 1, INF: 1	Specifies the degree of compression applied to the audio. The state in which no compression is applied is defined as "1".	
Attack	0.0- <b>30</b> -100msec	Specifies the time until compression starts when audio exceeding the threshold is input.	
Release	30– <b>250</b> –5000msec	Adjusts the length of time until compression ends after audio falls below the threshold.	
Makeup Gain	-40- <b>0</b> -40dB	Adjusts the final output volume level after applying the compressor.	

Menu item	Value (bold text: default value)	Explanation
Equalizer	OFF, ON	Turns the equalizer on/off.         Effect         This is a 4-band parametric equalizer. It lets you shape the character of the sound by boosting or cutting four frequency regions.
Hi Gain	-12.0- <b>0.0</b> -12.0dB	Boosts or attenuates the high band.
Hi Freq	1.00– <b>10.0</b> –20.0kHz	Adjusts the center frequency when changing the tone quality in the high band.
Hi-Mid Gain	-12.0- <b>0.0</b> -12.0dB	Boosts or attenuates the high-midrange band.
Hi-Mid Freq	20.0Hz– <b>2.00kHz</b> –20.0kHz	Adjusts the center frequency when changing the tone quality in the high-midrange band.
Hi-Mid Q	0.5– <b>1.0</b> –16.0	Adjusts the width of the frequency band when boosting or attenuating high-midrange band.
Lo-Mid Gain	-12.0- <b>0.0</b> -12.0dB	Boosts or attenuates the low-midrange band.
Lo-Mid Freq	20.0Hz- <b>500Hz</b> -20.0kHz	Adjusts the center frequency when changing the tone quality in the low-midrange band.
Lo-Mid Q	0.5– <b>1.0</b> –16.0	Adjusts the width of the frequency band when boosting or attenuating low-midrange band.
Lo Gain	-12.0- <b>0.0</b> -12.0dB	Boosts or attenuates the low band.
Lo Freq	20.0Hz- <b>100Hz</b> -2.00kHz	Adjusts the center frequency when changing the tone quality in the low band.

Menu item	Value (bold text: default value)	Explanation
Bluetooth In	These parameters adjust the audic	o input via Bluetooth.
Jump To Setup	Enter	Jumps to the setup screen.
Digital Gain	-42.0- <b>0.0</b> -42.0dB	Adjusts the input gain (sensitivity) in the digital domain (after conversion from analog to digital).
Input Level	-INF- <b>0.0</b> -10.0dB	Adjusts the input volume.
· · · · · · · · · · · · · · · · · · ·		This can also be adjusted by the [7/8]–[9/10] fader. (*10)
Input Mute	OFF, ON	Turns the mute function on/off. When this is "ON", the input audio is temporarily silenced.
	Converts the input audio from ste	
	Off	Sends the stereo input audio without change.
Mono	LOnly	The audio of the L channel is sent to both L and R.
	R Only	The audio of the R channel is sent to both L and R.
	LR Mix	The audio of the L channel and R channel is mixed, and sent to both L and R.
Solo	OFF, ON	<ul> <li>Turns the solo function on/off. Only the audio for which this is "ON" is heard in the headphones.</li> <li>* The solo function applies to the headphone output. It does not affect output other than the headphones.</li> </ul>
Delay	<b>0.0</b> –500msec	Adjusts the delay time of the audio.
Delay	(0-25.0/29.9/30.0frame)	Effect Outputs audio with a delay.
Reverb Send	0-127	Adjusts the amount of audio sent to reverb.
Main Bus	This configures the Main bus.	
Send	OFF, ON	When this is "ON", audio is sent to the Main bus.
AUX 1 Bus	This configures the AUX 1 bus.	
Send Level	-INF-10.0dB	These parameters adjust the amount of audio sent to the AUX 1 bus.
	Dry	Sends the source audio with no effects applied.
		Sends the effect-applied audio.
Send Point	Pre Fader	The send volume is constant, regardless of the volume (Input Level).
	Post Fader	Sends the effect-applied audio. The send volume can be changed by adjusting the volume (Input Level).
AUX 2 Bus	This configures the AUX 2 bus.	
Send Level	-INF-10.0dB	These parameters adjust the amount of audio sent to the AUX 2 bus.
	Dry	Sends the source audio with no effects applied.
		Sends the effect-applied audio.
Send Point	Pre Fader	The send volume is constant, regardless of the volume (Input Level).
	Post Fader	Sends the effect-applied audio.
	Post Fader	The send volume can be changed by adjusting the volume (Input Level).
High Pass Filter 80Hz		Turns the high-pass filter on/off.
nigh rass riiter oonz	OFF, ON	Effect Cuts off unneeded low-band audio. The cutoff frequency is 80 Hz.
Noise Gate	OFF, ON	Turns the noise gate on/off.EffectEffectEffectEffectEffectBuild of the second content of the sec
Threshold	-80- <b>-48</b> -0dB	Specifies the level used as the threshold for removing audio. Audio below the level set here is removed.
Release	30- <b>500</b> -5000msec	Adjusts the length of time until the audio is fully attenuated after audio falls below the threshold.
Compressor	OFF, ON	Turns the compressor on/off.         Effect       Audio that exceeds the specified threshold level is compressed. This reduces the difference between the maximum volume and minimum volume, making the audio more comfortable for listening.
Threshold	-50– <b>-8</b> –0dB	Specifies the level used as the threshold at which the compressor is applied. Compression is applied to audio that exceeds the threshold.
Ratio	1.00: 1, 1.12: 1, 1.25: 1, 1.40: 1, 1.60: 1, 1.80: 1, 2.00: 1, <b>2.50: 1</b> , 3.20: 1, 4.00: 1, 5.60: 1, 8.00: 1, 16.0: 1, INF: 1	Specifies the degree of compression applied to the audio. The state in which no compression is applied is defined as "1".
Attack	0.0– <b>30</b> –100msec	Specifies the time until compression starts when audio exceeding the threshold is input.
Release	30- <b>250</b> -5000msec	Adjusts the length of time until compression ends after audio falls below the threshold.
Makeup Gain	-40 <b>-0</b> -40dB	Adjusts the final output volume level after applying the compressor.

Menu item	Value (bold text: default value)	Explanation
Equalizer	OFF, ON	Turns the equalizer on/off.         Effect         This is a 4-band parametric equalizer. It lets you shape the character of the sound by boosting or cutting four frequency regions.
Hi Gain	-12.0- <b>0.0</b> -12.0dB	Boosts or attenuates the high band.
Hi Freq	1.00- <b>10.0</b> -20.0kHz	Adjusts the center frequency when changing the tone quality in the high band.
Hi-Mid Gain	-12.0- <b>0.0</b> -12.0dB	Boosts or attenuates the high-midrange band.
Hi-Mid Freq	20.0Hz– <b>2.00kHz</b> –20.0kHz	Adjusts the center frequency when changing the tone quality in the high-midrange band.
Hi-Mid Q	0.5– <b>1.0</b> –16.0	Adjusts the width of the frequency band when boosting or attenuating high-midrange band.
Lo-Mid Gain	-12.0- <b>0.0</b> -12.0dB	Boosts or attenuates the low-midrange band.
Lo-Mid Freq	20.0Hz- <b>500Hz</b> -20.0kHz	Adjusts the center frequency when changing the tone quality in the low-midrange band.
Lo-Mid Q	0.5– <b>1.0</b> –16.0	Adjusts the width of the frequency band when boosting or attenuating low-midrange band.
Lo Gain	-12.0- <b>0.0</b> -12.0dB	Boosts or attenuates the low band.
Lo Freq	20.0Hz- <b>100Hz</b> -2.00kHz	Adjusts the center frequency when changing the tone quality in the low band.

Menu item	Value (bold text: default value)	Explanation
Audio Player	These parameters adjust the audio	p input from the audio player.
Jump To Setup	Enter	Jumps to the setup screen.
Digital Gain	-42.0- <b>0.0</b> -42.0dB	Adjusts the input gain (sensitivity) in the digital domain (after conversion from analog to digital).
Input Level	-INF- <b>0.0</b> -10.0dB	Adjusts the input volume.
		This can also be adjusted by the [7/8]–[9/10] fader. (*10)
Input Mute	OFF, ON	Turns the mute function on/off. When this is "ON", the input audio is temporarily silenced.
	Converts the input audio from ste	
	Off	Sends the stereo input audio without change.
Mono	LOnly	The audio of the L channel is sent to both L and R.
	R Only	The audio of the R channel is sent to both L and R.
	LR Mix	The audio of the L channel and R channel is mixed, and sent to both L and R.
Solo	OFF, ON	<ul> <li>Turns the solo function on/off. Only the audio for which this is "ON" is heard in the headphones.</li> <li>* The solo function applies to the headphone output. It does not affect output other than the headphones.</li> </ul>
	<b>0.0</b> –500msec	Adjusts the delay time of the audio.
Delay	(0–25.0/29.9/30.0frame)	Effect Outputs audio with a delay.
Reverb Send	0-127	Adjusts the amount of audio sent to reverb.
Main Bus	This configures the Main bus.	
Send	OFF, ON	When this is "ON", audio is sent to the Main bus.
AUX 1 Bus	This configures the AUX 1 bus.	
Send Level	-INF-10.0dB	These parameters adjust the amount of audio sent to the AUX 1 bus.
	Dry	Sends the source audio with no effects applied.
		Sends the effect-applied audio.
Send Point	Pre Fader	The send volume is constant, regardless of the volume (Input Level).
	De et Ce de a	Sends the effect-applied audio.
	Post Fader	The send volume can be changed by adjusting the volume (Input Level).
AUX 2 Bus	This configures the AUX 2 bus.	
Send Level	-INF-10.0dB	These parameters adjust the amount of audio sent to the AUX 2 bus.
	Dry	Sends the source audio with no effects applied.
Can d Daint	Pre Fader	Sends the effect-applied audio.
Send Point		The send volume is constant, regardless of the volume (Input Level).
	Post Fader	Sends the effect-applied audio.
		The send volume can be changed by adjusting the volume (Input Level). Turns the high-pass filter on/off.
High Pass Filter 80Hz	OFF, ON	Effect Cuts off unneeded low-band audio. The cutoff frequency is 80 Hz.
		Turns the noise gate on/off.
Noise Gate	OFF, ON	Effect Effect Effect Effect. Effect Effect Effect I for the provide the provided the
Threshold	-80- <b>-48</b> -0dB	Specifies the level used as the threshold for removing audio. Audio below the level set here is removed.
Release	30- <b>500</b> -5000msec	Adjusts the length of time until the audio is fully attenuated after audio falls below the threshold.
Compressor	OFF, ON	Turns the compressor on/off.EffectAudio that exceeds the specified threshold level is compressed. This reduces the difference between the maximum volume and minimum volume, making the audio more comfortable for listening.
Threshold	-50– <b>-8</b> –0dB	Specifies the level used as the threshold at which the compressor is applied. Compression is applied to audio that exceeds the threshold.
Ratio	1.00: 1, 1.12: 1, 1.25: 1, 1.40: 1, 1.60: 1, 1.80: 1, 2.00: 1, <b>2.50: 1</b> , 3.20: 1, 4.00: 1, 5.60: 1, 8.00: 1, 16.0: 1, INF: 1	Specifies the degree of compression applied to the audio. The state in which no compression is applied is defined as "1".
Attack	0.0– <b>30</b> –100msec	Specifies the time until compression starts when audio exceeding the threshold is input.
Release	30- <b>250</b> -5000msec	Adjusts the length of time until compression ends after audio falls below the threshold.

Menu item	Value (bold text: default value)	Explanation
Equalizer	OFF, ON	Turns the equalizer on/off.         Effect         This is a 4-band parametric equalizer. It lets you shape the character of the sound by boosting or cutting four frequency regions.
Hi Gain	-12.0- <b>0.0</b> -12.0dB	Boosts or attenuates the high band.
Hi Freq	1.00– <b>10.0</b> –20.0kHz	Adjusts the center frequency when changing the tone quality in the high band.
Hi-Mid Gain	-12.0- <b>0.0</b> -12.0dB	Boosts or attenuates the high-midrange band.
Hi-Mid Freq	20.0Hz– <b>2.00kHz</b> –20.0kHz	Adjusts the center frequency when changing the tone quality in the high-midrange band.
Hi-Mid Q	0.5– <b>1.0</b> –16.0	Adjusts the width of the frequency band when boosting or attenuating high-midrange band.
Lo-Mid Gain	-12.0- <b>0.0</b> -12.0dB	Boosts or attenuates the low-midrange band.
Lo-Mid Freq	20.0Hz- <b>500Hz</b> -20.0kHz	Adjusts the center frequency when changing the tone quality in the low-midrange band.
Lo-Mid Q	0.5– <b>1.0</b> –16.0	Adjusts the width of the frequency band when boosting or attenuating low-midrange band.
Lo Gain	-12.0- <b>0.0</b> -12.0dB	Boosts or attenuates the low band.
Lo Freq	20.0Hz- <b>100Hz</b> -2.00kHz	Adjusts the center frequency when changing the tone quality in the low band.

Menu item	Value (bold text: default value)	Explanation
HDMI In 1–6	Adjusts the audio that is input fror	n the HDMI IN 1–6 connectors.
Jump To Setup	Enter	Jumps to the setup screen.
Embedded Audio Channel	1/2, 3/4, 5/6, 7/8	Selects the channel used for embedded audio.
Digital Gain	-42.0- <b>0.0</b> -42.0dB	Adjusts the digital gain.
Input Level	-INF- <b>0.0</b> -10.0dB	Adjusts the input volume.
Input Mute	OFF, ON	Turns the mute function on/off. When this is "ON", the input audio is temporarily silenced.
	Converts the input audio from ster	reo to mono.
	Off	Sends the stereo input audio without change.
Mono	L Only	The audio of the L channel is sent to both L and R.
	R Only	The audio of the R channel is sent to both L and R.
	LR Mix	The audio of the L channel and R channel is mixed, and sent to both L and R.
Solo	OFF, ON	<ul> <li>Turns the solo function on/off. Only the audio for which this is "ON" is heard in the headphones.</li> <li>* The solo function applies to the headphone output. It does not affect output other than the headphones.</li> </ul>
Delay	0.0–500msec	Adjusts the delay time of the audio.
Delay	(0–25.0/29.9/30.0frame)	Effect Outputs audio with a delay.
Reverb Send	0-127	Adjusts the amount of audio sent to reverb.
Main Bus	This configures the Main bus.	
Send	OFF, ON	When this is "ON", audio is sent to the Main bus.
AUX 1 Bus	This configures the AUX 1 bus.	
Send Level	-INF-10.0dB	These parameters adjust the amount of audio sent to the AUX 1 bus.
	Dry	Sends the source audio with no effects applied.
		Sends the effect-applied audio.
Send Point	Pre Fader	The send volume is constant, regardless of the volume (Input Level).
	Post Fader	Sends the effect-applied audio.
		The send volume can be changed by adjusting the volume (Input Level).
AUX 2 Bus	This configures the AUX 2 bus.	
Send Level	-INF-10.0dB	These parameters adjust the amount of audio sent to the AUX 2 bus.
	Dry	Sends the source audio with no effects applied.
		Sends the effect-applied audio.
Send Point	Pre Fader	The send volume is constant, regardless of the volume (Input Level).
		Sends the effect-applied audio.
	Post Fader	The send volume can be changed by adjusting the volume (Input Level).
		Turns the high-pass filter on/off.
High Pass Filter 80Hz	OFF, ON	Effect Cuts off unneeded low-band audio. The cutoff frequency is 80 Hz.
		Turns the noise gate on/off.
Noise Gate	OFF, ON	Effect Eliminates audio that is lower than the specified threshold level. This is effective when the noise that you want to remove is separate from the audio that you want to keep, and can be used to remove hiss or other noise that is heard during periods of silence.
Threshold	-80- <b>-48</b> -0dB	Specifies the level used as the threshold for removing audio. Audio below the level set here is removed.
Release	30- <b>500</b> -5000msec	Adjusts the length of time until the audio is fully attenuated after audio falls below the threshold.
Compressor	OFF, ON	Turns the compressor on/off.         Effect       Audio that exceeds the specified threshold level is compressed. This reduces the difference between the maximum volume and minimum volume, making the audio more comfortable for listening.
Threshold	-50- <b>-8</b> -0dB	Specifies the level used as the threshold at which the compressor is applied. Compression is applied to audio that exceeds the threshold.
Ratio	1.00: 1, 1.12: 1, 1.25: 1, 1.40: 1, 1.60: 1, 1.80: 1, 2.00: 1, <b>2.50: 1</b> , 3.20: 1, 4.00: 1, 5.60: 1, 8.00: 1, 16.0: 1, INF: 1	Specifies the degree of compression applied to the audio. The state in which no compression is applied is defined as "1".
Attack	0.0– <b>30</b> –100msec	Specifies the time until compression starts when audio exceeding the threshold is input.
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Release	30- <b>250</b> -5000msec	Adjusts the length of time until compression ends after audio falls below the threshold.

Menu item	Value (bold text: default value)	Explanation
Equalizer	OFF, ON	Turns the equalizer on/off.         Effect         This is a 4-band parametric equalizer. It lets you shape the character of the sound by boosting or cutting four frequency regions.
Hi Gain	-12.0- <b>0.0</b> -12.0dB	Boosts or attenuates the high band.
Hi Freq	1.00– <b>10.0</b> –20.0kHz	Adjusts the center frequency when changing the tone quality in the high band.
Hi-Mid Gain	-12.0- <b>0.0</b> -12.0dB	Boosts or attenuates the high-midrange band.
Hi-Mid Freq	20.0Hz- <b>2.00kHz</b> -20.0kHz	Adjusts the center frequency when changing the tone quality in the high-midrange band.
Hi-Mid Q	0.5– <b>1.0</b> –16.0	Adjusts the width of the frequency band when boosting or attenuating high-midrange band.
Lo-Mid Gain	-12.0- <b>0.0</b> -12.0dB	Boosts or attenuates the low-midrange band.
Lo-Mid Freq	20.0Hz- <b>500Hz</b> -20.0kHz	Adjusts the center frequency when changing the tone quality in the low-midrange band.
Lo-Mid Q	0.5– <b>1.0</b> –16.0	Adjusts the width of the frequency band when boosting or attenuating low-midrange band.
Lo Gain	-12.0- <b>0.0</b> -12.0dB	Boosts or attenuates the low band.
Lo Freq	20.0Hz- <b>100Hz</b> -2.00kHz	Adjusts the center frequency when changing the tone quality in the low band.

