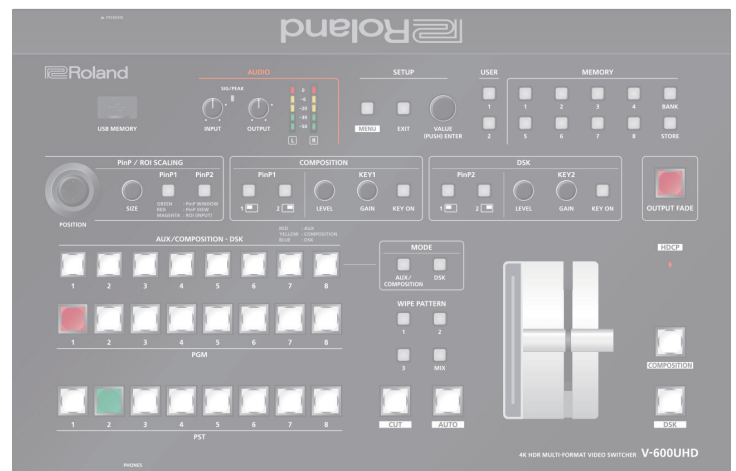


Recommended cables

When inputting or outputting 4K resolution video (2160p (UHD), 2160p (DCI), 3840x2160, 4096x2160), please use HDMI cable that support HDMI 2.0 (Premium High Speed) and SDI cables that support 12G SDI.

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Update History

Ver.2.00

Additional Functions

- Added new "Automatic ROI" function, which uses facial recognition information from compatible Canon camcorders to control the ROI (Region of Interest) function of the V-600UHD.
For information on supported video cameras, check "V-600UHD Ver.2.0 Camera Remote Control Compatibility Information."
- Added network control for Canon and JVC camcorders, as well as PTZ cameras from JVC, Panasonic, PTZOptics, Avonic, and PTZ cameras that support VISCA over IP (such as SONY PTZ cameras).
For information on supported cameras, check "V-600UHD Ver.2.0 Camera Remote Control Compatibility Information."
- Added settings for the Multi-View monitor output labels: Turning display on or off. Changing position, size and background transparency.
- Added a Status Bar to display signal status and AUX source selection on the Multi-View monitor output.
- Added Recall Safe function that helps you recall only specified settings with memory presets.
- Added the function to specify the memory to load during boot.
- Added Panel Lock function to help prevent operation mistakes.
- Added additional functions to the USER buttons: Turning display on or off the Status Bar on the Multi-View monitor. Changing Still Image selection.
- Redesigned the Setup Menu.

Bug Fix

- Fixed an issue when adjusting the ROI position with the POSITION stick when the Input Scaler Zoom was greater than 100%.

Ver.1.11

Bug fix

- The audio follow function works properly.
- When recalling a memory, the parameters of key composition is now set correctly.
- When changing the cross-point assignment from "Blank" or "None" to an input channel whose video source is set to "STILL1" or "PG/STILL2", the color is now displayed correctly on the multi-view monitor.

Additional functions

- The option of also loading still images when loading a settings file has been added.

Functionality improvements

- Improved way for determining SDR or HDR on SDI inputs.
- The state of button such as output fade, output freeze, etc. are now initialized during a Factory Reset.
- "Processing..." message is displayed during system configuration after Factory Reset or after loading an unit's setting file.
- Located in the file list display of the unit's setting files and the still image files, the name scrolls when the file name is long.

Ver.1.10

Additional functions

- A function for capturing a still image from the final output video (PGM or PVW) has been added.
Captured still images can be stored on a USB flash drive and loaded from the USB flash drive during boot.
* Still images captured from copyright protected (HDCP) video cannot be stored on a USB flash drive.
- The number of still images that can be loaded from a USB flash drive was increased from 2 to 8.
You can load or capture up to 8 still images. And you can choose from 8 still images as the source for Ch.7 (STILL1) or Ch.8 (STILL2).
- PNG has been added as a file format that can be imported via a USB flash drive.
* The alpha channel of PNG files cannot be imported.
- A function for freezing the final output video (PGM) has been added.
- Support for the following output formats on HDMI outputs have been added.
1920 x 1080/30 Hz (FHD) (*1)
3840 x 2160/30 Hz (UHD 4K)
4096 x 2160/30 Hz (DCI 4K)
(*1) "1920 x 1080/30 Hz (FHD)" is output when the following settings are used.
 - In System menu → Processing → Format: 3840x2160
 - In System menu → Frame Rate: 30Hz
 - In Output menu → HDMI OUT 1–3 → Down Convert: Enabled
- Support for the following resolutions and frame rates on HDMI inputs have been added.
720/50p, 720/59.94p
1024 x 768/60 Hz (XGA)
1280 x 768/60 Hz (WXGA)
1280 x 1024/60 Hz (SXGA)
1400 x 1050/60 Hz (SXGA+)
1600 x 1200/60 Hz (UXGA)
1920 x 1080/30 Hz (FHD)
3840 x 2160/24 Hz (UHD 4K)
4096 x 2160/24 Hz (DCI 4K)
- A function for selecting the EDID setting for HDMI inputs has been added.
- Added SDI input function that determines if source is SDR or HDR, based on SDI Video Payload ID.
- Added SDI output parameter to set the Video Payload ID.
- Parameters for changing the display and color of ROI border shown on the multi-view monitor have been added.
- In the Input Scaling menu, functions for adjusting ROI size to FHD and resetting parameters have been added.
- 1k stereo test tone output has been added. (L:1k + R:1k)
- A function for erasing individual stored MEMORY settings has been added.
- A function for erasing imported still images and captured still images has been added.