Menu item	Value (bold text: default value)	Explanation
SDI In 1–6	Adjusts the audio that is input fror	n the SDI IN 1–6 connectors.
Jump To Setup	Enter	Jumps to the setup screen.
Embedded Audio Channel	1/2, 3/4, 5/6, 7/8	Selects the channel used for embedded audio.
Digital Gain	-42.0- <b>0.0</b> -42.0dB	Adjusts the digital gain.
Input Level	-INF- <b>0.0</b> -10.0dB	Adjusts the input volume.
Input Mute	OFF, ON	Turns the mute function on/off. When this is "ON", the input audio is temporarily silenced.
	Converts the input audio from ste	reo to mono.
	Off	Sends the stereo input audio without change.
Mono	L Only	The audio of the L channel is sent to both L and R.
	R Only	The audio of the R channel is sent to both L and R.
	LR Mix	The audio of the L channel and R channel is mixed, and sent to both L and R.
Solo	OFF, ON	<ul> <li>Turns the solo function on/off. Only the audio for which this is "ON" is heard in the headphones.</li> <li>* The solo function applies to the headphone output. It does not affect output other than the headphones.</li> </ul>
Dolay	<b>0.0</b> –500msec	Adjusts the delay time of the audio.
Delay	(0-25.0/29.9/30.0frame)	Effect Outputs audio with a delay.
Reverb Send	<b>0</b> –127	Adjusts the amount of audio sent to reverb.
Main Bus	This configures the Main bus.	
Send	OFF, ON	When this is "ON", audio is sent to the Main bus.
AUX 1 Bus	This configures the AUX 1 bus.	
Send Level	-INF-10.0dB	These parameters adjust the amount of audio sent to the AUX 1 bus.
	Dry	Sends the source audio with no effects applied.
		Sends the effect-applied audio.
Send Point	Pre Fader	The send volume is constant, regardless of the volume (Input Level).
		Sends the effect-applied audio.
	Post Fader	The send volume can be changed by adjusting the volume (Input Level).
AUX 2 Bus	This configures the AUX 2 bus.	
Send Level	-INF-10.0dB	These parameters adjust the amount of audio sent to the AUX 2 bus.
	Dry	Sends the source audio with no effects applied.
	Pro Fodor	Sends the effect-applied audio.
Send Point	Pre Fader	The send volume is constant, regardless of the volume (Input Level).
	Post Fader	Sends the effect-applied audio.
	rostradel	The send volume can be changed by adjusting the volume (Input Level).
High Pass Filter 80Hz		Turns the high-pass filter on/off.
night rass rifter ounz	OFF, ON	Effect Cuts off unneeded low-band audio. The cutoff frequency is 80 Hz.
Noise Gate	OFF, ON	Turns the noise gate on/off.EffectEffectEffectEffectEffectBillEffectBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBillBill
Threshold	-80- <b>-48</b> -0dB	Specifies the level used as the threshold for removing audio. Audio below the level set here is removed.
Release	30- <b>500</b> -5000msec	Adjusts the length of time until the audio is fully attenuated after audio falls below the threshold.
Compressor	OFF, ON	Turns the compressor on/off.EffectAudio that exceeds the specified threshold level is compressed. This reduces the difference between the maximum volume and minimum volume, making the audio more comfortable for listening.
Threshold	-50– <b>-8</b> –0dB	Specifies the level used as the threshold at which the compressor is applied. Compression is applied to audio that exceeds the threshold.
Ratio	1.00: 1, 1.12: 1, 1.25: 1, 1.40: 1, 1.60: 1, 1.80: 1, 2.00: 1, <b>2.50: 1</b> , 3.20: 1, 4.00: 1, 5.60: 1, 8.00: 1, 16.0: 1, INF: 1	Specifies the degree of compression applied to the audio. The state in which no compression is applied is defined as "1".
Attack	0.0- <b>30</b> -100msec	Specifies the time until compression starts when audio exceeding the threshold is input.
Release	30- <b>250</b> -5000msec	Adjusts the length of time until compression ends after audio falls below the threshold.
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Menu item	Value (bold text: default value)	Explanation
Equalizer	OFF, ON	Turns the equalizer on/off.         Effect         This is a 4-band parametric equalizer. It lets you shape the character of the sound by boosting or cutting four frequency regions.
Hi Gain	-12.0- <b>0.0</b> -12.0dB	Boosts or attenuates the high band.
Hi Freq	1.00- <b>10.0</b> -20.0kHz	Adjusts the center frequency when changing the tone quality in the high band.
Hi-Mid Gain	-12.0- <b>0.0</b> -12.0dB	Boosts or attenuates the high-midrange band.
Hi-Mid Freq	20.0Hz– <b>2.00kHz</b> –20.0kHz	Adjusts the center frequency when changing the tone quality in the high-midrange band.
Hi-Mid Q	0.5– <b>1.0</b> –16.0	Adjusts the width of the frequency band when boosting or attenuating high-midrange band.
Lo-Mid Gain	-12.0- <b>0.0</b> -12.0dB	Boosts or attenuates the low-midrange band.
Lo-Mid Freq	20.0Hz- <b>500Hz</b> -20.0kHz	Adjusts the center frequency when changing the tone quality in the low-midrange band.
Lo-Mid Q	0.5– <b>1.0</b> –16.0	Adjusts the width of the frequency band when boosting or attenuating low-midrange band.
Lo Gain	-12.0- <b>0.0</b> -12.0dB	Boosts or attenuates the low band.
Lo Freq	20.0Hz- <b>100Hz</b> -2.00kHz	Adjusts the center frequency when changing the tone quality in the low band.

Menu item	Value (bold text: default value)	Explanation
Video Player	Adjusts the audio input from the v	ideo player.
Jump To Setup	Enter	Jumps to the setup screen.
Digital Gain	-42.0- <b>0.0</b> -42.0dB	Adjusts the digital gain.
Input Level	-INF- <b>0.0</b> -10.0dB	Adjusts the input volume.
Input Mute	OFF, ON	Turns the mute function on/off. When this is "ON", the input audio is temporarily silenced.
	Converts the input audio from ster	reo to mono.
	Off	Sends the stereo input audio without change.
Mono	L Only	The audio of the L channel is sent to both L and R.
	R Only	The audio of the R channel is sent to both L and R.
	LR Mix	The audio of the L channel and R channel is mixed, and sent to both L and R.
Solo	OFF, ON	<ul> <li>Turns the solo function on/off. Only the audio for which this is "ON" is heard in the headphones.</li> <li>* The solo function applies to the headphone output. It does not affect output other than the headphones.</li> </ul>
Delay	<b>0.0</b> –500msec ( <b>0</b> –25.0/29.9/30.0frame)	Adjusts the delay time of the audio. Effect Outputs audio with a delay.
Reverb Send	<b>0</b> –127	Adjusts the amount of audio sent to reverb.
Main Bus	This configures the Main bus.	
Send	OFF, ON	When this is "ON", audio is sent to the Main bus.
AUX 1 Bus	This configures the AUX 1 bus.	
Send Level	-INF-10.0dB	These parameters adjust the amount of audio sent to the AUX 1 bus.
	Dry	Sends the source audio with no effects applied.
Send Point	Pre Fader	Sends the effect-applied audio. The send volume is constant, regardless of the volume (Input Level).
	Post Fader	Sends the effect-applied audio. The send volume can be changed by adjusting the volume (Input Level).
AUX 2 Bus	This configures the AUX 2 bus.	
Send Level	-INF-10.0dB	These parameters adjust the amount of audio sent to the AUX 2 bus.
	Dry	Sends the source audio with no effects applied.
	Pre Fader	Sends the effect-applied audio.
Send Point		The send volume is constant, regardless of the volume (Input Level).
	Post Fader	Sends the effect-applied audio.
		The send volume can be changed by adjusting the volume (Input Level).
High Pass Filter 80Hz	OFF, ON	Turns the high-pass filter on/off.
		Effect Cuts off unneeded low-band audio. The cutoff frequency is 80 Hz.
Noise Gate	OFF, ON	Turns the noise gate on/off.EffectEliminates audio that is lower than the specified threshold level. This is effective when the noise that you want to remove is separate from the audio that you want to keep, and can be used to remove hiss or other noise that is heard during periods of silence.
Threshold	-80- <b>-48</b> -0dB	Specifies the level used as the threshold for removing audio. Audio below the level set here is removed.
Release	30– <b>500</b> –5000msec	Adjusts the length of time until the audio is fully attenuated after audio falls below the threshold.
Compressor	OFF, ON	Turns the compressor on/off.EffectAudio that exceeds the specified threshold level is compressed. This reduces the difference between the maximum volume and minimum volume, making the audio more comfortable for listening.
Threshold	-50- <b>-8</b> -0dB	Specifies the level used as the threshold at which the compressor is applied. Compression is applied to audio that exceeds the threshold.
Ratio	1.00: 1, 1.12: 1, 1.25: 1, 1.40: 1, 1.60: 1, 1.80: 1, 2.00: 1, <b>2.50: 1</b> , 3.20: 1, 4.00: 1, 5.60: 1, 8.00: 1, 16.0: 1, INF: 1	Specifies the degree of compression applied to the audio. The state in which no compression is applied is defined as "1".
Attack	0.0– <b>30</b> –100msec	Specifies the time until compression starts when audio exceeding the threshold is input.
Release	30– <b>250</b> –5000msec	Adjusts the length of time until compression ends after audio falls below the threshold.
	-40- <b>0</b> -40dB	Adjusts the final output volume level after applying the compressor.

Menu item	Value (bold text: default value)	Explanation
Equalizer	OFF, ON	Turns the equalizer on/off.         Effect         This is a 4-band parametric equalizer. It lets you shape the character of the sound by boosting or cutting four frequency regions.
Hi Gain	-12.0- <b>0.0</b> -12.0dB	Boosts or attenuates the high band.
Hi Freq	1.00– <b>10.0</b> –20.0kHz	Adjusts the center frequency when changing the tone quality in the high band.
Hi-Mid Gain	-12.0- <b>0.0</b> -12.0dB	Boosts or attenuates the high-midrange band.
Hi-Mid Freq	20.0Hz– <b>2.00kHz</b> –20.0kHz	Adjusts the center frequency when changing the tone quality in the high-midrange band.
Hi-Mid Q	0.5– <b>1.0</b> –16.0	Adjusts the width of the frequency band when boosting or attenuating high-midrange band.
Lo-Mid Gain	-12.0- <b>0.0</b> -12.0dB	Boosts or attenuates the low-midrange band.
Lo-Mid Freq	20.0Hz- <b>500Hz</b> -20.0kHz	Adjusts the center frequency when changing the tone quality in the low-midrange band.
Lo-Mid Q	0.5– <b>1.0</b> –16.0	Adjusts the width of the frequency band when boosting or attenuating low-midrange band.
Lo Gain	-12.0- <b>0.0</b> -12.0dB	Boosts or attenuates the low band.
Lo Freq	20.0Hz- <b>100Hz</b> -2.00kHz	Adjusts the center frequency when changing the tone quality in the low band.

### 9: Audio Output

Menu item	Value (bold text: default value)	Explanation
Output Assign	Specifies the audio bus that is assign	ned to each connector.
Jump To Setup	Enter	Jumps to the setup screen.
Audio Out 1/2 (XLR)	Main Bus, AUX 1 Bus, AUX 2 Bus, Monitor	
Audio Out 3/4 (XLR)	Main Bus, AUX 1 Bus, AUX 2 Bus, Monitor	
Audio Out (RCA)	Main Bus, AUX 1 Bus, AUX 2 Bus, Monitor	Main Bus:
Phones Out/Monitor	Main Bus, AUX 1 Bus, AUX 2 Bus	All input audio is mixed and output (master output). AUX 1 Bus, AUX 2 Bus:
USB Out	Main Bus, AUX 1 Bus, AUX 2 Bus	Only the input audio sent to the AUX bus is mixed and output. This allows you to output audio that is different than the master output.
Stream/Record	Main Bus, AUX 1 Bus, AUX 2 Bus	Monitor:
Audio Record	Main Bus, AUX 1 Bus, AUX 2 Bus	This outputs the same audio as what you hear in the headphones.
HDMI Out 1–3	Main Bus, AUX 1 Bus, AUX 2 Bus, Monitor	
SDI Out 1–3	Main Bus, AUX 1 Bus, AUX 2 Bus, Monitor	
Main Bus	Adjusts the audio of the MAIN bus.	
Jump To Setup	Enter	Jumps to the setup screen.
Laval		Adjusts the output volume.
Level	-INF- <b>0.0</b> -10.0dB	This can also be adjusted by the [MAIN] fader.
Mute	OFF, ON	Turns the mute function on/off. When this is "ON", the input audio is temporarily silenced.
Solo	OFF, ON	Turns the solo function on/off. Only the audio for which this is "ON" is heard in the headphones. * The solo function applies to the headphone output. It does not affect output other than the headphones.
Delay	<b>0.0</b> –500msec ( <b>0</b> –25.0/29.9/30.0frame)	Adjusts the delay time of the audio. Effect Outputs audio with a delay.
Reverb	OFF, ON	Turns reverb on/off. Effect Adds reverberation to the sound.
Level	0-127	This adjusts the depth of the overall reverb.
	Specifies the reverb type.	
Туре	Room	Produces the natural-sounding reverberation of a room.
	Hall	Produces the reverberation that is typical of a performance in a concert hall.
Size	1– <b>10</b> –20	Specifies the size of the room. The larger the value, the longer the reverb time.
Return Level	-INF- <b>0.0</b> -10.0dB	Adjusts how much reverb is sent back to the main bus.
Equalizer	OFF, ON	Turns the equalizer on/off.         Effect         This is a 4-band parametric equalizer. It lets you shape the character of the sound by boosting or cutting four frequency regions.
Hi Gain	-12.0- <b>0.0</b> -12.0dB	Boosts or attenuates the high band.
Hi Freq	1.00– <b>10.0</b> –20.0kHz	Adjusts the center frequency when changing the tone quality in the high band.
Hi-Mid Gain	-12.0- <b>0.0</b> -12.0dB	Boosts or attenuates the high-midrange band.
Hi-Mid Freq	20.0Hz- <b>2.00kHz</b> -20.0kHz	Adjusts the center frequency when changing the tone quality in the high-midrange band.
Hi-Mid Q	0.5– <b>1.0</b> –16.0	Adjusts the width of the frequency band when boosting or attenuating high-midrange band.
Lo-Mid Gain	-12.0- <b>0.0</b> -12.0dB	Boosts or attenuates the low-midrange band.
Lo-Mid Freq	20.0Hz- <b>500Hz</b> -20.0kHz	Adjusts the center frequency when changing the tone quality in the low-midrange band.
Lo-Mid Q	0.5– <b>1.0</b> –16.0	Adjusts the width of the frequency band when boosting or attenuating low-midrange band

Menu item	Value (bold text: default value)	Explanation
Lo Freq	20.0Hz- <b>100Hz</b> -2.00kHz	Adjusts the center frequency when changing the tone quality in the low band.
Compressor/Limiter	OFF, ON	Turns the compressor or limiter on/off.
	Selects the compressor or limiter.	
Туре	Compressor	Effect Audio that exceeds the specified threshold level is compressed. This reduces the difference between the maximum volume and minimum volume, making the audio more comfortable for listening
	Limiter	Effect Compresses the audio so that the mixed audio does not exceed the specified threshold level.
Comprossor		* Distortion will occur if audio that exceeds the allowable range of the limiter is input.
Compressor		Charifies the level used as the threshold at which the compression is applied. Compression is
Threshold	-50– <b>-8</b> –0dB	Specifies the level used as the threshold at which the compressor is applied. Compression is applied to audio that exceeds the threshold.
Ratio	1.00: 1, 1.12: 1, 1.25: 1, 1.40: 1, 1.60: 1, 1.80: 1, 2.00: 1, <b>2.50: 1</b> , 3.20: 1, 4.00: 1, 5.60: 1, 8.00: 1, 16.0: 1, INF: 1	Specifies the degree of compression applied to the audio. The state in which no compression is applied is defined as "1".
Attack	0.0– <b>30</b> –100ms	Specifies the time until compression starts when audio exceeding the threshold is input.
Release	30– <b>250</b> –5000ms	Adjusts the length of time until compression ends after audio falls below the threshold.
Makeup Gain	-40- <b>0</b> -40dB	Adjusts the final output volume level after applying the compressor.
Limiter		
Threshold	-40 <b>6</b> -0dB	Adjusts the level that becomes the threshold at which the limiter is applied. Compression is applied to audio that exceeds the threshold. The volume level of audio that is output is limited so as to stay to below the threshold.
Loudness Auto Gain Control	OFF, ON	Turns loudness auto gain control on/off.         Effect       The long-term average loudness is measured, and the volume is adjusted so that it is appropriate overall.
Integrated Gain Control	Disable, <b>Enable</b>	Specifies whether the extended interval auto control is enabled (Enable) or disabled (Disable).
Sens	0- <b>80</b> -127	Adjusts the speed at which the target level (Target LKFS) is approached.
Momentary Gain Control	Disable, <b>Enable</b>	Specifies whether the momentary auto control is enabled (Enable) or disabled (Disable).
Sens	0- <b>80</b> -127	Adjusts the speed at which the target level (Target LKFS) is approached.
Target LKFS	-34– <b>-24</b> –-10dB	Specifies the target loudness value.
Adaptive Noise Reduction	OFF, ON	Turns Adaptive Noise Reduction on/off.         Effect       By continuously monitoring the input audio to detect noise during periods of silence, this removes only the noise component.
Depth	0- <b>80</b> -127	Specifies the strength at which noise reduction is applied.
Talking Detector	0- <b>80</b> -127	Specifies the sensitivity of the talking detector. Higher values raise the sensitivity, so that it will be easier to detect the presence or absence of talking even in a noisy environment.
Auto Learn	Disable, <b>Enable</b>	Enables automatic noise detection.
Manual Measure	Exec	Performs noise detection manually.
Forget Learning	Exec	Resets the learned parameters. Reset applies to the parameters of both adaptive noise reduction and loudness auto gain control.