Functionality improvements

- Automatically recall the position of the AUDIO OUTPUT knob at startup and after Factory Reset.
- Improved processing with 1080/50i and 1080/59.94i inputs.
- Adjusted synchronization timing when Reference Source is "SDI IN5."

Ver.1.08

Bug fix

- The problem of the V-600UHD experiencing a system lockup in extremely rare cases was corrected.

Ver.1.07

Additional functions

- SDI OUT 3G Level B output
- Functions that use the RS-232 connector and LAN port (LAN/RS-232 command and WebRCS)
- SDI IN audio functionality (*1)
(*1) Immediately after updating to Ver.1.07, the SDI IN audio parameter is muted.
If you want to use SDI IN audio, perform one of the following operations.
 - In Audio menu → SDI IN 5/6 screen, edit the Mute, Level, Aux Send, and Mix Ch.1–16 parameters.
 - Execute Factory Reset.

Ver.1.06

Functionality improvements

- The stability of HDMI and SDI input and output has been improved.
- The display of signal status when a Mac computer is connected has been improved.

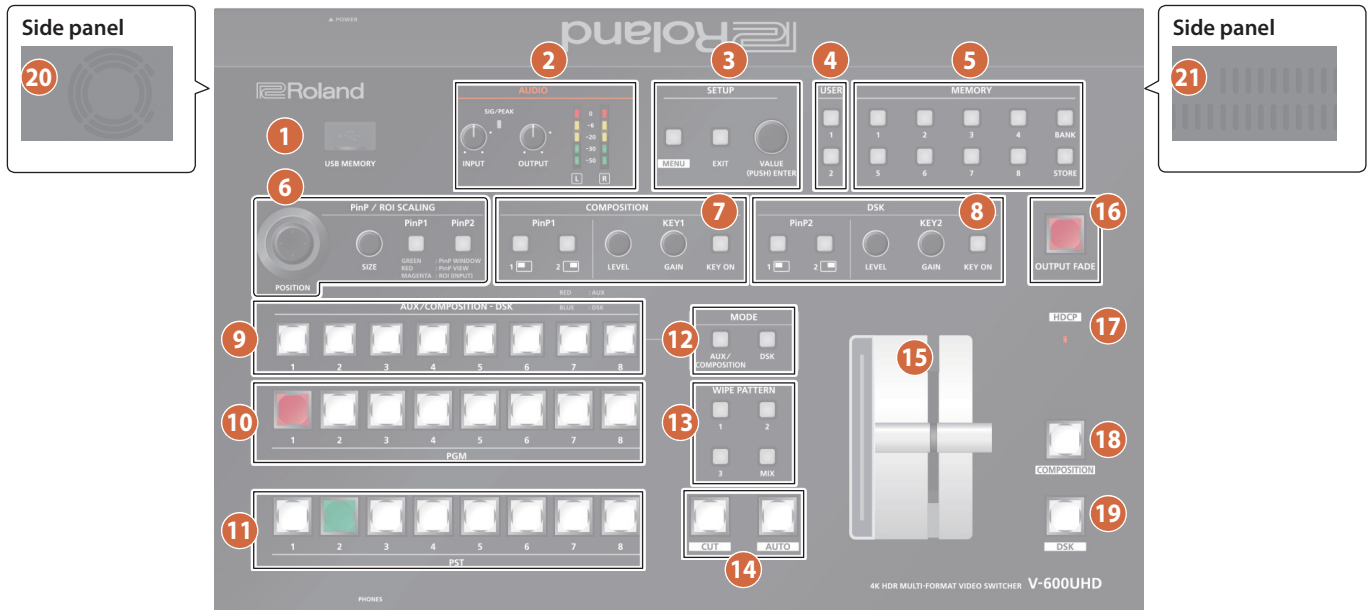
Ver.1.05

Bug fix

- The possibility that in extremely rare cases signals to HDMI IN might fail to be received correctly has been circumvented.

Panel Descriptions

Top Panel / Side Panel



| Name | Explanation |
|--------------------------|---|
| 1 USB MEMORY port | This is for connecting a USB flash drive. Use this to load a still image, save or load settings, or save a captured still image. * Never turn off the power or remove the USB flash drive while the USB flash drive is being accessed. |
| 2 AUDIO | |
| [INPUT] knob | Adjusts the volume level (digital gain) for AUDIO IN L/R. |
| SIG/PEAK indicator | Lit green when input is detected at AUDIO IN L/R, and lit red when the volume is excessive. |
| [OUTPUT] knob | Adjusts the audio output/headphones volume. |
| Level meter | Indicates the audio output (L/R) volume level. |
| 3 SETUP | |
| [MENU] button | Switches between displaying or hiding the menu. The menu appears on the multi-view monitor connected to the MULTI-VIEW connector. |
| [EXIT] button | Returns you to the menu one level higher. |
| [VALUE] knob | Turning: Selects a menu item or changes a setting value. Pressing: Accepts the selected menu item or applies changes to a setting. It also executes operations. |
| 4 USER | |
| [1], [2] buttons | Execute the functions that are assigned by the menu settings. |
| 5 MEMORY | |
| [1]–[8] buttons | Save the current settings (such as video settings and operating panel status) to memory, or recall settings from memory. Button functioning is switched according to whether the [STORE] button is on/off. |
| [STORE] on (lit) | Saves current settings in memory. |
| [STORE] off (unlit) | Recalls settings that are saved in memory. |
| [BANK] button | When this is turned on (lit), the [1]–[8] buttons function as bank selection buttons for memories. |
| [STORE] button | When this is turned on (lit), you can save settings in memories. |

| Name | Explanation |
|--|--|
| 6 PinP / ROI SCALING | |
| [POSITION] stick | Adjusts the display position of the input video or PinP inset screen. You can use the camera controls to adjust Pan and Tilt. |
| [SIZE] knob | Enlarges or reduces the size of the input video or PinP inset screen. You can use the camera controls to adjust Zoom and Focus. |
| [PinP1], [PinP2] buttons (*1) | Select what is controlled by operating the [POSITION] stick and [SIZE] knob. [PinP1] button Lit green: PinP1 window Lit red: Video shown in the PinP1 inset screen Lit magenta: ROI (input video) Lit light blue: Camera control [PinP2] button Lit green: PinP2 window Lit red: Video shown in the PinP2 inset screen Lit magenta: ROI (input video) Lit light blue: Camera control |
| * When selecting "ROI," you can adjust the input video selected as the preset video. | |
| 7 COMPOSITION (*1) | |
| PinP1 [1], [2] buttons | Turns picture-in-picture video compositing on/off. The selected button lights up when it is switched on. The color of the lit button indicates the output destination of the compositing results. Lit green: PinP1 composition on Lit red: Final output Unlit: PinP1 composition off |
| KEY1 [LEVEL] knob | During key compositing, this adjusts the amount of keying (transparency). |
| KEY1 [GAIN] knob | During key compositing, this adjusts the degree of edge blur (the semi-transmissive region) for keying. |

| Name | Explanation |
|----------------------|---|
| KEY1 [KEY ON] button | Turns key composition on/off. When on, the KEY1 [KEY ON] button lights up. The color of the lit button indicates the output destination of the compositing results. |
| | Lit green KEY1 composition on |
| | Lit red Final output |
| | Unlit KEY1 composition off |

8 DSK

| | |
|------------------------|---|
| PinP2 [1], [2] buttons | Turns picture-in-picture video compositing on/off. The selected button lights up when it is switched on. The color of the lit button indicates the output destination of the compositing results. |
| | Lit green PinP2 composition on |
| | Lit red Final output |
| | Unlit PinP2 composition off |

| | |
|-------------------|---|
| KEY2 [LEVEL] knob | During key compositing, this adjusts the amount of keying (transparency). |
|-------------------|---|

| | |
|------------------|---|
| KEY2 [GAIN] knob | During key compositing, this adjusts the degree of edge blur (the semi-transmissive region) for keying. |
|------------------|---|

| | |
|----------------------|---|
| KEY2 [KEY ON] button | Turns key composition on/off. When on, the KEY2 [KEY ON] button lights up. The color of the lit button indicates the output destination of the compositing results. |
| | Lit green KEY2 composition on |
| | Lit red Final output |
| | Unlit KEY2 composition off |

9 AUX/COMPOSITION - DSK

| | | |
|----------------------------------|--|--|
| Cross-point [1]–[8] buttons (*2) | Indicates the status of video input to the cross-points. Here you can also select the video that is sent to the destination specified by the MODE [AUX/COMPOSITION] button and [DSK/ROI] button. | |
| | Unlit Video is not being input. | |
| | Lit green Valid video is being input. | |
| | Lit red | Video is being sent to AUX. You can use the [1]–[8] buttons to change the video that is sent to AUX. |
| | | Video is being sent to COMPOSITION. You can use the [1]–[8] buttons to change the video that is sent to COMPOSITION. |
| | Lit blue | Video is being sent to DSK. You can use the [1]–[8] buttons to change the video that is sent to DSK. |
| | | |
| | If a Camera ID is selected | |
| | Unlit | Not selected for a Camera ID. |
| | Lit white | A valid camera is connected. |
| | Lit cyan | Selected for a Camera ID. |
| | If a Camera Preset is selected | |
| | Unlit | No Camera Preset is recalled. |
| | Lit cyan | If All Cameras Recall is "Off" A Camera Preset is recalled. |
| | Lit magenta | If All Cameras Recall is "On" A Camera Preset is recalled. |