Menu item	Value (bold text: default value)	Explanation
GEQ	OFF, ON	These are the settings for the graphic equalizer.         Effect       It lets you shape the character of the sound by boosting or cutting each of the 15 frequency regions into which the sound is divided.
All Flat	Exec	Sets the equalizer settings to flat (0.0 dB).
25Hz		
40Hz		
60Hz		
100Hz		
160Hz		
250Hz		
400Hz		
630Hz	-15.0– <b>0.0</b> –+15.0dB	Boost/cut each frequency region.
1kHz		
1.6kHz		
2.5kHz		
4kHz		
6.3kHz		
10kHz		
16kHz		

Menu item	Value (bold text: default value)	Explanation
AUX 1 Bus	Adjusts the audio of the AUX 1 bus.	
Jump To Setup	Enter	Jumps to the setup screen.
Level	-INF- <b>0.0</b> -10.0dB	Adjusts the output volume.
Level	-INF- <b>U.U</b> -10.00B	This can also be adjusted by the [AUX 1] knob.
Mute	OFF, ON	Turns the mute function on/off. When this is "ON", the input audio is temporarily silenced.
		Turns the solo function on/off. Only the audio for which this is "ON" is heard in the
Solo	OFF, ON	headphones. * The solo function applies to the headphone output. It does not affect output other than
		the headphones.
	<b>0.0</b> –500msec	Adjusts the delay time of the audio.
Delay	(0-25.0/29.9/30.0frame)	Effect Outputs audio with a delay.
Reverb Return Level	-INF- <b>0.0</b> -10.0dB	Adjusts how much reverb is sent back to the AUX 1 Bus.
AUX 1 Bus Send Level		
Audio In 1–6		
Audio In 7/8–9/10		
USB In		
Bluetooth In		
Audio Player	-INF-10.0dB	Adjusts the amount of audio sent to the AUX bus for each audio input.
HDMI In 1–6		
SDI In 1–6		
Video Player		
AUX 1 Bus Send Point		
Audio In 1–6		
Audio In 7/8–9/10		Dry:
USB In		Sends the source audio with no effects applied.
Bluetooth In	Dry,	Pre Fader:
Audio Player	Pre Fader,	Sends the effect-applied audio.
HDMI In 1–6	Post Fader	The send volume is constant, regardless of the volume (Input Level).
SDI In 1–6		Post Fader: Sends the effect-applied audio.
		The send volume can be changed by adjusting the volume (Input Level).
Video Player		The send volume can be changed by adjusting the volume (input level).
		Turns the equalizer on/off.
Equalizer	OFF, ON	Effect This is a 4-band parametric equalizer. It lets you shape the character of the sound by boosting
		or cutting four frequency regions.
Hi Gain	-12.0 <b>-0.0</b> -12.0dB	Boosts or attenuates the high band.
Hi Freq	1.00– <b>10.0</b> –20.0kHz	Adjusts the center frequency when changing the tone quality in the high band.
Hi-Mid Gain	-12.0- <b>0.0</b> -12.0dB	Boosts or attenuates the high-midrange band.
Hi-Mid Freq	20.0Hz- <b>2.00kHz</b> -20.0kHz	Adjusts the center frequency when changing the tone quality in the high-midrange band.
Hi-Mid Q	0.5– <b>1.0</b> –16.0	Adjusts the width of the frequency band when boosting or attenuating high-midrange
		band.
Lo-Mid Gain	-12.0- <b>0.0</b> -12.0dB	Boosts or attenuates the low-midrange band.
Lo-Mid Freq	20.0Hz- <b>500Hz</b> -20.0kHz	Adjusts the center frequency when changing the tone quality in the low-midrange band.
Lo-Mid Q	0.5- <b>1.0</b> -16.0	Adjusts the width of the frequency band when boosting or attenuating low-midrange band
Lo Gain	-12.0- <b>0.0</b> -12.0dB	Boosts or attenuates the low band.
Lo Freq	20.0Hz– <b>100Hz</b> –2.00kHz	Adjusts the center frequency when changing the tone quality in the low band.
Compressor/Limiter	OFF, ON	Turns the compressor or limiter on/off.
	Selects the compressor or limiter.	
	Compressor	Audio that exceeds the specified threshold level is compressed. This reduces the difference between the maximum volume and minimum volume, making the audio more comfortable
Туре	Compressor	for listening
туре		
туре		Effect Compresses the audio so that the mixed audio does not exceed the specified threshold level
туре	Limiter	Effect Compresses the audio so that the mixed audio does not exceed the specified threshold level.
	Limiter	Effect         Compresses the audio so that the mixed audio does not exceed the specified threshold level.           * Distortion will occur if audio that exceeds the allowable range of the limiter is input.
Compressor	Limiter	* Distortion will occur if audio that exceeds the allowable range of the limiter is input.
	Limiter -50– <b>-8</b> –0dB	* Distortion will occur if audio that exceeds the allowable range of the limiter is input. Specifies the level used as the threshold at which the compressor is applied. Compression is
Compressor	-50- <b>-8</b> -0dB	* Distortion will occur if audio that exceeds the allowable range of the limiter is input.
Compressor	-50- <b>-8</b> -0dB 1.00: 1, 1.12: 1, 1.25: 1, 1.40: 1,	* Distortion will occur if audio that exceeds the allowable range of the limiter is input. Specifies the level used as the threshold at which the compressor is applied. Compression is applied to audio that exceeds the threshold.
Compressor	-50 <b>8</b> -0dB 1.00: 1, 1.12: 1, 1.25: 1, 1.40: 1, 1.60: 1, 1.80: 1, 2.00: 1, <b>2.50: 1</b> ,	<ul> <li>* Distortion will occur if audio that exceeds the allowable range of the limiter is input.</li> <li>Specifies the level used as the threshold at which the compressor is applied. Compression is applied to audio that exceeds the threshold.</li> <li>Specifies the degree of compression applied to the audio. The state in which no compression</li> </ul>
Compressor Threshold	-50 <b>8</b> -0dB 1.00: 1, 1.12: 1, 1.25: 1, 1.40: 1, 1.60: 1, 1.80: 1, 2.00: 1, <b>2.50: 1</b> , 3.20: 1, 4.00: 1, 5.60: 1, 8.00: 1,	* Distortion will occur if audio that exceeds the allowable range of the limiter is input. Specifies the level used as the threshold at which the compressor is applied. Compression is applied to audio that exceeds the threshold.
Compressor Threshold Ratio	-50 <b>8</b> -0dB 1.00: 1, 1.12: 1, 1.25: 1, 1.40: 1, 1.60: 1, 1.80: 1, 2.00: 1, <b>2.50: 1</b> , 3.20: 1, 4.00: 1, 5.60: 1, 8.00: 1, 16.0: 1, INF: 1	<ul> <li>* Distortion will occur if audio that exceeds the allowable range of the limiter is input.</li> <li>Specifies the level used as the threshold at which the compressor is applied. Compression is applied to audio that exceeds the threshold.</li> <li>Specifies the degree of compression applied to the audio. The state in which no compression is applied is defined as "1".</li> </ul>
Compressor Threshold	-50 <b>8</b> -0dB 1.00: 1, 1.12: 1, 1.25: 1, 1.40: 1, 1.60: 1, 1.80: 1, 2.00: 1, <b>2.50: 1</b> , 3.20: 1, 4.00: 1, 5.60: 1, 8.00: 1,	<ul> <li>* Distortion will occur if audio that exceeds the allowable range of the limiter is input.</li> <li>Specifies the level used as the threshold at which the compressor is applied. Compression is applied to audio that exceeds the threshold.</li> <li>Specifies the degree of compression applied to the audio. The state in which no compression</li> </ul>

Menu item	Value (bold text: default value)	Explanation
Limiter		
Threshold	-40- <b>-6</b> -0dB	Adjusts the level that becomes the threshold at which the limiter is applied. Compression is applied to audio that exceeds the threshold. The volume level of audio that is output is limited so as to stay to below the threshold.
GEQ	OFF, ON	These are the settings for the graphic equalizer.         Effect       It lets you shape the character of the sound by boosting or cutting each of the 15 frequency regions into which the sound is divided.
All Flat	Exec	Sets the equalizer settings to flat (0.0 dB).
25Hz		
40Hz		
60Hz		
100Hz		
160Hz		
250Hz		
400Hz		
630Hz	-15.0– <b>-0.0</b> –+15.0dB	Boost/cut each frequency region.
1kHz		
1.6kHz		
2.5kHz		
4kHz		
6.3kHz		
10kHz		
16kHz		

Menu item	em Value (bold text: default value) Explanation			
AUX 2 Bus	Adjusts the audio of the AUX 2 bus.			
Jump To Setup	Enter	Jumps to the setup screen.		
Laural		Adjusts the output volume.		
Level	-INF- <b>0.0</b> -10.0dB	This can also be adjusted by the [AUX 2] knob.		
Mute	OFF, ON	Turns the mute function on/off. When this is "ON", the input audio is temporarily silenced.		
		Turns the solo function on/off. Only the audio for which this is "ON" is heard in the		
Solo	OFF, ON	headphones.		
		* The solo function applies to the headphone output. It does not affect output other than		
		the headphones.		
Delay	<b>0.0</b> –500msec	Adjusts the delay time of the audio.		
Devents Determined avail	(0-25.0/29.9/30.0frame)	Effect Outputs audio with a delay.		
Reverb Return Level	-INF- <b>0.0</b> -10.0dB	Adjusts how much reverb is sent back to the AUX 2 Bus.		
AUX 1 Bus Send Level				
Audio In 1–6				
Audio In 7/8–9/10				
USB In				
Bluetooth In	-INF-10.0dB	Adjusts the amount of audio sent to the AUX bus for each audio input.		
Audio Player				
HDMI In 1–6				
SDI In 1–6				
Video Player				
AUX 1 Bus Send Point				
Audio In 1–6		Dry:		
Audio In 7/8–9/10		Sends the source audio with no effects applied.		
USB In	Dry,	Pre Fader:		
Bluetooth In	Pre Fader,	Sends the effect-applied audio.		
Audio Player	Post Fader	The send volume is constant, regardless of the volume (Input Level).		
HDMI In 1–6		Post Fader: Sends the effect-applied audio.		
SDI In 1–6		The send volume can be changed by adjusting the volume (Input Level).		
Video Player				
		Turns the equalizer on/off.		
Equalizer	OFF, ON	Effect This is a 4-band parametric equalizer. It lets you shape the character of the sound by boosting or cutting four frequency regions.		
Hi Gain	-12.0- <b>0.0</b> -12.0dB	Boosts or attenuates the high band.		
Hi Freq	1.00– <b>10.0</b> –20.0kHz	Adjusts the center frequency when changing the tone quality in the high band.		
Hi-Mid Gain	-12.0– <b>0.0</b> –12.0dB	Boosts or attenuates the high-midrange band.		
Hi-Mid Freg	20.0Hz- <b>2.00kHz</b> -20.0kHz	Adjusts the center frequency when changing the tone quality in the high-midrange band.		
	20.0HZ-2.00KHZ-20.0KHZ	Adjusts the width of the frequency band when boosting or attenuating high-midrange		
Hi-Mid Q	0.5– <b>1.0</b> –16.0	band.		
Lo-Mid Gain	-12.0 <b>-0.0</b> -12.0dB	Boosts or attenuates the low-midrange band.		
Lo-Mid Freq	20.0Hz- <b>500Hz</b> -20.0kHz	Adjusts the center frequency when changing the tone quality in the low-midrange band.		
Lo-Mid Q	0.5– <b>1.0</b> –16.0	Adjusts the width of the frequency band when boosting or attenuating low-midrange band.		
Lo Gain	-12.0 <b>-0.0</b> -12.0dB	Boosts or attenuates the low band.		
Lo Freq	20.0Hz- <b>100Hz</b> -2.00kHz	Adjusts the center frequency when changing the tone quality in the low band.		
Compressor/Limiter	OFF, ON	Turns the compressor or limiter on/off.		
	Selects the compressor or limiter.			
Туре	Compressor	Effect Audio that exceeds the specified threshold level is compressed. This reduces the difference between the maximum volume and minimum volume, making the audio more comfortable for listening		
	Limiter	Effect Compresses the audio so that the mixed audio does not exceed the specified threshold level.		
		* Distortion will occur if audio that exceeds the allowable range of the limiter is input.		
Compressor				
Threshold	-50– <b>-8</b> –0dB	Specifies the level used as the threshold at which the compressor is applied. Compression is applied to audio that exceeds the threshold.		
Ratio	1.00: 1, 1.12: 1, 1.25: 1, 1.40: 1, 1.60: 1, 1.80: 1, 2.00: 1, <b>2.50: 1</b> , 3.20: 1, 4.00: 1, 5.60: 1, 8.00: 1, 16.0: 1, INF: 1	Specifies the degree of compression applied to the audio. The state in which no compression is applied is defined as "1".		
Attack	0.0– <b>30</b> –100ms	Specifies the time until compression starts when audio exceeding the threshold is input.		
Release	30- <b>250</b> -5000ms	Adjusts the length of time until compression ends after audio falls below the threshold.		
	-40 <b>-0</b> -40dB	Adjusts the final output volume level after applying the compressor.		
Makeup Gain				

Menu item	Value (bold text: default value)	Explanation	
Threshold	-40- <b>-6</b> -0dB	Adjusts the level that becomes the threshold at which the limiter is applied. Compression is applied to audio that exceeds the threshold. The volume level of audio that is output is limited so as to stay to below the threshold.	
GEQ	OFF, ON	These are the settings for the graphic equalizer.EffectIt lets you shape the character of the sound by boosting or cutting each of the 15 frequency regions into which the sound is divided.	
All Flat	Exec	Sets the equalizer settings to flat (0.0 dB).	
25Hz			
40Hz			
60Hz			
100Hz			
160Hz			
250Hz			
400Hz			
630Hz	-15.0 <b>-0.0</b> -+15.0dB	Boost/cut each frequency region.	
1kHz			
1.6kHz			
2.5kHz			
4kHz			
6.3kHz			
10kHz			
16kHz			