10 PGM

| | |
|-----------------------------|---|
| Cross-point [1]–[8] buttons | Selects the final output video. The selected cross-point button is lit red. |
|-----------------------------|---|

| Name | Explanation |
|------|-------------|
|------|-------------|

| | |
|-----------------------------|---|
| 11 PST | |
| Cross-point [1]–[8] buttons | Selects the preset video (the video to output next). The selected cross-point button is lit green. While compositing of the video is in progress it lit red. |
| | * When the menu is not shown, you can hold down the [MENU] button and press a PST cross-point [1]–[8] button to successively switch the input source setting. |

12 MODE

| | | |
|---|---|--------------------|
| [AUX/COMPOSITION] button [DSK] button (*2) | Selects the destination of the video. The video selected by the AUX/COMPOSITION - DSK cross-point [1]–[8] button is sent. | |
| | [AUX/COMPOSITION] button | |
| | Lit red | AUX |
| | Lit yellow | COMPOSITION |
| | Lit light blue | Camera ID selected |
| | [DSK] button | |
| | Lit blue | DSK |
| Lit light blue | Camera Preset selected | |

13 WIPE PATTERN

| | |
|---------------------------------|---|
| [1]–[3] buttons [MIX] button | Selects the video transition effects. The selected button lights up. |
| | [1]–[3] The original video is broken into by the next video. |
| | [MIX] The two pictures are blended together as the video is switched. |

| | |
|----------------------------------|---|
| 14 [CUT] button [AUTO] button | Makes the preset video (the video to output next) the final output. |
| | [CUT] The picture switches instantly. |
| | [AUTO] The picture switches with a transition effect applied. |

| | |
|----------------|---|
| 15 Video fader | Makes the preset video (the video to output next) the final output. |
|----------------|---|

| | | |
|-------------------------|--|------------------------------|
| 16 [OUTPUT FADE] button | Performs a fade-in or fade-out for the final output video. | |
| | Lit | Fade-out |
| | Blink | Fade-in/fade-out in progress |
| | Unlit | Normal output |

| | |
|-------------------|---|
| 17 HDCP indicator | This lights up, blinks, or becomes unlit according to HDCP (High-bandwidth Digital Content Protection) settings and the connection status of HDCP-compatible equipment. |
|-------------------|---|

| | |
|-------------------------|--|
| 18 [COMPOSITION] button | If this is on (lit), the composited result COMPOSITION (PinP1/KEY1) is the final output. |
|-------------------------|--|

| | |
|-----------------|--|
| 19 [DSK] button | If this is on (lit), the composited result DSK (PinP2/KEY2) is the final output. |
|-----------------|--|

| | |
|-----------------------------|---|
| 20 Cooling-fan exhaust port | Expels internal heat to keep temperatures inside the V-600UHD cool. |
|-----------------------------|---|

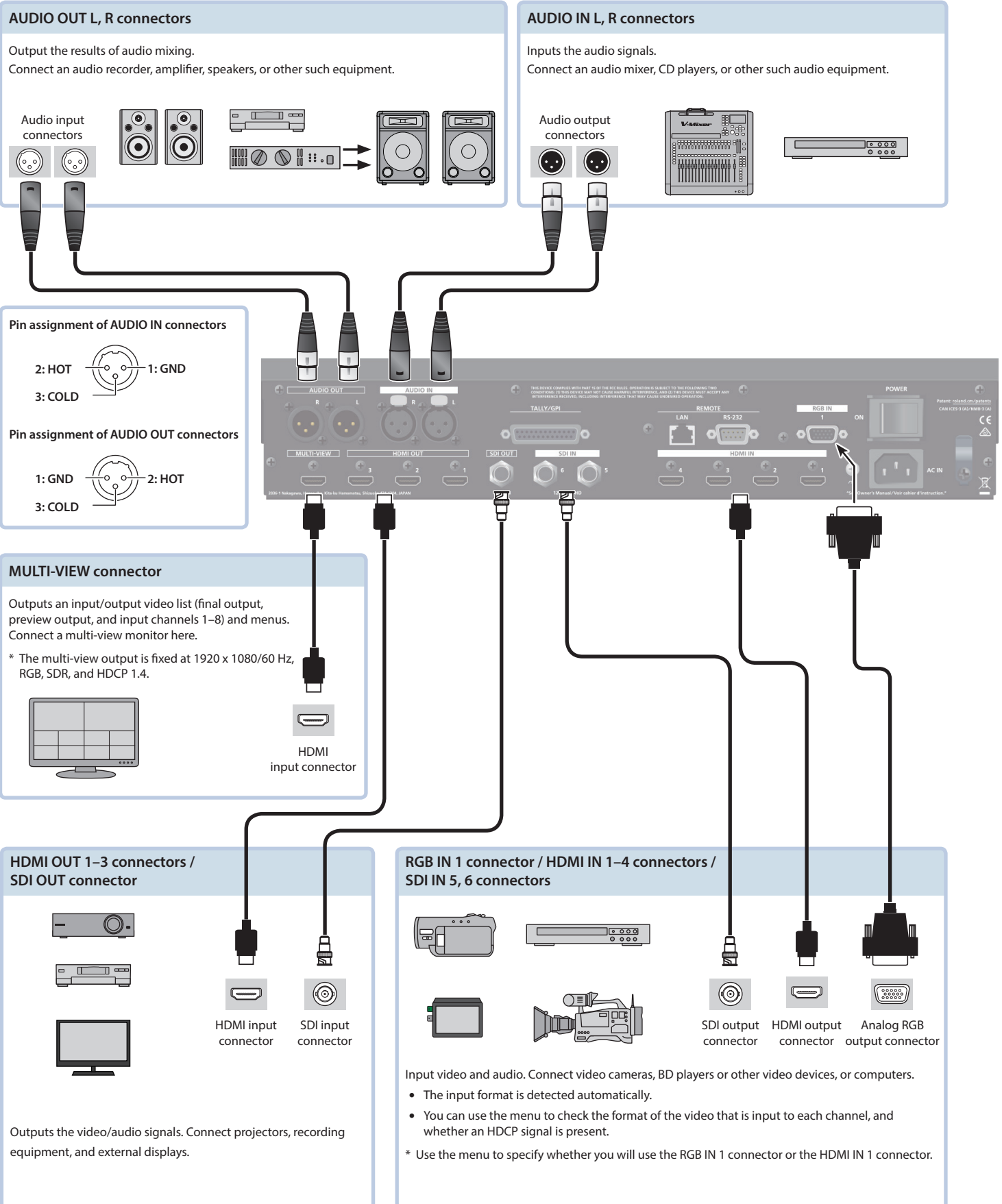
| | |
|----------------------------|--|
| 21 Cooling-fan intake port | NOTE |
| | Do not block the cooling-fan intake and exhaust ports. Blocking the intake and exhaust ports might result in a temperature rise inside the V-600UHD and lead to malfunction due to heat. |

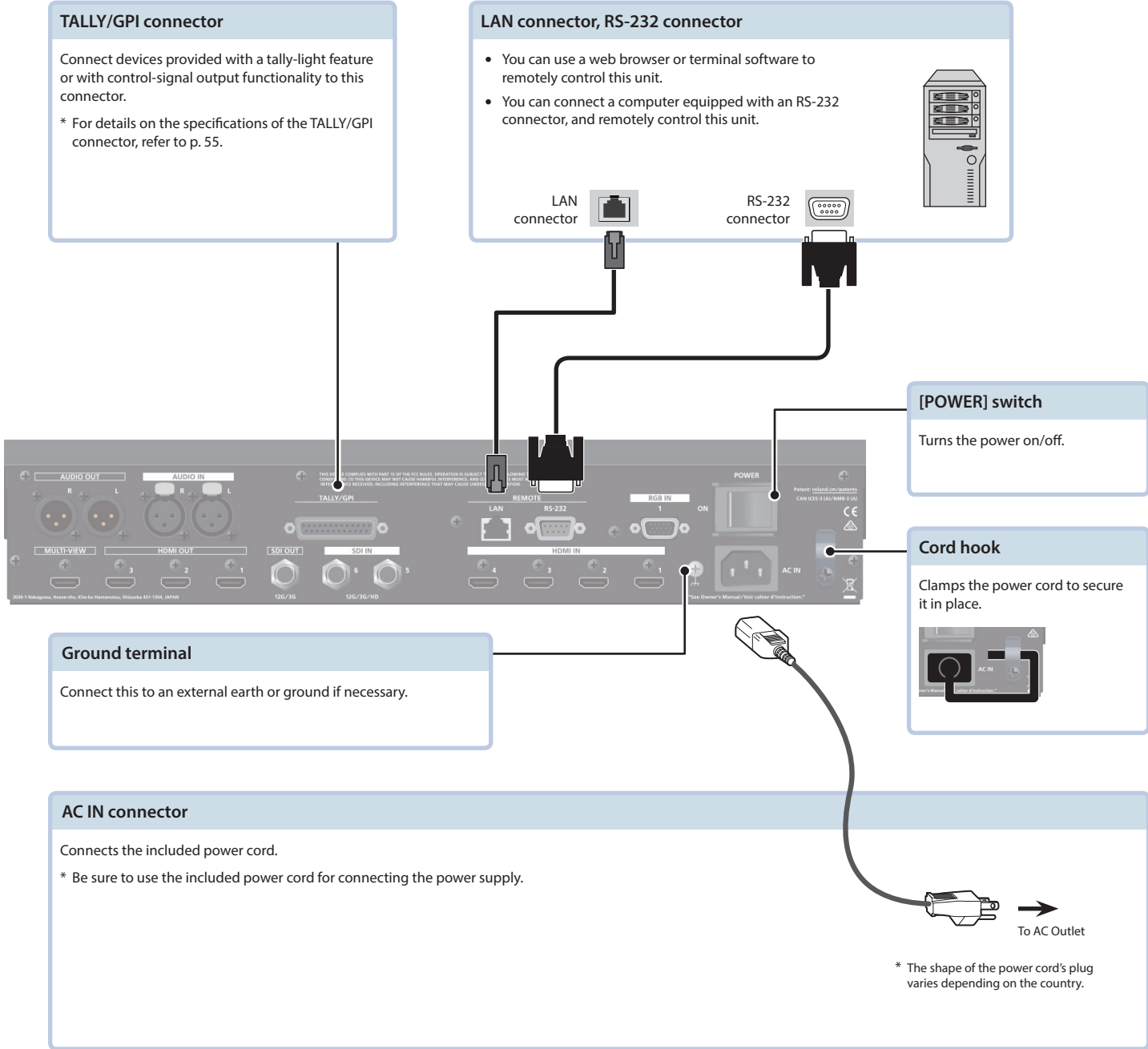
*1 COMPOSITION (PinP1/KEY1) operation is not possible if the Aux/Composition setting (p. 49) is "Aux."