Menu item	Value (bold text: default value)	Explanation	
Phones Out/Monitor	Adjusts the audio that is output from	n the PHONES jack.	
Discussed and		Adjusts the output volume.	
Phones Level	-INF-10.0dB	This can also be adjusted by the [PHONES] knob.	
Monitor Level	-INF-10.0dB	Adjust the monitor volume.	
USB Out	Adjusts the audio that's output from	the USB STREAM port.	
Jump To Setup	Enter	Jumps to the setup screen.	
1 mul		Adjusts the output volume.	
Level	-INF- <b>0.0</b> -10.0dB	This can also be adjusted by the [USB OUT] knob.	
Mute	OFF, ON	Turns the mute function on/off. When this is "ON", the input audio is temporarily silenced.	
	<b>0.0</b> –500msec	Adjusts the delay time of the audio.	
Delay	(0–25.0/29.9/30.0frame)	Effect Outputs audio with a delay.	
		Turns the equalizer on/off.	
Equalizer	OFF, ON	Effect This is a 4-band parametric equalizer. It lets you shape the character of the sound by boosting or cutting four frequency regions.	
Hi Gain	-12.0- <b>0.0</b> -12.0dB	Boosts or attenuates the high band.	
Hi Freq	1.00– <b>10.0</b> –20.0kHz	Adjusts the center frequency when changing the tone quality in the high band.	
Hi-Mid Gain	-12.0– <b>0.0</b> –12.0dB	Boosts or attenuates the high-midrange band.	
Hi-Mid Freq	20.0Hz– <b>2.00kHz</b> –20.0kHz	Adjusts the center frequency when changing the tone quality in the high-midrange band.	
Hi-Mid Q	0.5– <b>1.0</b> –16.0	Adjusts the width of the frequency band when boosting or attenuating high-midrange band.	
Lo-Mid Gain	-12.0- <b>0.0</b> -12.0dB	Boosts or attenuates the low-midrange band.	
Lo-Mid Freq	20.0Hz– <b>500Hz</b> –20.0kHz	Adjusts the center frequency when changing the tone quality in the low-midrange band.	
Lo-Mid O	0.5– <b>1.0</b> –16.0	Adjusts the width of the frequency band when boosting or attenuating low-midrange band.	
Lo Gain	-12.0- <b>0.0</b> -12.0dB	Boosts or attenuates the low band.	
Lo Freq	20.0Hz– <b>100Hz</b> –2.00kHz	Adjusts the center frequency when changing the tone quality in the low band.	
Stream/Record	Adjusts the audio that's output from		
Jump To Setup	Enter	Jumps to the setup screen.	
		Adjusts the output volume.	
Level	-INF- <b>0.0</b> -10.0dB	This can also be adjusted by the [STREAM/RECORD] knob.	
Mute	OFF, ON	Turns the mute function on/off. When this is "ON", the input audio is temporarily silenced.	
	<b>0.0</b> –500msec	Adjusts the delay time of the audio.	
Delay	(0-25.0/29.9/30.0frame)	Effect Outputs audio with a delay.	
		Turns the equalizer on/off.	
Equalizer	OFF, ON	This is a 4-band parametric equalizer. It lets you shape the character of the sound by boosting	
		Effect or cutting four frequency regions.	
Hi Gain	-12.0- <b>0.0</b> -12.0dB	Boosts or attenuates the high band.	
Hi Freq	1.00- <b>10.0</b> -20.0kHz	Adjusts the center frequency when changing the tone quality in the high band.	
Hi-Mid Gain	-12.0- <b>0.0</b> -12.0dB	Boosts or attenuates the high-midrange band.	
Hi-Mid Freq	20.0Hz- <b>2.00kHz</b> -20.0kHz	Adjusts the center frequency when changing the tone quality in the high-midrange band.	
Hi-Mid Q	0.5– <b>1.0</b> –16.0	Adjusts the width of the frequency band when boosting or attenuating high-midrange band.	
Lo-Mid Gain	-12.0- <b>0.0</b> -12.0dB	Boosts or attenuates the low-midrange band.	
Lo-Mid Freq	20.0Hz- <b>500Hz</b> -20.0kHz	Adjusts the center frequency when changing the tone quality in the low-midrange band.	
Lo-Mid Freq Lo-Mid Q	20.0Hz- <b>500Hz</b> -20.0kHz 0.5- <b>1.0</b> -16.0	Adjusts the center frequency when changing the tone quality in the low-midrange band. Adjusts the width of the frequency band when boosting or attenuating low-midrange band.	
· · · · · · · · · · · · · · · · · · ·			
Lo-Mid Q	0.5– <b>1.0</b> –16.0	Adjusts the width of the frequency band when boosting or attenuating low-midrange band.	
Lo-Mid Q Lo Gain	0.5– <b>1.0</b> –16.0 -12.0– <b>0.0</b> –12.0dB 20.0Hz– <b>100Hz</b> –2.00kHz	Adjusts the width of the frequency band when boosting or attenuating low-midrange band. Boosts or attenuates the low band.	
Lo-Mid Q Lo Gain Lo Freq	0.5- <b>1.0</b> -16.0 -12.0- <b>0.0</b> -12.0dB 20.0Hz- <b>100Hz</b> -2.00kHz dded	Adjusts the width of the frequency band when boosting or attenuating low-midrange band. Boosts or attenuates the low band. Adjusts the center frequency when changing the tone quality in the low band.	
Lo-Mid Q Lo Gain Lo Freq HDMI/SDI Audio Embe	0.5- <b>1.0</b> -16.0 -12.0- <b>0.0</b> -12.0dB 20.0Hz- <b>100Hz</b> -2.00kHz dded These parameters set the input audio	Adjusts the width of the frequency band when boosting or attenuating low-midrange band. Boosts or attenuates the low band. Adjusts the center frequency when changing the tone quality in the low band. Settings related to embedded audio for the HDMI/SDI output.	
Lo-Mid Q Lo Gain Lo Freq HDMI/SDI Audio Embe HDMI Out 1-3 Send	0.5-1.0-16.0 -12.0-0.0-12.0dB 20.0Hz-100Hz-2.00kHz dded These parameters set the input audio N/A, Audio In 1/2-Audio In 9/10,	Adjusts the width of the frequency band when boosting or attenuating low-midrange band. Boosts or attenuates the low band. Adjusts the center frequency when changing the tone quality in the low band. Settings related to embedded audio for the HDMI/SDI output. to send to HDMI embedded audio channels 3–8.	
Lo-Mid Q Lo Gain Lo Freq HDMI/SDI Audio Embe HDMI Out 1-3 Send Channel 3/4 Channel 5/6	0.5- <b>1.0</b> -16.0 -12.0- <b>0.0</b> -12.0dB 20.0Hz- <b>100Hz</b> -2.00kHz dded These parameters set the input audio	Adjusts the width of the frequency band when boosting or attenuating low-midrange band. Boosts or attenuates the low band. Adjusts the center frequency when changing the tone quality in the low band. Settings related to embedded audio for the HDMI/SDI output. to send to HDMI embedded audio channels 3–8. When this is set to "N/A", no audio is sent. * The following audio buses are assigned for channels 1 and 2. Channel 1: Main Bus (L) or AUX 1 Bus (L)	
Lo-Mid Q Lo Gain Lo Freq HDMI/SDI Audio Ember HDMI Out 1-3 Send Channel 3/4	0.5– <b>1.0</b> –16.0 -12.0– <b>0.0</b> –12.0dB 20.0Hz– <b>100Hz</b> –2.00kHz dded These parameters set the input audio <b>N/A</b> , Audio In 1/2–Audio In 9/10, USB In, Bluetooth In, Audio Player, HDMI 1–6, SDI 1–6, Video Player	Adjusts the width of the frequency band when boosting or attenuating low-midrange band. Boosts or attenuates the low band. Adjusts the center frequency when changing the tone quality in the low band. Settings related to embedded audio for the HDMI/SDI output. to to send to HDMI embedded audio channels 3–8. When this is set to "N/A", no audio is sent. * The following audio buses are assigned for channels 1 and 2. Channel 1: Main Bus (L) or AUX 1 Bus (L) Channel 2: Main Bus (R) or AUX 2 Bus (R)	
Lo-Mid Q Lo Gain Lo Freq HDMI/SDI Audio Embe HDMI Out 1-3 Send Channel 3/4 Channel 5/6	0.5– <b>1.0</b> –16.0 -12.0– <b>0.0</b> –12.0dB 20.0Hz– <b>100Hz</b> –2.00kHz dded These parameters set the input audio <b>N/A</b> , Audio In 1/2–Audio In 9/10, USB In, Bluetooth In, Audio Player, HDMI 1–6, SDI 1–6, Video Player	Adjusts the width of the frequency band when boosting or attenuating low-midrange band. Boosts or attenuates the low band. Adjusts the center frequency when changing the tone quality in the low band. Settings related to embedded audio for the HDMI/SDI output. to to send to HDMI embedded audio channels 3–8. When this is set to "N/A", no audio is sent. * The following audio buses are assigned for channels 1 and 2. Channel 1: Main Bus (L) or AUX 1 Bus (L) Channel 2: Main Bus (R) or AUX 2 Bus (R) to to send to SDI embedded audio channels 3–8.	
Lo-Mid Q Lo Gain Lo Freq HDMI/SDI Audio Embe HDMI Out 1-3 Send Channel 3/4 Channel 5/6 Channel 7/8	0.5-1.0-16.0 -12.0-0.0-12.0dB 20.0Hz-100Hz-2.00kHz dded These parameters set the input audio N/A, Audio In 1/2-Audio In 9/10, USB In, Bluetooth In, Audio Player, HDMI 1-6, SDI 1-6, Video Player These parameters set the input audio	Adjusts the width of the frequency band when boosting or attenuating low-midrange band. Boosts or attenuates the low band. Adjusts the center frequency when changing the tone quality in the low band. Settings related to embedded audio for the HDMI/SDI output. to to send to HDMI embedded audio channels 3–8. When this is set to "N/A", no audio is sent. * The following audio buses are assigned for channels 1 and 2. Channel 1: Main Bus (L) or AUX 1 Bus (L) Channel 2: Main Bus (R) or AUX 2 Bus (R) to to send to SDI embedded audio channels 3–8. When this is set to "N/A", no audio is sent.	
Lo-Mid Q Lo Gain Lo Freq HDMI/SDI Audio Embe HDMI Out 1-3 Send Channel 3/4 Channel 5/6 Channel 7/8 SDI Out 1-3 Send	0.5–1.0–16.0 -12.0–0.0–12.0dB 20.0Hz–100Hz–2.00kHz dded These parameters set the input audio N/A, Audio In 1/2–Audio In 9/10, USB In, Bluetooth In, Audio Player, HDMI 1–6, SDI 1–6, Video Player These parameters set the input audio N/A, Audio In 1/2–Audio In 9/10,	Adjusts the width of the frequency band when boosting or attenuating low-midrange band. Boosts or attenuates the low band. Adjusts the center frequency when changing the tone quality in the low band. Settings related to embedded audio for the HDMI/SDI output. to to send to HDMI embedded audio channels 3–8. When this is set to "N/A", no audio is sent. * The following audio buses are assigned for channels 1 and 2. Channel 1: Main Bus (L) or AUX 1 Bus (L) Channel 2: Main Bus (R) or AUX 2 Bus (R) to send to SDI embedded audio channels 3–8. When this is set to "N/A", no audio is sent. * The following audio buses are assigned for channels 1 and 2.	
Lo-Mid Q Lo Gain Lo Freq HDMI/SDI Audio Embe HDMI Out 1-3 Send Channel 3/4 Channel 5/6 Channel 7/8 SDI Out 1-3 Send Channel 3/4	0.5- <b>1.0</b> -16.0 -12.0- <b>0.0</b> -12.0dB 20.0Hz- <b>100Hz</b> -2.00kHz dded These parameters set the input audio <b>N/A</b> , Audio In 1/2-Audio In 9/10, USB In, Bluetooth In, Audio Player, HDMI 1-6, SDI 1-6, Video Player These parameters set the input audio	Adjusts the width of the frequency band when boosting or attenuating low-midrange band. Boosts or attenuates the low band. Adjusts the center frequency when changing the tone quality in the low band. Settings related to embedded audio for the HDMI/SDI output. to to send to HDMI embedded audio channels 3–8. When this is set to "N/A", no audio is sent. * The following audio buses are assigned for channels 1 and 2. Channel 1: Main Bus (L) or AUX 1 Bus (L) Channel 2: Main Bus (R) or AUX 2 Bus (R) to to send to SDI embedded audio channels 3–8. When this is set to "N/A", no audio is sent.	

Menu item	Value (bold text: default value)	Explanation	
Audio In 1–9/10	Sets whether to send audio with effects applied, from each input to the HDMI/SDI embedded audio channels (3–8).		
USB In	Off	Audio is not sent.	
Bluetooth In	Dry	Sends the source audio with no effects applied.	
Audio Player	Due De deu	Sends the effect-applied audio.	
HDMI In 1–6	Pre Fader	The send volume is constant, regardless of the volume (Input Level).	
SDI In 1–6		Sends the effect-applied audio.	
Video Player	Post Fader	The send volume can be changed by adjusting the volume (Input Level).	

### 10: Audio Follow

Menu item	Value (bold text: default value)	Explanation	
All Audio Follow	All Off, All On	Turns on/off the audio follow function for HDMI 1–6, SDI 1–6, and Video Player in a single action.	
	Turns the audio follow function on/off.		
HDMI In 1–6	Audio follow is a function that automatically switches the audio output in tandem with video switching.		
SDI In 1–6	OFF The audio is always output regardless of the video selection.		
		The audio is output only when the video is selected. The audio is automatically muted if another video is selected.	
Audio in 1–9/10			
USB In	Off, HDMI 1–6, SDI 1–6,	For each audio source, these settings specify the input video (Input 1–8) that will use the audio follow function. Audio is output only when the specified input video is selected.	
Bluetooth In	Still 1–16, V.Player, Input 1–8	When this is "Off", the audio is always output regardless of the video selection.	
Audio Player		when this is on, the audio is always output regardless of the video selection.	
PinP&Key 1–4 Follow	OFF, ON	When PinP&KEY 1–4 is "ON", this sets whether the audio is linked to the source video.	
DSK 1, 2 Follow	OFF, <b>ON</b>	When DSK 1, 2 is "ON", this sets whether the audio is linked to the source video.	

# 11: Audio Auto Mixing

Menu item	Value (bold text: default value)	Explanation		
Jump To Setup	Enter	Jumps to the setup screen.		
	OFF, ON	Turns the auto mixing function on/off.		
Audio Auto Mixing	OFF, ON	Auto mixing is a function that automatically controls the volume adjustments.		
Audio In 1–6	Disable, Enable	Specifies whether Auto Mixing is applied (Enable) or not applied (Disable).		
Weight	0- <b>100%</b>	Specifies the weight level (the priority of volume distribution).		
weight	0-100%	* Setting the weight level to "0" results in no audio output.		
Audio In 7/8–9/10	Disable, Enable	Specifies whether Auto Mixing is applied (Enable) or not applied (Disable).		
Weight	0- <b>100%</b>	Specifies the weight level (the priority of volume distribution).		
weight	0-100%	* Setting the weight level to "0" results in no audio output.		
JSB In	Disable, Enable	Specifies whether Auto Mixing is applied (Enable) or not applied (Disable).		
Weight	0- <b>100%</b>	Specifies the weight level (the priority of volume distribution).		
	0-100%	* Setting the weight level to "0" results in no audio output.		
Bluetooth In	Disable, Enable	Specifies whether Auto Mixing is applied (Enable) or not applied (Disable).		
Weight	0-100%	Specifies the weight level (the priority of volume distribution).		
		* Setting the weight level to "0" results in no audio output.		
Audio Player	Disable, Enable	Specifies whether Auto Mixing is applied (Enable) or not applied (Disable).		
147 1 L C	0-100%	Specifies the weight level (the priority of volume distribution).		
Weight	0-100%	* Setting the weight level to "0" results in no audio output.		
HDMI In 1–6	Disable, Enable	Specifies whether Auto Mixing is applied (Enable) or not applied (Disable).		
Motola	0.1000/	Specifies the weight level (the priority of volume distribution).		
Weight	0-100%	* Setting the weight level to "0" results in no audio output.		
SDI In 1–6	Disable, Enable	Specifies whether Auto Mixing is applied (Enable) or not applied (Disable).		
Weight	0.100%	Specifies the weight level (the priority of volume distribution).		
Weight	0-100%	* Setting the weight level to "0" results in no audio output.		
/ideo Player	Disable, Enable	Specifies whether Auto Mixing is applied (Enable) or not applied (Disable).		
147 1 1 7	0.000	Specifies the weight level (the priority of volume distribution).		
Weight	0-100%	* Setting the weight level to "0" results in no audio output.		

# 12: Audio Player

Menu item	Value (bold text: default value)	Explanation		
Jump To Setup	Enter	Jumps to the setup screen.		
Audio Player Bank	Bank A, Bank B	Selects the audio player bank.		
Audio Player 1–8	Specifies the audio player.	Specifies the audio player.		
Import	Enter	Imports the audio.		
Name	Enter	Sets the name for an audio clip.		
Duration	Display only	Shows the length of an audio clip.		
Offset Time	<b>0.0</b> – (length of audio clip)	Sets the playback start position of the audio clip.		
Level	-INF- <b>0.0</b> -10.0dB	Sets the volume of the audio clip.		
Fade In Time	<b>0.0</b> –10.0sec	Sets the fade-in time.		
Fade Out Time	<b>0.0</b> –10.0sec	Sets the fade-out time.		
Repeat	OFF, ON	When this is set to "ON", the audio clip plays back in a loop.		
	Latch	Toggles between playback and stop each time you press the pad. The audio plays back from the beginning.		
Pad Mode	Pause	Toggles between playback and stop each time you press the pad. The audio plays back from where it last stopped.		
	Replay	Plays back from the beginning when you press the pad.		
	Momentary	Plays back audio while the pad is pressed.		
Pad Color	White, Red, Green, Blue, Yellow, Magenta, Cyan, Dark Orange, Turquoise Green, Purple	Specifies the color of the corresponding pad when it lights up.		
Distantia	BGM	Stops the BGM audio clip that's currently playing, and plays back the new BGM audio clip (only one BGM audio clip can play back at a time).		
Playing Mode	SE	Plays back without stopping the other audio clips.		
	Solo	Stops all audio clips, and plays back only the soloed audio clip.		

# 13: Stream/Record

Menu item	Value (bold text: default value)	Explanation	Explanation		
Jump To Setup	Enter	Jumps to the setup screen			
Stream/Record	Stop, On Air	Starts (stops) streaming/record	ling.		
	Sets which platform is used for livestreaming.				
	Off	Livestreaming is not used.			
	Custom	Custom settings are used f	or streaming.		
	YouTube Live	Uses YouTube Live for strea	aming.		
	Facebook Live	Uses Facebook Live for stre	aming.		
Service 1, 2 Setup	Twitch	Uses Twitch for streaming.			
	Menu item	Value (bold text: default value)	Explanation		
	URL		Specifies the URL of the streaming server.		
	Stream Key	-	Specifies the stream key.		
	Use Web Application	Enter	Uses a Web app to set the streaming server URL and stream key.		
Target Bitrate	Specifies the target bitrate of encod	ding			
	1,000–5,000, <b>6,000</b> ,		<u> </u>		
Video	7,000–20,000kbps	Specifies the target bitrate of video encoding.			
Audio	32, 48, 64, 96, <b>128</b> , 160, 192, 224, 256, 320, 384	Specifies the target bitrate of audio encoding.			
Video Rec	OFF, ON	Sets whether to record an MP4 file (ON) or not (OFF).			
Audio Rec	OFF, ON	Sets whether to record a WAV	Sets whether to record a WAV file (ON) or not (OFF).		
Safety Delay	<b>Off</b> , 5–60sec	Sets the streaming delay ti	Sets the streaming delay time that's used by the safety delay function.		
Import Still Image	Exec	Loads the still image used	Loads the still image used for safety delay.		
File Name	Display only	Shows the filename used f	Shows the filename used for the safety delay's still image.		

### 14: Scene Memory

Menu item	Value (bold text: default value)	Explanation		
Jump To Setup	Enter	Jumps to the setup screen.		
	Specifies the settings load			
Start Up	Last Memory	Restores the state that was in effect immediately before the power was turned off (Last Memory feature).		
Start Op		The current settings (Last Memory values) are saved every 4 seconds, and when you exit a menu.		
	1: MEMORY 1– 32: MEMORY 32 (*12)	Recall the settings at the selected scene memory.		
Priority	Memory, Panel	Sets whether to give the scene memory or the panel state priority.		
Memory Protect	OFF, ON	When this is "ON", prohibits settings from being saved or initialized. This protects the scene memories. * Protected scene memories are erased if you perform a factory reset.		
Load From Storage	Enter	Shows a list of scene memory setting files (.VR120SCENE) on the storage media. You can select a scene memory setting file to recall a scene memory (1–32) on this unit.		
Save To Storage	Fatas	Shows a list of scene memory setting files (.VR120SCENE) on the storage media.		
Save To Storage	Enter	You can select a scene memory setting file to save a scene memory (1–32) to the storage media.		
Button Assign	Enter	This shows the Button Assign menu.		
	1: MEMORY 1– 32: MEMORY 32 (*12)			
	The default values are as			
	follows.			
	1: MEMORY 1			
VIDEO SWITCHER Button 1–8	2: MEMORY 2 3: MEMORY 3	Selects the scene memories that are assigned to the VIDEO SWITCHER buttons.		
	4: MEMORY 4			
	5: MEMORY 5			
	6: MEMORY 6			
	7: MEMORY 7			
	8: MEMORY 8			
Fade Time	<b>0.0</b> –4.0sec	Sets how long the transition to the next video takes when recalling a scene memory. * The time you set is used for the parameters below.		
Mix/Wipe	OFF, ON	When this is "ON", the transition effect is applied when the scene memory is recalled.		
PinP & Key 1–4	OFF, <b>ON</b>	When this is "ON", the inset screen fades in when you recall a scene memory that includes a P composite.		
DSK 1, 2	OFF, <b>ON</b>	When this is "ON", the superimposed caption and video fades in when you recall a scene memory that includes a DSK composite.		
Load Parameters	Specifies whether to recall the following items when recalling a scene memory.			
	Items that are turned off a	re excluded from the preset memories that are recalled.		
Video Assign	OFF, <b>ON</b>	Video Assign menu		
Video Input	OFF, <b>ON</b>	Video Input menu		
Video Output	OFF, <b>ON</b>	Video Output menu		
Transition	Transition settings			
Transition Type	OFF, <b>ON</b>	Transition menu		
Mix	OFF, <b>ON</b>	Mix menu		
Wipe	OFF, ON	Wipe menu		
Split 1	OFF, <b>ON</b>	Split 1 menu		
Split 2	OFF, <b>ON</b>	Split 2 menu		
PinP & Key	PinP & settings			
PinP & Key 1	OFF, ON	PinP & Key 1 menu		
PinP & Key 2	OFF, ON	PinP & Key 2 menu		
PinP & Key 3	OFF, ON	PinP & Key 3 menu		
PinP & Key 4	OFF, ON	PinP & Key 4 menu		
DSK	DSK settings			
DSK 1	OFF, ON	DSK 1 menu		
DSK 2	OFF, ON	DSK 2 menu		
Video Switcher Button	OFF, ON	VIDEO SWITCHER button state		
Audio Fader Assign	OFF, ON	Audio Fader Assign menu		
Audio Input	OFF, ON	Audio Input menu		
Audio Output	OFF, ON	Audio Input menu		
Audio Follow	OFF, ON OFF, ON	Audio Output menu		
Audio Auto Mixing	OFF, ON	Audio Auto Mixing menu		

(*12) If you edited a scene memory's name using "Name Edit" from the setup screen, the edited name is shown.