*2 Only AUX can be selected if the Aux/Composition (p. 49) setting is "Aux," and only COMPOSITION can be selected if the Aux/Composition setting is "Composition."

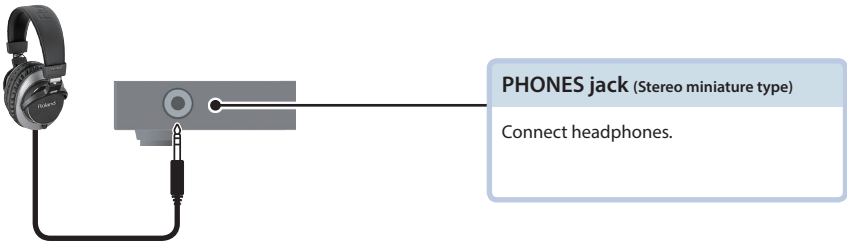
Rear Panel / Front Panel (Connecting Your Equipment)

- * To prevent malfunction and equipment failure, always turn down the volume, and turn off all the units before making any connections.
- * Be sure to use cables and adaptor plugs with the proper connectors matching those of the other devices you are using.





Front panel



Multi-View Monitor Display

An input/output video list (final output, preview output, and input channels 1–8) and menus are displayed on a multi-view monitor connected to the MULTI-VIEW connector.

Pressing the [MENU] button displays the menu superimposed over the multi-view (p. 9).



| No. | Name | Explanation |
|-----|-----------------------|--|
| 1 | PVW (preview) section | This displays the preset video (the video to be output next). |
| 2 | PGM (program) section | This displays the final output video. |
| 3 | CH 1–8 section | This monitors the video input via channels 1–8. A red border is displayed around the final video output. A green border is displayed around the preset video (the video to be output next). * Settings for scaling (p. 14) is not applied. * Changing the channel assignments at the cross-point (p. 28) also changes the order of displayed sources. |

MEMO

You can change the label names displayed on the multi-view monitor.

Use the [MENU] button → “System” → “Multi-view” → “Label,” then change the label name.

For details on how to enter characters, refer to Entering “Entering Characters” (p. 10).”

You can show or hide the labels displayed in the multi-view monitor, switch their position between up and down, adjust their size, and change the transparency of the background.

Information such as transparency amount and AUX source selection can also be shown as a Status Bar in the multi-view monitor.

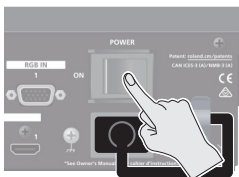
Basic Operations

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.

Turning the power on

1. Make sure all devices are turned off.
2. Turn on the [POWER] switch on the V-600UHD to turn on the power.



3. Turn on the power to the source devices.
Turn on the power to video cameras or other source equipment connected to input connectors on the V-600UHD.
4. Turn on the power to the output devices.
Turn on the power to projectors or other devices connected to output connectors on the V-600UHD.

Turning the power off

1. Turn off the power in the sequence of first the output equipment, and then the sources.
2. Turn off the [POWER] switch on the V-600UHD to turn off the power.

NOTE

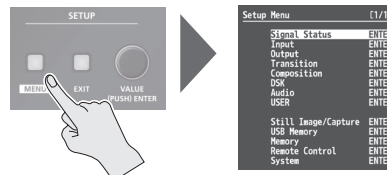
- Do not turn off the power while a message of "Executing..." is shown on menu display area of the multi-view monitor. Your settings may not be saved properly.
- If you need to turn off the power completely, first turn off the V-600UHD, then unplug the power cord from the power outlet.

Using the Menu

This explains how to display menus and make settings for video and for the V-600UHD itself.

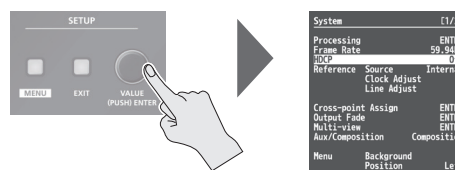
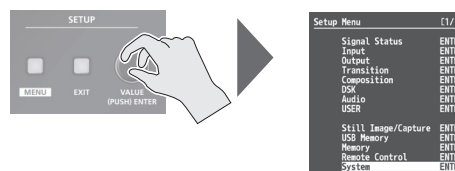
- * Menus are shown only on the multi-view monitor connected to the MULTI-VIEW connector (p. 8).

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



The [MENU] button lights up, the menu categories are displayed.

2. Turn the [VALUE] knob to select a category, and press the [VALUE] knob to confirm.



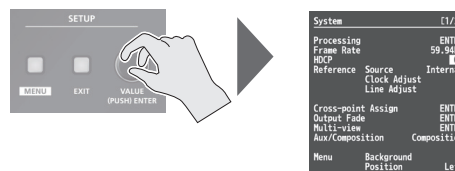
The menu for the selected category is displayed.

3. Turn the [VALUE] knob to select a menu item, then press the [VALUE] knob to confirm.

The cursor moves to the setting value.

- If the menu item is located at a deeper level, repeat step 3.
- Pressing the [EXIT] button moves you back one level higher.

4. Turn the [VALUE] knob to change the value of the setting.



- By turning the [VALUE] knob while pressing it, you can change the value more greatly.
- Pressing and holding the [VALUE] knob returns the current menu item you're setting to its default value.

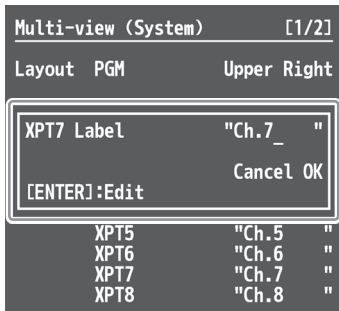
5. Press the [VALUE] knob to apply the setting.

The cursor returns to the menu item.

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

Entering Characters

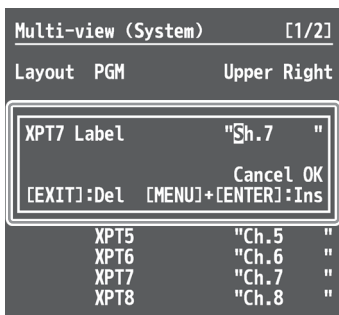
1. Turn the [VALUE] knob to move the cursor.



| Function | Operation |
|--------------------------------------|--|
| Move the cursor to the beginning/end | Turn the [VALUE] knob while pressing it. |

2. Press the [VALUE] knob to highlight the character at the cursor location.

3. Turn the [VALUE] knob to change the character.



| Function | Operation |
|--|--|
| Change the edited character in the order of space → uppercase → lowercase → numerals → symbols | Turn the [VALUE] knob while pressing it. |
| Delete the character at the cursor location | Press the [EXIT] button. |
| Insert a space at the cursor location | Press the [VALUE] knob while pressing the [MENU] button. |

4. Press the [VALUE] knob to confirm the character.
5. Repeat steps 1 through 4 as needed.

List of Supported Formats

Input Formats

| Input connector | Format | Standard | Resolution | Frame rate | Video (Y/Pb/Pr) | PC (RGB) |
|-----------------|--|--------------|--------------|-------------------|-----------------|----------|
| HDMI IN | 1024 x 768 (XGA) | VESA DMT | 1024 x 768p | 60 | ✓ | ✓ |
| | 720p | CEA-861-F | 1280 x 720p | 50/59.94 | ✓ | ✓ |
| | 1280 x 768 (WXGA) | VESA CVT | 1280 x 768p | 60 | ✓ | ✓ |
| | 1280 x 1024 (SXGA) | VESA DMT | 1280 x 1024p | 60 | ✓ | ✓ |
| | 1400 x 1050 (SXGA+) | VESA CVT | 1400 x 1050p | 60 | ✓ | ✓ |
| | 1600 x 1200 (UXGA) | VESA DMT | 1600 x 1200p | 60 | ✓ | ✓ |
| | 1080i | CEA-861-F | 1920 x 1080i | 50/59.94 | ✓ | ✓ |
| | 1920 x 1080 (FHD), 1080p | CEA-861-F | 1920 x 1080p | 30/50/59.94/60 | ✓ | ✓ |
| | 1920 x 1200 (UXGA) | VESA CVT | 1920 x 1200p | 60 RB | ✓ | ✓ |
| | 2160p (UHD 4K) 3840 x 2160 (UHD 4K) | CEA-861-F | 3840 x 2160p | 24/30/50/59.94/60 | ✓ | ✓ |
| | 2160p (DCI 4K) 4096 x 2160 (DCI 4K) | CEA-861-F | 4096 x 2160p | 24/30/50/59.94/60 | ✓ | ✓ |
| RGB IN | 1600 x 1200 (UXGA) | VESA DMT | 1600 x 1200p | 60 | - | ✓ |
| | 1920 x 1080 (FHD) | CEA-861-F | 1920 x 1080p | 60 | - | ✓ |
| SDI IN | 1080i | SMPTE ST274 | 1920 x 1080i | 50/59.94 | ✓ | - |
| | 1080p | SMPTE ST274 | 1920 x 1080p | 50/59.94 | ✓ | - |
| | 2160p (UHD 4K) | SMPTE ST2036 | 3840 x 2160p | 50/59.94 | ✓ | - |
| | 2160p (DCI 4K) | SMPTE ST2048 | 4096 x 2160p | 50/59.94 | ✓ | - |