# 15: Macro

Menu item	<b>Value</b> (bold text: default value)	Explanation
Jump To Setup	Enter	Jumps to the setup screen.
Load From Storage	Enter	Shows a list of the macro setting files (.RMC) that are on the storage. You can select a macro setting file and load the macro (1–100) into the unit.
Save To Storage	Enter	Shows a list of the macro setting files (.RMC) that are on the storage. You can select the macro settings file used to save the macro (1–100) to the storage.
Button Assign	Enter	This shows the Button Assign menu.
VIDEO SWITCHER Button 1–8	1: MACRO 1– 100: MACRO 100 (*13) The default values are as follows. 1: MACRO 1 2: MACRO 2 3: MACRO 3 4: MACRO 3 4: MACRO 4 5: MACRO 5 6: MACRO 5 6: MACRO 6 7: MACRO 7 8: MACRO 8	Selects the scene macro that are assigned to the VIDEO SWITCHER buttons.
Initialize	Enter	Initializes the macro.

(*13) If you edited a macro's name using "Name Edit" from the setup screen, the edited name is shown.

### 16: Sequencer

Menu item	Value (bold text: default value)	Explanation	
Jump To Setup	Enter	Jumps to the setup screen.	
Sequencer	OFF, ON	Turns the sequencer function on/off.	
Repeat Execute	OFF, ON	When this is "ON", the recorded operation is repeatedly executed.	
Auto Sequence	OFF, ON	When this is "ON", the recorded operation is automatically executed.	
Load From Storage	Enter	Shows a list of the sequence files (.RSQ) that are on the storage. You can select a sequence file to load the sequencer settings into this unit. The current sequencer settings are overwritten.	
Save To Storage	Enter	Shows a list of the sequence files (.RSQ) that are on the USB flash drive. You can select a sequence file to save the current sequencer settings to storage.	
Initialize	Exec	Initializes the sequencer.	

### 17: Still Image

Menu item	Value (bold text: default value)	Explanation			
Load From Storage	This loads a still image	from the storage media.			
Still Image	Still 1–16	Specifies where to save still images imported from a storage to this unit's internal memory. * A " <b>*</b> " symbol is displayed for internal memory where a still image is already saved.			
		Select still imag	till image files on the storage media. Ies in the list to load them from the storage media. <b>rted for loading</b>		
Load	Enter	Format	Bitmap file (.bmp), 24-bit color, uncompressed PNG file (.png), 24-bit color * Alpha channel supported JPEG file (.jpg), 24-bit color		
		Resolution	In conformity with system format		
		File name	No more than 64 single-byte alphanumeric characters * The extension ".bmp", ".png", ".jpg", or ".jpg" must be added.		
Save To Storage	This exports a still imag	age to storage media.			
Still Image	<b>Still 1</b> –16	<ul> <li>Selects the still images to export to the USB flash drive.</li> <li>Press the [VALUE] knob to display a list of still images stored on the storage media (in the "Sti subdirectory).</li> <li>* A " * " symbol is displayed for internal memory where a still image is already saved.</li> <li>* The file formats of the still images that can be saved are the same as in "Formats supported for loading", above.</li> <li>* You can't export still images that were created while "HDCP" in the System menu was "ON".</li> <li>* When "HDCP" in the System menu is "ON", the text ", (HDCP)" is shown for the captured still image.</li> </ul>			
Save	Enter		Shows a list of still image files on the storage media. Select still images in the list to export them to the storage media.		
Save To Internal Storage	Enable, Disable	You can set the method of saving still images to "temporarily save". When you turn off the power while the status is "Disable", the captured still image is deleted.			
Delete Still Image	Deletes the still image.				
Still Image	All, <b>Still 1</b> –16	Selects the still images to delete. * A " <b>*</b> " symbol is displayed for internal memory where a still image is already saved.			
Delete	Exec	Deletes the selected still image(s).			

### 18: Video Player

Menu item	Value (bold text: default value)	Explanation
Jump To Setup Enter		Jumps to the setup screen.
Import	Enter	Loads a video from the storage media.
Name	—	Shows the filename of the video that was loaded.
Duration	Display only	Shows the length of the video that was loaded.
Skip Forward Time	<b>0.0</b> –5.0sec	Sets how much the video fast-forwards each time.
Skip Backward Time	<b>0.0</b> –5.0sec	Sets how much the video rewinds each time.
Level -INF-0.0-10.0dB Adjusts the output volume.		Adjusts the output volume.
Repeat	OFF, ON	When this is "ON", the video plays back repeatedly.

### 19: Freeze

Menu item         Value (bold text: default value)           Jump To Setup         Enter		Value (bold text: default value)	Explanation	
		Enter	Jumps to the setup screen.	
F	reeze	OFF, ON Turns the freeze function on/off. When this is "ON", the input video is temporari		
		Specifies the operation mode for freezes.		
Тур —	уре	All	Freezes all video that is being input.	
		Select	Freezes only the specified input video.	
	HDMI 1–6 (*14)	Disable, <b>Enable</b>	For each input, specifies whether the freeze function is enabled (Enable) or disabled	
	SDI 1–6 (*14)	Disable, <b>Enable</b>	(Disable).	

(*14) This can be set if "Type" is "Select".

# 20: Auto Switching

Menu item	Value (bold text: default value)	Explanation		
Jump To Setup	Enter	Jumps to the setup screen.		
Auto Switching	OFF, ON	Turns the auto switching function on/off. When this is "ON", the video or scene memory are switched automatically.		
	Specifies the operation mo	de for auto switching.		
	Input Scan Automatically switches to the video of Input 1–8 when the specified inter			
<b>T</b>	Scene Memory Scan	Automatically recalls scene memories 1–32 at the specified interval. The video and audio ar switched according to the settings that are saved in each scene memory.		
Гуре	Beat Sync	The video switches in time with the beat of the song.		
	Video Follows Audio	The video switches along with the audio from the mic.		
	PinP&Key 1–4 Scan	Automatically switches to the video of PinP&KEY when the specified interval.		
	DSK 1, 2 Scan	Automatically switches to the video of DSK when the specified interval.		
When Type = Input Scan				
	Specifies the order in which			
	* If there is no video input,	this is skipped.		
Scan Sequence	Normal	Switches in the order of Input $1 \rightarrow 8$ .		
	Reverse	Switches in the order of Input $8 \rightarrow 1$ .		
	Random	Switches randomly.		
Scan Transition Time	0.0– <b>1.0</b> –4.0sec	Specifies the video transition time.		
	Sets the video to which aut	o switching is applied.		
Scan Target	Video Input	Final output video and preview video		
Scan larget	PinP & Key 1–4	PinP and key layer (inset screen) video		
	DSK 1-2	DSK and key layer video		
Input 1–8 Time	Off, 1-5-120sec	Specifies the time that the video is shown. Turn this "OFF" to skip.		
When Type =Scene Memory S	can			
	Specifies the order in which	a scene memories are switched.		
	* Scene memories in which	* Scene memories in which no settings have been saved are skipped.		
Scan Sequence	Normal	Switches in the order of scene memory $1 \rightarrow 32$ .		
	Reverse	Switches in the order of scene memory $32 \rightarrow 1$ .		
	Random	Switches randomly.		
Memory 1–32 Time	Off, 1-5-120sec	Specifies the time it takes to switch to the next scene memory. Turn this "OFF" to skip.		
When Type =Beat Sync				
Sync Source	Audio In 1–Audio In 9/10, USB In, Bluetooth In, Audio Player, HDMI 1–6, SDI 1–6, V.Player	Sets the input audio that's synchronized with the video.		
	Specifies the order in which	n video signals are shown.		
	* If there is no video input, this is skipped.			
Scan Sequence	Normal	Switches in the order of Input $1 \rightarrow 8$ .		
	Reverse	Switches in the order of Input $8 \rightarrow 1$ .		
	Random	Switches randomly.		
Scan Transition Time	can Transition Time     0.0–1.0–4.0sec     Specifies the video transition time.			
Scan Cycle	1- <b>4</b> -10	Sets the beat number on which the video switches to the next one.		
Scan Target	Video Input, PinP & Key 1–4, DSK 1–2	Sets the video to which auto switching is applied.		

Menu item	Value (bold text: default value)	Explanation	
When Type =Video Follows Audio			
Audio In 1–9/10 Target, USB In Target, Bluetooth In Target, Audio Player Target, HDMI 1–6 Target, SDI 1–6 Target, Video Player Target	Off, Input 1–8	Specifies the video that is output when audio is detected.	
Threshold	-50– <b>16</b> –0dB	Specifies the reference level at which the Video Follows Audio function operates. When audio that exceeds this threshold is detected, the video is switched.	
Audio Mix Target	Off, Input 1–8	Specifies the video that is output when audio is detected in multiple mics. If this is "Off", video is switched in the order in which audio is detected.	
Audio Silent Target	Off, Input 1–8	Specifies the video that is output when there is no audio input from any mic. If this is "Off", the last selected video continues to be output.	
Audio Redetection Time	0.0– <b>4.0</b> –30.0sec	Specifies the time after the video has switched until audio detection resumes.	
Scan Transition Time	0.0– <b>1.0</b> –4.0sec	Specifies the video transition time.	
When Type =PinP&Key 1–4 Scan, DSK 1, 2 Scan			
	Specifies the order in which video signals are shown.		
Care Carriera	Normal	Switches in the order of HDMI 1 $\rightarrow$ 6, SDI 1 $\rightarrow$ 6, Still 1 $\rightarrow$ 16.	
Scan Sequence	Reverse	Switches in the order of Still $16 \rightarrow 1$ , SDI $6 \rightarrow 1$ , HDMI $6 \rightarrow 1$ .	
	Random	Switches randomly.	
HDMI 1–6 Time	Off, 1-5-120sec	Specifies the time that the video is shown. Turn this "Off" to skip.	
SDI 1–6 Time	Off, 1-5-120sec	Specifies the time that the video is shown. Turn this "Off" to skip.	
Still 1–16 Time	Off, 1-5-120sec	Specifies the time that the still image is shown. Turn this "Off" to skip.	
V.Player Time	Off, 1-5-120sec	Specifies the time that the video is shown. Turn this "Off" to skip.	

# 21: Ctl/Exp

Menu item	Value (bold text: default value)	Explanation			
Ctl/Exp 1, 2	These settings for the footswitch or expression pedal connected to the CTL/EXP 1, 2 jacks.				
	Settings for the devices (footswitch or expression pedal) connected to the CTL/EXP 1, 2 jacks.				
Ctl/Even Turne	Off	Disables the CTL/EXP jack.			
Ctl/Exp Type	Ctl A & Ctl B	Choose this if a footswitch is connected.			
	Exp	Choose this if an expression pedal is connected.			
When Ctl/Exp Type = Ctl A & Ctl B					
Assign	Specifies the functions the	nat are assigned to Ctl A and Ctl E	3 of the footswitch.		
	Category	Value	Explanation		
	N/A		No function is assigned.		
	PGM Channel Select	Input 1–8	Switches the video sent to the PGM bus.		
	PST Channel Select	Input 1–8	Switches the video sent to the PST bus.		
	AUX Channel Select	HDMI 1–6, SDI 1–6, Still 1–16, V.Player, Input 1–8	Switches the video sent to the AUX bus.		
Ctl A Ctl B	Input 1–8 Assign	HDMI 1–6, SDI 1–6, Still 1–16, V.Player, Stream/Record Status 1–2, Date&Time(Analog/Digital(*)), N/A	Changes the video assigned to Input 1–8. (*)The analog/digital display changes in the "System → Date&Time → Clock Display Type" setting.		
	Still Output	Still 1–16	Pauses the normal output, and previews or final outputs a cut of the still image. Press the footswitch again to return to normal output.		
	Video Player Output		Pauses the normal output, and cuts to the preview/final output of the video player image.		
	PinP&Key 1–4 Source	HDMI 1–6, SDI 1–6, Still 1–16, V.Player, Input 1–8	Switches the video source of the inset screen.		
	DSK 1, 2 Source	HDMI 1–6, SDI 1–6, Still 1–16, V.Player, Input 1–8	Switches the DSK video source.		

Menu item	Value (bold text: default value)	Explanation			
	Button Control	CUT Button, AUTO Button MIX Button WIPE Button SPLIT 1 Button SPLIT 2 Button PinP&KEY 1–4 PVW Button PinP&KEY 1–4 PGM Button DSK 1, 2 PVW Button DSK 1, 2 PGM Button USER 1–4 Button AUDIO EFFECT 1–4 Button AUDIO PLAYER 1–8 Button	This works the same as when you press the button selected in "VALUE".		
	Audio Input Mute	Audio ln 1–9/10, USB ln, Bluetooth ln, Audio Player, HDMI 1–6, SDI 1–6, V.Player	Turns the mute function on/off for the input audio.		
	Audio Output Mute	Main Bus, AUX 1 Bus, AUX 2 Bus, USB Out, Stream/Record	Turns the mute function on/off for the output audio.		
	Audio Input Solo	Audio In 1–9/10, USB In, Bluetooth In, Audio Player, HDMI 1–6, SDI 1–6, V.Player	Turns the solo function on/off for the input audio.		
	Audio Output Solo	Main Bus, AUX 1 Bus, AUX 2 Bus	Turns the solo function on/off for the output audio.		
	Voice Changer	Audio In 1, 2	Turns the voice changer on/off.		
	Auto Mixing		Turns the auto mixing function on/off.		
Ctl A	Reverb (Momentary)		Reverb turns on only while you press the footswitch.		
Ctl B	Reverb (Alternate)		Turns reverb on/off.		
	Output Fade		The final output video fades in/out.		
	Load Memory	Memory 1–32	Recalls a scene memory.		
	Input Scan	Normal	Each time you press the footswitch, the final output switches from Input 1–8 in sequential order.		
		Reverse	Each time you press the footswitch, the final output switches from Input 1–8 in reverse order.		
	Scene Memory Scan	Normal	Each time you press the footswitch, scene memories 1–32 are recalled in sequential order.		
		Reverse	Each time you press the footswitch, scene memories are recalled in reverse order from 32 through 1.		
	PinP&Key 1–4 Scan	Normal	The PinP&Key 1–4 inset screen videos switch between HDMI 1 $\rightarrow$ 6, SDI 1 $\rightarrow$ 6 and Still 1 $\rightarrow$ 16 in order each time you press the footswitch.		
		Reverse	The PinP&Key 1–4 inset screen videos switch between Still $16 \rightarrow 1$ , SDI $6 \rightarrow 1$ and HDMI $6 \rightarrow 1$ in order each time you press the footswitch.		
	DSK 1–2 Scan	Normal	The DSK 1 and 2 caption videos switch between HDMI $1 \rightarrow 6$ , SDI $1 \rightarrow 6$ and Still $1 \rightarrow 16$ in order each time you press the footswitch.		
		Reverse	The DSK 1 and 2 caption videos switch between Still $16 \rightarrow 1$ , SDI $6 \rightarrow 1$ and HDMI $6 \rightarrow 1$ in order each time you press the footswitch.		
	Macro Execute	Macro 1–100	Executes a macro (a series of recorded operations).		
	Sequencer	Mode On/Off, Next, Previous, Auto Sequence	When the sequencer function is on, this works the same as when you press the button selected in "VALUE".		
	GPO (One Shot)	GPO 1-16	Outputs a control signal for 0.5 seconds.		
	GPO (Alternate)	GPO 1–16	The control signal output is switched on/off with each press of the footswitch.		

Menu item	<b>Value</b> (bold text: default value)	Explanation		
When Ctl/Exp Typ	be = Exp			
Assign	Specifies the function t	hat is assigned to the expression pedal.		
	Category	Value	Explanation	
	N/A		No function is assigned.	
	Video Fader	Fade, Cut	Fade: Operates the video fader.	
		Tuuc, cut	Cut: Cuts between the final output video and the preview video.	
Ехр	Still Output	Still 1–16	Pauses the normal output, and previews or final outputs a cut of the still image.	
	Video Player Output		Pauses the normal output, and cuts to the preview/final output of the video player image.	
	Audio Input Level	Audio In 1–9/10, USB In, Bluetooth In, Audio Player HDMI 1–6, SDI 1–6, V.Player	Adjusts the input volume.	
	Audio Output Level	Main Bus, AUX 1 Bus, AUX 2 Bus, USB Out, Stream/Record	Adjusts the output volume.	
	Voice Changer	Audio In 1 Pitch, Audio In 1 Formant, Audio In 1 Mix, Audio In 2 Pitch, Audio In 2 Formant, Audio In 2 Mix	Adjusts the balance between the unprocessed voice (0) and the voice processed by the effect (100).	
	Reverb Level		Adjusts the amount of sound that is returned from the reverb (return level).	
Exp Calibration	Enter	Following the direction on the The first time you use the expr optimally.		
		In some cases, the expression pedal might no longer be operating optimally because of the passage of time or the conditions of use. In such cases you should also execute expression pedal calibration.		

# 22: RS-232/Tally/GPO/GPI

Menu item	Value (bold text: default value)	Explanation		
RS-232	These are the settings for transmitting/receiving RS-232 commands.			
RS-232	OFF, ON	When this is "ON", RS-232 commands can be transmitted and received.		
Baudrate	9600, 38400, <b>115200</b>	Specifies the communication speed (bps) of the RS-232 connector.		
Tally/GPO	These are settings for tally s	s for tally signals or control signals that are output from the TALLY/GPIO connector.		
Template	HDMI Tally, SDI Tally, GPO, HDMI Tally/GPO, SDI Tally/ GPO	Selects a TALLY/GPO 1–16 settings template. Press the [VALUE] knob to apply the template settings to "TALLY/GPO 1–16".		
	Assigns the tally signal to T	ALLY/GPIO connector pins 1–16.		
	PGM HDMI 1–6 PGM SDI 1–6	A tally signal is output when the video sent from the connector in question is the final output.		
	PGM Still 1–16	A tally signal is output when the still image in question is the final output.		
	PGM Video Player	A tally signal is output when the video sent from the video player in question is the final output.		
	PGM Input 1–8	A tally signal is output when the final output video is selected using the VIDEO SWITCHER button in question (the button lights up red).		
TALLY/GPO 1-16	PST HDMI 1–6 PST SDI 1–6	A tally signal is output when the video sent from the connector in question is the preview output.		
	PST Still 1–16	A tally signal is output when the still image in question is the preview output.		
	PST Video Player	A tally signal is output when the video sent from the video player in question is the preview output.		
	PST Input 1–8	A tally signal is output when the preview output video is selected using the VIDEO SWITCHER button in question (the button lights up green).		
	Assigns the GPO to TALLY/GPIO connector pins 1–16.			
	GPO 1–16	A control signal is output when you press a USER button or the footswitch, or assign a GPO output function to a GPI pin.		

	Menu item	Value (bold text: default value)	Explanation	
	GPI	These settings assign the fu	Inctions to the GPI.	
		When an external control si	ignal is input, the assigned functions are e	executed.
		Category	Value	Explanat
		N/A		No funct
		PGM Channel Select	Input 1–8	Switches
		PST Channel Select	Input 1–8	Switches
		AUX Channel Select	HDMI 1–6, SDI 1–6, Still 1–16, V.Player, Input 1–8	Switches
		Input 1–8 Assign	HDMI 1–6, SDI 1–6, Still 1–16, V.Player, Stream/Record Status 1–2, Date&Time(Analog/Digital(*)), N/A	Changes (*)The an Date&Tin
		Still Output	Still 1–16	Pauses th cut of the signal ou
		Video Player Output		Pauses the output of
		PinP&Key 1–4 Source	HDMI 1–6, SDI 1–6, Still 1–16, V.Player, Input 1–8	Switches
		DSK 1, 2 Source	HDMI 1–6, SDI 1–6, Still 1–16, V.Player, Input 1–8	Switches
		Button Control	CUT Button, AUTO Button MIX Button SPLIT 1 Button SPLIT 2 Button PinP&KEY 1–4 PVW Button PinP&KEY 1–4 PGM Button DSK 1, 2 PVW Button DSK 1, 2 PGM Button USER 1–4 Button AUDIO EFFECT 1–4 Button AUDIO PLAYER 1–8 Button	This work "VALUE".
	GPI 1-8	Audio Input Mute	Audio In 1–9/10, USB In, Bluetooth In, Audio Player, HDMI 1–6, SDI 1–6, V.Player	Turns the
		Audio Output Mute	Main Bus, AUX 1 Bus, AUX 2 Bus, USB	Turns the

HDMI 1–6, SDI 1–6, Still 1–16, V.Player, Stream/Record Status 1–2, Date&Time(Analog/Digital(*)), N/A	Changes the video assigned to Input 1–8. (*)The analog/digital display changes in the "System → Date&Time → Clock Display Type" setting.	
Still 1–16	Pauses the normal output, and previews or final outputs a cut of the still image. When a control signal is input again, the signal output returns to normal.	
	Pauses the normal output, and cuts to the preview/final output of the video player image.	
HDMI 1–6, SDI 1–6, Still 1–16, V.Player, Input 1–8	Switches the video source of the inset screen.	
HDMI 1–6, SDI 1–6, Still 1–16, V.Player, Input 1–8	Switches the DSK video source.	
CUT Button, AUTO Button MIX Button WIPE Button SPLIT 1 Button SPLIT 2 Button PinP&KEY 1–4 PVW Button PinP&KEY 1–4 PGM Button DSK 1, 2 PVW Button DSK 1, 2 PGM Button USER 1–4 Button AUDIO EFFECT 1–4 Button AUDIO PLAYER 1–8 Button	This works the same as when you press the button selected in "VALUE".	
Audio In 1–9/10, USB In, Bluetooth In, Audio Player, HDMI 1–6, SDI 1–6, V.Player	Turns the mute function on/off for the input audio.	
Main Bus, AUX 1 Bus, AUX 2 Bus, USB Out, Stream/Record	Turns the mute function on/off for the output audio.	
Audio In 1–9/10, USB In, Bluetooth In, Audio Player, HDMI 1–6, SDI 1–6, V.Player	Turns the solo function on/off for the input audio.	
Main Bus, AUX 1 Bus, AUX 2 Bus	Turns the solo function on/off for the output audio.	
Audio In 1, 2	Turns the voice changer on/off.	
	Turns the auto mixing function on/off.	
	Reverb turns on only while a control signal is input.	
	Turns reverb on/off.	
	The final output video fades in/out.	
Memory 1–32	Recalls a scene memory.	
Normal	Each time a control signal is input, the final output switches from Input 1–8 in sequential order.	
Reverse	Each time a control signal is input, the final output switches from Input 1–8 in reverse order.	
Normal	The scene memories 1 through 32 are recalled in order each time a control signal is input.	
Reverse	The scene memories are recalled in reverse order from 32 through 1 each time a control signal is input.	
Normal	The PinP&Key 1–4 inset screen videos switch between HDMI $1 \rightarrow 6$ , SDI $1 \rightarrow 6$ and STILL $1 \rightarrow 16$ in order each time you input a control signal.	
Reverse	The PinP&Key 1–4 inset screen videos switch between STILL $16 \rightarrow 1$ , SDI $6 \rightarrow 1$ and HDMI $6 \rightarrow 1$ in order each time you input a control signal.	
Normal	The DSK 1 and 2 caption videos switch between HDMI $1 \rightarrow 6$ , SDI $1 \rightarrow 6$ and STILL $1 \rightarrow 16$ in order each time you input a control signal.	
Reverse	The DSK 1 and 2 caption videos switch between STILL $16 \rightarrow 1$ , SDI $6 \rightarrow 1$ and HDMI $6 \rightarrow 1$ in order each time you input a control signal.	
	Stream/Record Status 1–2, Date&Time(Analog/Digital(*)), N/A Still 1–16  HDMI 1–6, SDI 1–6, Still 1–16, V.Player, Input 1–8 HDMI 1–6, SDI 1–6, Still 1–16, V.Player, Input 1–8 CUT Button, AUTO Button MIX Button SPLIT 1 Button SPLIT 2 Button PinP&KEY 1–4 PVW Button DSK 1, 2 PVW Button DSK 1, 2 PGM Button USER 1–4 Button AUDIO EFFECT 1–4 Button AUDIO EFFECT 1–4 Button AUDIO EFFECT 1–4 Button AUDIO FLAYER 1–8 Button Audio In 1–9/10, USB In, Bluetooth In, Audio In 1, 2   Memory 1–32 Normal Reverse Normal Reverse	

Explanation

No function is assigned.

Switches the video sent to the PGM bus.

Switches the video sent to the PST bus.

Switches the video sent to the AUX bus.

### Menu List

Menu item	Value (bold text: default value)	Explanation		
	Macro Execute	Macro 1–100	Executes a macro (a series of recorded operations).	
CDI 1 0	Sequencer	Mode On/Off, Next, Previous, Auto Sequence	When the sequencer function is on, this works the same as when you press the button selected in "VALUE".	
GPI 1–8	GPO (One Shot)	GPO 1-16	Outputs a control signal for 0.5 seconds.	
	GPO (Alternate)	GPO 1–16	The control signal output is switched on/off each time a control signal is input.	

# 23: Network

Menu item	Value (bold text: default value)	Explanation		
Priority	LAN, Tethering	Sets whether to prioritize the LAN connection or your smartphone tethering when streaming.		
LAN Setup Enter		Accesses the LAN settings.		
	Selects how settings are made for the IP address, subnet mask, and default gateway.			
Configure	Manual	This is to be configured manually.		
guie	Using DHCP	The IP address and other information needed for connecting to the network is obtained automatically from the DHCP server of the LAN.		
IP Address (*15)		Specifies the IP address as appropriate for the network to which the unit is connected.		
Subnet Mask (*15)		Specifies the subnet mask as appropriate for the network to which the unit is connected.		
Default Gateway (*15)		Specifies the default gateway as appropriate for the network to which the unit is connected		
DNS Server (*15)		Specifies the DNS server address as appropriate for the network to which the unit is connected.		
Start Tethering Stop Tethering Exec		Starts/stops tethering with your smartphone.		
	Enter	Displays the Network Information screen.		
	Displays the following information.			
	Item	Explanation		
Network Information	Link Status	Connection status		
Network Information	IP Address	IP address		
	Subnet Mask	Subnet mask.		
	Default Gateway	Default gateway		
	DNS Server	DNS server		
2D Code for Smart Tally	Enter	QR code for accessing the Smart Tally settings screen (Web) * Note that the QR code is not shown if the VR-120HD is disconnected from the network.		
		Displays the Network Password screen. Set the necessary password for network connection, using four characters. Show password		
Network Password	Enter	Password not set		
	Encl	Password set ****		
		* Input the password that's set here when connecting a computer or other device on the		
		same network to access the VR-120HD.		

(*15) This can be set if "Configure" is "Manual".

# 24: Camera Control

Menu item	Value (bold text: default value)	Explanation
Jump To Setup	Enter	Jumps to the setup screen.
Camera ID	<b>Camera 1</b> –12	Selects the camera to be controlled.
Protocol         N/A, JVC, Panasonic, Canon           PTZ, VISCA over IP, PTZOptics, Avonic         Specifies the camera's protocol.		Specifies the camera's protocol.
IP Address	192.168.0.101	Input the camera's IP address.
Login Nomo	Entor	Displays the Login Name screen.
Login Name	Enter	Enter the log-in name needed to connect with the camera when "Protocol" is "JVC".
Password	Enter	Displays the Password screen.
Passworu		Enter the password needed to connect with the camera when "Protocol" is "JVC".
Camera Preset	Preset 1–8	Selects the preset used when recalling or registering the settings.
	Exec	By pressing the [VALUE] knob you can recall a preset from the camera.
Recall		By assigning a USER button to the camera control function, you can recall presets using the buttons (p. 92).
All Cameras Recall	OFF	Recall presets from the camera that is being controlled.
All Cameras Recall	ON	Simultaneously recall presets from all cameras (Camera 1–12).
Chana	Free	By pressing the [VALUE] knob you can register the camera settings to a preset.
Store	Exec	* Presets are saved in the camera itself.
Tally Channel	HDMI 1-6, SDI 1-6	Specifies the connector from which the camera video is input. When the camera video from the VR-120HD is the final output, the camera's tally light is lit.

# 25: SD Card/USB Memory

Menu item	Value (bold text: default value)	Explanation
SD Card	5D Card These are the SD card-related parameters.	
Eject	Exec	Safely ejects and allows you to remove the SD card.
Format	Exec	Formats the SD card.
Speed Test	Exec	Measures the data write speed to the SD card.
USB Memory	These are the USB flash drive	-related parameters.
Eject	Exec	Safely ejects and allows you to remove the USB flash drive.
Format Exec Formats		Formats the USB flash drive.
Speed Test	Exec	Measures the data write speed to the USB flash drive.
Restore All Settings	Enter	Shows a list of the setting files (.VR120) that are on the USB flash drive. You can select a setting file and restore the settings into the unit. The current settings are overwritten.
Backup All Settings	Enter	<ul> <li>Shows a list of the setting files (.VR120) that are on the USB flash drive.</li> <li>You can select the settings file used to back up the current settings to the USB flash drive.</li> <li>* Some settings are not saved to the file, such as the "Test Pattern" and "Test Tone" settings in the System menu.</li> </ul>

# 26: System

Menu item         Value (bold text: default value)         Explanation							
		Specifies whethe	r HDCP is en	abled (ON) o	r disabled (OFF).		
	<b>6</b> 2	OFF		Copy-protected (HDCP) video cannot be input.			
HDCP				Copy-protec	cted (HDCP) video c	an be input. HDCP is also added to the video that is output.	
		ON				Connectors and the USB STREAM port are not outputted.	
Ou	tput Format	Specifies the outp	out format.				
Sys	tem Format (*16)	<b>1080p</b> , 720p		Specifies the	e system format.		
	HDMI Out 1–3	<b>1080p</b> , 1080i, 720	)p	Sets the out	put format for the H	IDMI OUT 1–3 connectors.	
_	SDI Out 1–3	1080p, 1080i, 720	)p	Sets the out	put format for the S	DI OUT 1–3 connectors.	
_	USB Out	<b>1080p</b> , 720p		Specifies the output format of the USB STREAM port.		he USB STREAM port.	
	Stream/Record	<b>1080p</b> , 720p		Specifies the	e output format of t	he DIRECT STREAM port.	
Fra	<b>me Rate</b> (*16)	60, <b>59.94</b> , 50, 30,	29.97, 25,	Specifies the	e frame rate.		
-		24, 23.98Hz 30, 60Hz					
	<b>USB Out</b> (*16)	29.97, <b>59.94Hz</b>		Specifies the	e frame rate of the L	JSB STREAM port.	
	<b>050 000</b> (10)	25, 50Hz		* The value	differs depending o	n the "Frame Rate" setting.	
-		30, 60Hz					
	Stream/Record (*16)	29.97, <b>59.94Hz</b>				DIRECT STREAM port.	
		25, 50Hz		* The value	differs depending o	n the "Frame Rate" setting.	
		Specifies the refe	rence clock (	of the VR-120	)HD.		
		Internal				s used as the reference clock	
				A synchroni	zing signal input via	a the REFERENCE IN connector is used as the reference clock.	
Ref	erence	External			(frame synchronizat	ion), bi-level, and tri-level synchronizing signals are	
				supported.			
				3 1		I IN 1–6 connectors is used as the reference clock.	
		SDI 1–6		The VSYNC (vertical synchronizing) signal output from the VR-120HD is synchronized to the VSYNC signal input via SDI.			
-		-1920– <b>0</b> –1920		This adjusts the phase horizontally.			
	Clock Adjust			Adjust this when output is horizontally out of sync with the operation of other devices using			
				the same clock.			
_				This adjusts the phase vertically.			
	Line Adjust	-1200– <b>0</b> –1200		Adjust this when output is vertically out of sync with or field-shifted from the operation of			
	Lock Status				es using the same cl	OCK.	
				Indicate the	IOCK SIdius.		
		Menu item	Value		Explanation		
		Bluetooth	OFF, ON		Turns the Bluetoot	th function on/off.	
		Pairing	Exec		Begins pairing wit	h a Bluetooth device.	
DI.	otooth Daiving		Displays th	e Bluetooth	connection status.		
Diu	etooth Pairing		Off	Bluetooth off			
		Status	Pairing Mode		Now pairing		
			Not Conne		Waiting for connection		
			Connected	Connected			
		Menu item		Value		Explanation	
				Selects ho	ow the time is set.		
		Configure		Manual		The time is set manually.	
				Using NTF	)	The time is set by retrieving the time from an NTP server.	
		Time Zone		-		Sets the time zone.	
Dat	te&Time			Month/Da	ay/Year		
		Date Format		Day/Mont	th/Year	Sets the format used for displaying the date.	
				Year/Mon			
		Clock Display 1	уре	Analog, D	Digital	Sets the type of time display used.	
		NTP Server		-		Specifies the default NTP server.	
		Manual		Enter		The time is set manually.	
		Specifies the ope	ration mode	for video tra	insitions.		
Par	al Operation	Dissolve				ut and immediately outputs it to the PGM bus.	
Par	nel Operation			In this mode,	the PST video is display	yed in the PVW bus, and you can check the video before outputting it	
		PGM/PST to the PGM bus.					

(*16) A change in the setting is not applied until you press the [VALUE] knob to confirm.

Menu item	Menu item Value (bold text: default value) Explanation						
		Sets whether the PinP/DSK cor transitions.	omposites are switched on and off in tandem with the video				
Effects Transition Sync	OFF, ON		When this is "ON", the PinP/DSK composition turn on/off in tandem with the video transitions				
Lifects mansition sync		The composited result that is	previewed is sent to final ou	tput when transitioning to a			
		different video. * Enabled when Panel Operation	ion is "DCM/DCT"				
				GM] buttons is enabled (Enable) or			
		disabled (Disable).		Sim buttons is enabled (Enable) of			
Effects Spot	OFF, ON			button for each layer shows only			
		the layer that is targeted for the					
				der or knob does not match the position matches the parameter's			
	Catch	value of the parameter, the op		position matches the parameters			
Analog Fader/Knob Mode			indicator blinks while the fader	operations are being ignored. The closer			
		the fader or knob position gets t					
	Direct		. ,	ges to match the position of the			
	Enable (ON) or disable (OFF	fader or knob when you opera	ate them.				
	Menu item	Explanation	Menu item	Explanation			
	Menu item	The following settings are	MONITOR Button All	Buttons in MONITOR section			
	All	turned on/off together.	SETUP Button	MONITOR [SETUP] button			
	Touch Panel	Touch panel operation	MONITOR 1–4 Button	MONITOR [1]–[4] button			
	VIDEO SWITCHER All	Buttons in VIDEO section	CAPTURE IMAGE Button	[CAPTURE IMAGE] button			
	VIDEO SWITCHER 1-8	VIDEO SWITCHER [1]-[8]	AUDIO LEVEL Button	[AUDIO LEVEL] button			
	Button	buttons	OUTPUT FADE Button	[OUTPUT FADE] button			
	CUT Button	[CUT] button		Buttons and knobs in AUDIO			
	AUTO Button	[AUTO] button	AUDIO MIXER 1–9/10 All	INPUT section			
	MODE All	Buttons in MODE section	GAIN 1–9/10 Knob	GAIN [1]–[9/10] knob			
	SETUP Button	MODE [SETUP] button	SETUP 1–9/10 Button	SETUP [1]–[9/10] buttons			
	INPUT SELECT Button	[INPUT SELECT] button	SOLO 1–9/10 Button	SOLO [1]–[9/10] buttons			
	AUX Button	[AUX] button	MUTE 1–9/10 Button	MUTE [1]–[9/10] buttons			
	SCENE MEMORY Button	[SCENE MEMORY] button	Level 1–9/10 Fader	Level [1]–[9/10] fader			
	MACRO Button	[MACRO] button	MAIN AII	Buttons and knobs in AUDIO			
	TRANSITION AII	Buttons in TRANSITION section		OUTPUT section			
Panel Lock	SETUP Button	TRANSITION [SETUP] button	SETUP Button	MAIN [SETUP] button			
r anei Lock	MIX Button	[MIX] button	SOLO Button MUTE Button	MAIN [SOLO] button MAIN [MUTE] button			
	WIPE Button	[WIPE] button	Level Fader	MAIN [Level] fader			
	SPLIT 1 Button	[SPLIT 1] button	AUX 1 Knob	[AUX 1] knob			
	SPLIT 2 Button	[SPLIT 2] button	AUX 2 Knob	[AUX 2] knob			
		Buttons in PinP&KEY 1–4	USB OUT Knob	[USB OUT] knob			
	PinP&KEY 1–4 All	section	STREAM/RECORD Knob	[STREAM/RECORD] knob			
	SETUP Button	PinP&KEY 1–4 [SETUP] button		Buttons in AUDIO EFFECT			
	PVW Button	PinP&KEY 1–4 [PVW] button	AUDIO EFFECT AII	section			
	PGM Button	PinP&KEY 1–4 [PGM] button	SETUP Button	AUDIO EFFECT [SETUP]			
	DSK 1–2 All	Buttons in DSK1-2 section		button			
	SETUP Button	DSK1–2 [SETUP] button	AUDIO EFFECT 1–4 Button	AUDIO EFFECT [1]–[4] button			
	PVW Button	DSK1–2 [PVW] button		Buttons in AUDIO PLAYER			
	PGM Button	DSK1-2 [PGM] button	AUDIO PLAYER AII	section			
	USER Button All	Buttons in USER section		AUDIO PLAYER [SETUP]			
	SETUP Button	USER [SETUP] button	SETUP Button	button			
	USER 1–4 Button	USER [1]–[4] button	AUDIO PLAYER 1-8 Pad	AUDIO PLAYER [1]–[8] pads			
			Level Knob	AUDIO PLAYER [LEVEL] knob			

## **Other Functions**

Menu item	Value (bold text: default value)					
	Specifies whether the same video as the final output is sent to the AUX bus (AUX link).					
	Off		ITCHER [1]–[8] buttons to select the video of the AUX bus. <i>v</i> ideo that is not assigned to Input 1–8, set this in "AUX Source" under the u.			
AUX Linked PGM		<b>Temporarily disab</b> When you press a	VIDEO SWITCHER [1]-[8] button, the selection of the VIDEO SWITCHER [1]-			
	Auto Link	[8] button is enable	ed (lit green). You can select the video you want to send to the AUX bus.			
	Manual Link	Re-enabling AUX	link			
			When you operate the [AUTO] button etc. to switch the final output video AUX link is automatically enabled.			
			When you press the VIDEO SWITCHER [1]–[8] button that is currently selected (lit green), AUX link is enabled.			
Output Fade Assign	Specifies the function of th	ne [OUTPUT FADE] butt	on.			
Time	0.0-1.0-4.0sec	Sets the fade-in/ou	ut time.			
		The final output vi	deo is faded-in/out to the specified video.			
Video Fade	N/A, <b>Black</b> , White, AUX(*)		e" setting is shown.			
Audio Fade	OFF, ON	When this is set to	"ON", the output audio also fades in/out along with the video.			
Jser Assign	Specifies the function that	is assigned to the USE	R [1]–[4] button.			
Jump To Setup	Enter	Jumps to the setur	o screen.			
	Category	Value	Explanation			
	N/A		No function is assigned.			
	Freeze		Turns the freeze function on/off.			
	Auto Switching		Turns the auto switching function on/off.			
	Input Assign	Input 1–8	Each time you press a button, the video source assigned to the specified VIDEO SWITCHER button switches to the following sources in order: $ \text{HDMI } 1 \rightarrow 6] \rightarrow [\text{SDI } 1 \rightarrow 6] \rightarrow [\text{STILL } 1 \rightarrow 16]$ .			
	Still Output	Still 1–16	Pauses the normal output, and previews or final outputs a cut of the still image.			
	Video Player Output		Pauses the normal output, and cuts to the preview/final output of the video player image.			
	Load Memory	Memory 1–32	Recalls a scene memory.			
	In put Coop	Normal	Each time you press a button, the final output switches from Input 1–8 in sequential order.			
	Input Scan	Reverse	Each time you press a button, the final output switches from Input 1–8 in reverse order.			
	Scene Memory Scan	Normal	Each time you press a button, scene memories 1–32 are recalled in sequential order.			
		Reverse	Each time you press a button, scene memories are recalled in reverse order from 32 through 1.			
	PinP&Key 1–4 Scan	Normal	The PinP&Key 1–4 inset screen videos switch between HDMI $1 \rightarrow 6$ , SDI $1 \rightarrow 6$ and STILL $1 \rightarrow 16$ in order each time you press the button.			
User 1–4		Reverse	The PinP&Key 1–4 inset screen videos switch between STILL 16 $\rightarrow$ 1, SDI 6 $\rightarrow$ 1 and HDMI 6 $\rightarrow$ 1 in order each time you press the button.			
	DSK 1, 2 Scan	Normal	The DSK 1 and 2 caption videos switch between HDMI $1 \rightarrow 6$ , SDI $1 \rightarrow 6$ and STILL $1 \rightarrow 16$ in order each time you press the button.			
		Reverse	The DSK 1 and 2 caption videos switch between STILL $16 \rightarrow 1$ , SDI $6 \rightarrow 1$ and HDMI $6 \rightarrow 1$ in order each time you press the button.			
	External Rec Control		Controls the recorder's video record start/stop if a recorder that supports REC control functionality is connected.			
	Macro Execute	Macro 1–100	Executes a macro (a series of recorded operations).			
	Sequencer		Turns the sequencer function on/off.			
		Setup	Shows the streaming/recording setup screen.			
	Stream/Record	Start/Stop	Starts/stops streaming or recording.			
		Safety Image	Turns the safety delay function on/off.			
	Video Player	Setup	Shows the video player setup screen.			
		Start/Pause/Stop	Starts/stops video playback.			
	GPO (One Shot) GPO (Alternate)	GPO 1-16 GPO 1-16	Outputs a control signal for 0.5 seconds. The control signal output is switched on/off while the button is			
	Camera Control		pressed. Turns the camera control function on/off. When this is on, the VIDEO SWITCHER [1]–[8] buttons can be used to recall the presets.			
	System	Effects Transition Syn Bluetooth Control				

Menu item	Value (bold text: default value)	Explanation				
Audio Effect Assign	Specifies the function tha	t is assigned to the AU	DIO EFFECT [1]–[4] button.			
Jump To Setup	Enter	Jumps to the setu	aps to the setup screen.			
	Category	Value	Explanation			
	N/A		No function is assigned.			
	Audio Input Mute	(*)	Turns the mute function on/off for the input audio.			
		Main Bus AUX 1–2 Bus				
	Audio Output Mute	USB Out Stream/Record	Turns the mute function on/off for the output audio.			
	Audio Input Solo	(*)	Turns the solo function on/off for the input audio.			
	Audio Output Solo	Main Bus AUX 1–2 Bus	Turns the solo function on/off for the output audio.			
	High Pass Filter 80Hz	(*)	Turns the high pass filter function on/off.			
	Echo Canceller	Audio In 1–2	Turns the echo canceller function on/off.			
	Anti-Feedback	Audio In 1–2	Turns the anti-feedback function on/off.			
	Noise Gate	(*)	Turns the noise gate function on/off.			
	De-Esser	Audio In 1–6	Turns the de-esser function on/off.			
	Compressor	(*)	Turns the compressor function on/off.			
Audio Effect 1–4	Audio Input Equalizer	(*)	Turns the equalizer function on/off for the output audio.			
		Main Bus				
	Audio Output Equalizer	AUX 1–2 Bus	Turns the equalizer function on (off for the input audio			
	Audio Output Equalizer	USB Out	Turns the equalizer function on/off for the input audio.			
		Stream/Record				
	Audio Output GEQ	Main Bus AUX 1–2 Bus	Turns the graphic equalizer function on/off.			
	Voice Changer	Audio In 1–2	Turns the voice changer function on/off.			
	Auto Mixing		Turns the auto mixing function on/off.			
	Reverb(Momentary)		Reverb turns on only while you press the button.			
	Reverb(Alternate)		Turns reverb on/off.			
	Compressor/Limiter	Main Bus AUX 1–2 Bus	Turns the compressor/limiter function on/off.			
	Loudness AGC		Turns Loudness AGC on/off.			
	Adaptive NR		Turns Adaptive NR on/off.			
	(*)Audio In 1–9/10, USB II	(*)Audio In 1–9/10, USB In, Bluetooth In, Audio Player, HDMI 1–6, SDI 1–6, V.Player				
Nonitor Assign	Specifies the function tha	t is assigned to the MC	ONITOR [1]–[4] button.			
Jump To Setup	Enter	Jumps to the setu	ip screen.			
	Value	Explanation				
	N/A	No video is assigned.				
	Multi-View	The final output vide	o, preview output video and the videos allocated to the VIDEO SWITCHER own in sections of the display (multi-view).			
	Input-View	The input video from	the HDMI IN connectors and the SDI IN connectors are shown as 16			
Monitor 1–4	input-view	separate sections on				
	Still-View	Shows the loaded stil	l images in 16 separate sections on the screen.			
	Program	Shows the final output				
	Sub Program	Shows the Sub Progra				
	Preview	Shows the preview of	•			
	AUX	Shows the AUX bus v	ideo.			
ED Dimmer	1– <b>8</b>	Adjusts the brigh	tness when the buttons or indicators are lit.			
.CD Dimmer	1-8	Adjusts the brigh	tness of this unit's monitor.			
.CD Menu	Left, Right	This sets where th	ne menu is displayed.			
Tally Frame						
	. ,	play the tally frame or not in the monitor.				
	I OFF. ON	Turns the tally frame on/off in the Multi-view.				
Multi-View Input-View	OFF, ON OFF, ON	,	me on/off in the Input-view.			

## **Other Functions**

Menu item	Value (bold text: default value				
	Sets whether to display th	ne AUX/Sou	rce indicators in the monitor.		
		Color	Explanation		
AUX/Source Indicator	1 K	Yellow	Shows that this has been selected as an inset screen for the PinP & KEY.		
		Magenta	Shows that this has been selected as a DSK video source.		
Gre		Green	Shows that this has been selected as an AUX bus video source.		
Multi-View	OFF, ON	Turns	the indicator on/off for multi-view.		
Input-View	OFF, ON	Turns	the indicator on/off for Input-view.		
Still-View	OFF, ON	Turns	the indicator on/off for Still-view.		
External Rec Indicator	Sets whether to display th	ne External f	Rec indicator in the monitor.		
	When this is "ON", a REC in	ndicator sho	wing that the camera's REC button has been pressed is displayed, if the unit is		
	connected to a camera th	at supports	the REC status function.		
Multi-View	OFF, <b>ON</b>	Turns	the indicator on/off for multi-view.		
Input-View	OFF, <b>ON</b>	Turns	the indicator on/off for Input-view.		
Audio Level Meter	Specifies whether to disp	lay the audi	o level meter in the monitor.		
Multi-View	OFF, <b>ON</b>	Turns	the indicator on/off for multi-view.		
Input-View	OFF, <b>ON</b>	Turns	the indicator on/off for Input-view.		
Level Meter Position					
HDMI In 1–6					
SDI In 1–6	_				
Video Player Audio In 1–9/10	_				
USB In	_				
Bluetooth In	Pre Fader(PFL)	Cotc th	and isolay position of the audio loyal mater		
Audio Player	Post Fader(AFL)	Sets the display position of the audio level meter.			
Main Bus	_				
AUX 1–2 Bus	-				
USB Out	_				
Stream/Record	_				
Preview Label	Specifies whether to disp	lay the labe	l in the monitor.		
Jump To Setup	Enter		s to the setup screen.		
Multi-View	OFF, ON	· ·	Turns the label view on/off in the Multi-view.		
Input-View	OFF, ON	Turns	the label view on/off in the Input-view.		
Still-View	OFF, ON		the label view on/off in the Still-view.		
	HDMI 1–6, SDI 1–6, Still 1-	16			
Label Edit	V.Player, PGM, SUB PGM,	Ealt th	ne label name shown in the monitor. the [VALUE] knob to access the Label Edit screen.		
	PVW, AUX				
Label Size	Small, Normal		ies the text size of the label shown in the monitor.		
Multi-View Layout			he PVW section (Left) and PGM section (Right) in the multi-view.		
	Program		butput video. This is the default setting for "Right".		
Left	Sub Program		rogram bus video		
Right	Preview		w output video. This is the default setting for "Left".		
	AUX Black		us video screen		
nput-View Layout	Configures the layout in ii				
Jump To Setup	Enter	-	s to the setup screen.		
- amp to setup	HDMI 1–6	- Jourba	s to the setup selection		
	SDI 1–6				
	Still 1–16		an video de display for lange 1, 16		
Input 1–16	V.Player		ne video to display for Input 1–16. analog/digital display changes in the "System $\rightarrow$ Date&Time $\rightarrow$ Clock Display Type		
input i to	Input 1–8	setting			
	Stream/Record Status 1–2	2	-		
	Date&Time(Analog/Digita	al(*))			
	N/A	T	the suite insult detect function as /aff		
Auto Input Detect	N/A		the auto input detect function on/off. this is "ON" input is automatically detected, and the video is switched when input		
Auto Input Detect		When	the auto input detect function on/off. this is "ON", input is automatically detected, and the video is switched when input he final output video is interrupted.		
Auto Input Detect	N/A	When from t	this is "ON", input is automatically detected, and the video is switched when input		

Menu item	Value (bold text: default value) Explanation		
Test Pattern	Pattern Specifies the test pattern.		
Pattern       Off, Color Bars 75%, Color Bars100%, Ramp, Step, Hatch, Diamond, Circle, Color Bars 75%-SP, Color Bars100%-SP, Ramp-SP, Step-SP, Hatch-SP       Selects the test pattern to display.         Motion       Off, Slow, Fast       Specifies the scroll speed of the test pattern.		Selects the test pattern to display.	
		Specifies the scroll speed of the test pattern.	
Test Tone	Specifies the test tone.		
Level	<b>Off</b> , -20, -10, 0dB	Adjusts the test tone volume.	
Frequency L	500Hz, <b>1kHz</b> , 2kHz	Specifies the frequency of the test tone for the L-channel.	
Frequency R	500Hz, <b>1kHz</b> , 2kHz	Specifies the frequency of the test tone for the R-channel.	
Shut Down	Exec	Shuts down this unit.	
Factory Reset	Exec	Returns the unit to its factory defaults.	
System Information	_	Displays the version of the system program.	

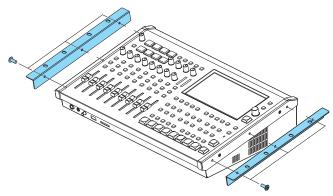
# Appendix

## About Rack Mounting

Attaching the included rack-mount angles lets you install the VR-120HD in a 19-inch rack.

## Attaching the Rack-Mount Angles

- 1. Turn off the power to the VR-120HD and disconnect the power cord and all connection cables.
- 2. Use the included mounting screws (three per side) to attach the rack-mount angles.



* Both of the rack-mount angles have the same shape; there is no difference between left and right.

#### NOTE

#### When uninstalling the rack-mount angles

Before uninstalling the rack-mount angles, turn off the power to the VR-120HD and disconnect the power cord and all connector cables.

## Important Notes on Rack Mounting

- Before mounting, turn off the power to the VR-120HD and detach the power cord and all connection cables.
- When mounting the unit, take care not to pinch your fingers etc.
- To prevent incorrect operation or malfunction, take care not to subject areas protruding beyond the rack to accidental impact.
- To ensure room for connectors and cables, leave 2U of clearance above the unit.
- Use all threaded holes (at 2 locations on each side, for a total of 4) to secure the unit to the rack using screws. Screws for rack mounting are not included.
- Never transport the rack with the unit installed in it. The impact of shaking or vibration might deform the rack-mount angles.
- When mounting the VR-120HD in a rack, pay attention to the following points to ensure efficient cooling.
  - Install in a well-ventilated location.
  - Avoid blocking the cooling-fan intake and exhaust ports on the side panels of the VR-120HD.
  - Avoid mounting the unit in a sealed-type rack. Warm air within the rack cannot escape, making efficient cooling impossible.
  - If the back of the rack cannot be opened, install an exhaust port or ventilation fan at the top back surface of the rack where warm air collects.
- Also read the "Placement" (the leaflet "USING THE UNIT SAFELY" and the "Startup Guide") under "IMPORTANT NOTES".

# Main Specifications

/ideo Drocosin r	4.2.2 ()/ (Db (Dr)) 0 bit							
/ideo Processing	4:2:2 (Y/Pb/Pr), 8-bit							
lumber of Video Channels	12 channels	2 channels						
Input Connectors	HDMI IN 1–6	HDMI type A x 6 * HDCP Supported, Multi-format Supported						
	SDI IN 1–6	BNC type x 6						
Output Connectors	HDMI OUT 1–3	HDMI type A x 3 * HDCP Supported						
	SDI OUT 1–3	BNC type x 3 * Conforms to SMPTE 424M (SMPTE 425M-AB), 292M						
	USB STREAM	Conforms to SMPTE 424M (SMPTE 425M-AB), 292M USB Type-C*						
				Europe Data				
			.94 Hz, 60 Hz	Frame Rate	50 Hz			
		480/59.94i		F76/50				
			480/59.94p	576/50i	5.	76/50p		
		720/59.94p	1000/50.04	720/50p		000/50-		
		1080/59.94i	1080/59.94p	1080/50i		080/50p		
		1080/60p	1000/20	1080/25p		000/04		
		1080/29.97p	1080/30p	1080/23.9	•	080/24p		
	HDMI IN 1–6	1080/23.98p	1080/24p		VGA (640×480/60 Hz)			
		VGA (640×480/60 H	,	SVGA (800×600/60 Hz)				
		SVGA (800×600/60 Hz)		XGA (1024×768/60 Hz)				
		XGA (1024×768/60 Hz)		WXGA (1280×800/60 Hz)				
		WXGA (1280×800/60 Hz)		SXGA (1280×1024/60 Hz)				
		SXGA (1280×1024/60 Hz)		FWXGA (1366×768/60 Hz)				
		FWXGA (1366×768/60 Hz)		SXGA+ (1400×1050/60 Hz)				
/ideo Input Formats		SXGA+ (1400×1050/60 Hz)		UXGA (1600×1200/60 Hz)				
		UXGA (1600×1200/60 Hz)		WUXGA (1920×1200/60 Hz)				
		WUXGA (1920×120	00/60 Hz)					
		<ul> <li>* The refresh rate is the maximum value of each resolution.</li> <li>* Conforms to CEA-861-E,VESA DMT Version 1.0 Revision 11.</li> <li>* 1920 x 1200/60 Hz: Reduced blanking</li> <li>* The input interlaced video signal is converted to progressive video signal by internal processing.</li> </ul>						
	SDI IN 1–6	Output Format : 72	0p	Output Format : 1080i or 1080p				
		Frame Rate			Frame Rate			
		59.94 Hz, 60 Hz	50 Hz	59.94 Hz, 60 Hz		50 Hz		
		720/59.94p	720/50p	1080/59.94i	1080/59.94p	1080/50i		
				1080/60p		1080/50p		
				1080/29.97p	1080/30p	1080/25p		
				1080/23.98p	1080/24p	1080/23.98p		
						1080/24p		

### Appendix

					_					
		Output Format		Frame Rate						
			59.94			) Hz		50 Hz		
		720p	720/59.94p		720/60p			0/50p		
	HDMI OUT 1-3	1080i	1080/59.94i		1080/60i			80/50		
	SDI OUT 1–3	1080p	1080/59.94p		1080/60p		10	1080/50p		
					Fran	ne Rate				
		Output Format	29.97 Hz	29.97 Hz 30 Hz		Hz	23.98	98 Hz 24 Hz		
		1080p	1080/29.97p	1080/30p	1080/	/25p	1080/23.9	98p	1080/24p	
			· · · · ·	1000/21p						
Video Output Formats		Frame Rate (USB OUT)								
		59.94 Hz	60	60 Hz 29.97 Hz				30 Hz		
		1080/59.94p	1080/60p	1080/60p		1080/29.97p		1080/30p		
		720/59.94p	720/60p	720/60p		720/29.97p		720/30p		
		640×480/59.94p	640×480/60	640×480/60p 640×480		0/29.97p 640×48		80/30p		
	USB STREAM									
		50 Hz		Frame Rate (USB OUT) Hz 23.98 Hz			lz 24 Hz			
		1080/50p	1080/25p	25 Hz		23.98 HZ		1080/24p		
		720/50p	720/25p	720/23				720/24p		
		640×480/50p	640×480/25					640×480/24p		
				(YUY2) and Compressed format (Motion JPE				00/210		
		oncompressed form								
		Output Format				Stream/Record)				
			59.94 Hz		Hz		.97 Hz	70	30 Hz	
		720p	720/59.94p	720/60p		720/29.			20/30p	
		1080p	1080/59.94p	1080/60	0	1080/29	9.97p	IC	)80/30p	
			Frame Rate (Stream/Record)							
Stream and Record		Output Format	50 Hz	50 Hz 25 H		Hz 23.98 Hz		: 24 Hz		
formats		720p	720/50p	720/25p	720/25p					
		1080p	1080/50p	080/50p 1080/25p		1080/23	3.98p	10	)80/24p	
		Codec: H.264, target bitrate up to 20,000 kbps								
	File Format	MP4 AAC-LC, 16 bits, 48 kHz, stereo, target bitrate up to 384 kbps								
		WAV Codec: Linear PCM, 16 bits, 48 kHz, stereo								
	* If either the streaming and re		e played by the video	player exceed	ls 1080/30p,	the strea	ming and ı	recordi	ing and video	
	player functions cannot be used simultaneously. * If the bitrate setting for Streaming and Recording and the bitrate of the file played on Video Player exceeds 20,000 kbps, Streaming and Recording									
	and Video player cannot be u	ised simultaneously								
	File Format	MP4	Codec: H.264, Average bit rate of 20,000 kbps or less, Maximum 1080/60p							
	* If either the streaming and re	cording format or the file		AAC-LC, 16 bits, 48 kHz, stereo						
Video Player	* If either the streaming and recording format or the file played by the video player exceeds 1080/30p, the streaming and recording and video player functions cannot be used simultaneously.									
	* If the bitrate setting for Strea		the bitrate of the file	played on Vic	leo Player ex	ceeds 20,	,000 kbps,	Stream	ning and Recording	
Still Image	and Video player cannot be used simultaneously. Bitmap File (.bmp) Maximum 1920 x 1080 pixels, 24-bit color, uncompressed.									
		PNG File (.png) Maximum 1920 x 1080 pixels, 24-bit color, uncompressed.								
	File Format	JPEG File (.jpg, .jpeg) Maximum 1920 x 1080 pixels, 24 bit color								
	File Format	* It can be stored up to 16 files in the internal memory.								
		* It can be exported in the SD Card and USB flash drive.								
		* PNG alpha channel supported.								
Video Effects	Transition	Cut, Mix (Dissolve/Fam/Nam), WIPE (8 types), SPLIT (2 types)								
	Composition	PinP x 4 (Square, Circle, Diamond), Keyer x 4 (Luminance Key, Chroma Key), DSK x 2 (Luminance Key, Chroma Key, Alpha Key, External Key)								
		Multi-View (3 types), Flip horizontal, Flip vertical, Still Image capture, Still Image playback,								
	Others	Output fade (Audio, Video: White or Black), Test pattern output, Stream Delay								

Audio					
Audio Processing	Sample rate	24 bits, 48 kHz			
Number of Audio Channels	42 channels	42 channels			
Audio Formats	USB STREAM (input/output):	Linear PCM, 24 bits, 48 kHz, 2 ch			
	Bluetooth In (input):	Linear PCM, 24 bits, 48 kHz, 2 ch			
	HDMI IN	Linear PCM, 24 bits, 48 kHz, 2 ch			
	HDMI OUT	Linear PCM, 24 bits, 48 kHz, 8 ch			
	SDI IN	Linear PCM, 24 bits, 48 kHz, 2 ch (Conforms to SMPTE 299M)			
	SDI OUT	Linear PCM, 24 bits, 48 kHz, 8 ch (Conforms to SMPTE 299M)			
Audio Player	File Format	WAV (Linear PCM, 16 bits, 48 kHz/44.1 kHz, stereo) * It can be stored up to 16 tracks in the internal memory.			
	Channel Effects	High pass filter, Echo canceller, Anti-feedback, Noise gate, De-esser, Compressor, 4-Band equalize Voice changer, Delay, Auto mixing			
Audio Effects	Master Effects	Reverb, 4-Band equalizer, Compressor/Limiter, Loudness Auto Gain Control, Adaptive Noise Reduction, Low Frequency Cut, 15-Band GEQ, Delay			
	Others	Output fade, Test tone output			
	AUDIO IN 1-6	Combo type (XLR, 1/4-inch TRS phone), phantom power DC 48 V (unloaded maximum), 14 mA (maximum load)			
Analo	AUDIO IN 7/L, 8/R	RCA phono type			
Input	AUDIO IN 9/L, 10/R				
Connectors	USB STREAM	USB Type-C°			
Digita	Bluetooth In				
Digita	HDMI IN 1–6	HDMI type A x 6			
	SDI IN 1–6	BNC type x 6			
	AUDIO OUT 1/L, 2/R	XLR type			
Analo	AUDIO OUT 3/L, 4/R				
Analo	AUDIO OUT 5/L, 6/R	RCA phono type			
Output Connectors	PHONES	Stereo 1/4-inch phone type, Stereo miniature phone type			
	USB STREAM	USB Type-C°			
Digita	HDMI OUT 1-3	HDMI type A x 3			
	SDI OUT 1–3	BNC type x 3			
	AUDIO IN 1–6	-64–+4 dBu (Maximum: +24 dBu)			
Nominal Input Leve	AUDIO IN 7/L, 8/R	-10 dBu (Maximum: +10 dBu)			
	AUDIO IN 9/L, 10/R				
	AUDIO IN 1-6	30 kΩ			
Input Impedance	AUDIO IN 7/L, 8/R	- 7 kΩ			
	AUDIO IN 9/L, 10/R				
	AUDIO OUT 1/L, 2/R (XLR)	+4 dBu (Maximum: +24 dBu)			
Nominal Output Level	AUDIO OUT 3/L, 4/R (XLR)				
	AUDIO OUT 5, 6 (RCA)	-10 dBu (Maximum: +10 dBu)			
	PHONES	92 mW + 92 mW (32 Ω)			
Output Impedance	AUDIO OUT 1/L, 2/R (XLR)	600 Ω			
	AUDIO OUT 3/L, 4/R (XLR)				
	AUDIO OUT 5, 6 (RCA)	1 kΩ			
	PHONES	56Ω			
Residual Noise Level (IHF-A, typ.)	AUDIO OUT 1/L, 2/R (XLR)	-92 dBu (All faders: Min)			
	AUDIO OUT 3/L, 4/R (XLR)	-89 dBu ([MAIN] Fader: Unity, Input faders: Unity only one AUDIO IN 1 Connector, Analog gain: Min)			
	* Input 150 Ω terminate	-62 dBu ([MAIN] Fader: Unity, Input faders: Unity only one AUDIO IN 1 Connector, Analog gain: Max)			
		-101 dBu (All faders: Min)			
	AUDIO OUT 5, 6 (RCA)				
	* Input 150 Ω terminate	-100 dBu ([MAIN] Fader: Unity, Input faders: Unity only one AUDIO IN 1 jack, Analog gain: Min)			

## Appendix

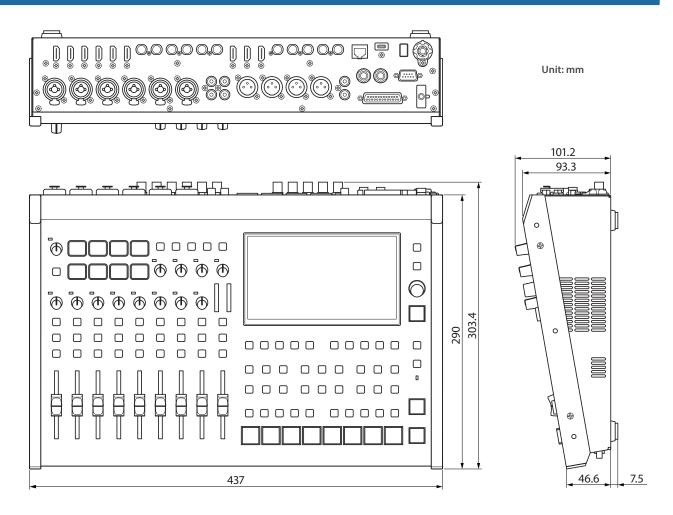
Others					
Recording Media	SDHC/SDXC card (commercially available) USB flash drive (commercially available)	- * SDXC card is required for video recording.			
Other Connectors	USB HOST	USB A type (for USB flash drive)			
	USB STREAM	USB Type-C [*] (for remote control from PC and iPad)			
	Bluetooth connection	for remote control from iPad			
	CTL/EXP 1, 2	1/4-inch TRS phone type (for remote control from footswitch and expression pedal)			
	TALLY/GPIO	DB-25 type (Female)(Tally/GPO: 16, GPI: 8)			
	RS-232	DB-9 type (Male) (for Remote Control)			
	DIRECT STREAM	RJ45, 1000BASE-TX (for Live Streaming and Remote Control)			
	REFERENCE IN/THRU	BNC type * Black Burst (Sync to frames), Bi-Level, Tri-Level			
Other Functions	Scene Memory (32 types), Macro Control (100 types), Sequencer Control (1,000 steps), Panel lock function, EDID Emulator, Auto Switching, Auto Input Detect, Smart Tally, Remote Camera Control (Up to 12 units), External Rec Control				
	Ver 5.0				
<b>Bluetooth Function</b>	Profile Support	A2DP (Audio), GATT (MIDI over Bluetooth Low Energy)			
	Codec	SBC (Support to the content protection of the SCMS-T method)			
Display	Graphic Type, 7", Wide VGA (800 x 480 dots), backlite LCD (Color/Touch screen)				
Power Supply	AC adaptor				
Current Draw	3.0 A				
Power Consumption	69 W				
Operation	+0 to +40 degrees Celsius				
Temperature	+32 to +104 degrees Fahrenheit				
	437 (W) x 304 (D) x 109 (H) mm 17-1/4 (W) x 12 (D) x 4-5/16 (H) inches				
Dimensions	482 (W) x 304 (D) x 109 (H) mm 19 (W) x 10 (D) x 4-1/16 (H) inches * When rack mount angles are fitted.				
Weight	5.3 kg, 11 lbs 11 oz (excluding AC adaptor)				
Accessories	Startup Guide, Leaflet "USING THE UNIT SAFELY", AC adaptor, Power cord, Rack-mount angle x 2 Rack-mount angle mounting screw x 6				
	Footswitch: BOSS FS-5U, FS-6, FS-7				
Options	Expression Pedal: EV-5, EV-30, BOSS FV-500L, FV-500H				

* 0 dBu = 0.775 Vrms

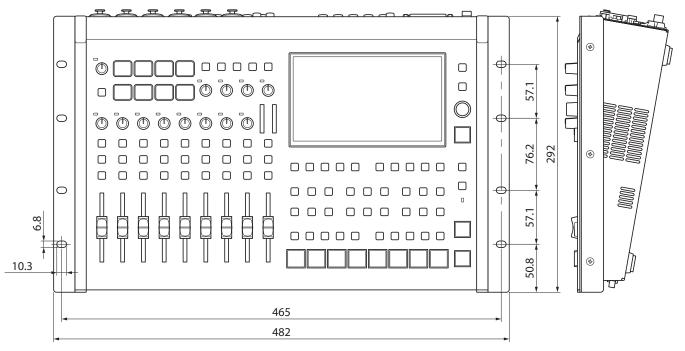
* This product is a Class A digital device under FCC part 15.

* This document explains the specifications of the product at the time that the document was issued. For the latest information, refer to the Roland website.

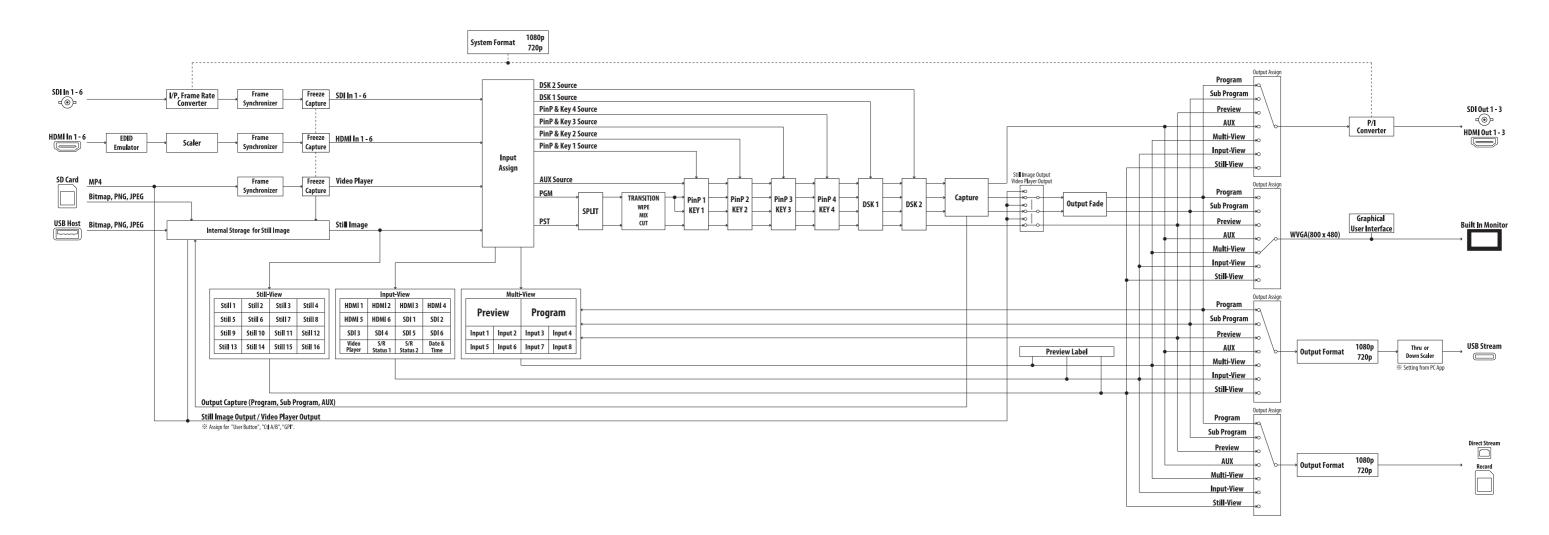
## Dimensions



### When rack-mount angles are attached



## Video Block Diagram



# Audio Block Diagram