Output Formats

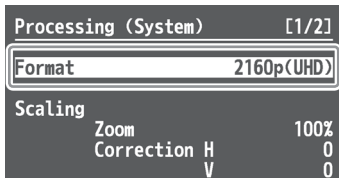
| Output connector | Format | Frame rate | Standard | Resolution | Video/PC |
|------------------|------------------------------------|-------------|--------------|--------------|-----------------|
| HDMI OUT | 1080p | 50/59.94 | CEA-861-F | 1920 x 1080p | Video (Y/Pb/Pr) |
| | 2160p (UHD 4K) + Down Convert | 50/59.94 | CEA-861-F | 1920 x 1080p | Video (Y/Pb/Pr) |
| | 2160p (UHD 4K) | 50/59.94 | CEA-861-F | 4096 x 2160p | Video (Y/Pb/Pr) |
| | 2160p (DCI 4K) | 50/59.94 | CEA-861-F | 4096 x 2160p | Video (Y/Pb/Pr) |
| | 1920 x 1080 (FHD) | 60 | CEA-861-F | 1920 x 1080p | PC (RGB) |
| | 3840 x 2160 (UHD 4K)+ Down Convert | 30/60 | CEA-861-F | 1920 x 1080p | PC (RGB) |
| | 3840 x 2160 (UHD 4K) | 30/60 | CEA-861-F | 3840 x 2160p | PC (RGB) |
| | 4096 x 2160 (DCI 4K) | 30/60 | CEA-861-F | 4096 x 2160p | PC (RGB) |
| SDI OUT | 1080p | 50/59.94 | SMPTE ST274 | 1920 x 1080p | Video (Y/Pb/Pr) |
| | 2160p (UHD 4K)+ Down Convert | 50/59.94 | SMPTE ST274 | 1920 x 1080p | Video (Y/Pb/Pr) |
| | 2160p (UHD 4K) | 50/59.94 | SMPTE ST2036 | 3840 x 2160p | Video (Y/Pb/Pr) |
| | 2160p (DCI 4K) | 50/59.94 | SMPTE ST2048 | 4096 x 2160p | Video (Y/Pb/Pr) |
| MULTI-VIEW | Fixed at 1080p | Fixed at 60 | CEA-861-F | 1920 x 1080p | PC (RGB) |

Video Input/Output Settings

Setting the Output Format

You set the output format to match the equipment you connect to the V-600UHD.

1. Select the [MENU] button → “System” → “Processing,” and press the [VALUE] knob.
2. Select “Format,” press the [VALUE] knob, use the [VALUE] knob to select the output format, and then press the [VALUE] knob.



→ Details on menu items: see p. 50.

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

Assigning a Video Source to Input Channels

You can specify an assigned video source for each individual input channel. You can assign the following video sources.

| | |
|-------------|--|
| Channel 1 | Video input via an HDMI IN1 connector or RGB IN1 connector |
| Channel 2–4 | Video input via an HDMI IN2–4 connector |
| Channel 5–6 | Video input via an SDI IN5–6 connector |
| Channel 7 | Still1 picture |
| Channel 8 | Pattern generator (background color) or still2 picture |

1. Select the [MENU] button → “Input” → “HDMI/RGB IN1” or “PG/STILL2,” and press the [VALUE] knob.
2. Select “Source,” press the [VALUE] knob, use the [VALUE] knob to select the video source that you want to assign, and then press the [VALUE] knob.



HDMI/RGB IN1

| Value | Explanation |
|----------|--|
| HDMI IN1 | This inputs video via an HDMI IN1 connector. |
| RGB IN1 | This inputs video via an RGB IN1 connector. |

PG/STILL2

| Value | Explanation |
|--------|----------------------------------|
| PG | This assigns a pattern generator |
| STILL2 | This assigns a still2 image |

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

Sharing a Video Source

You can share separate video sources among channels 1–8.

Sharing a video source assigns a single video source to two or more channels.

You can specify individual scaling settings for the shared video sources.

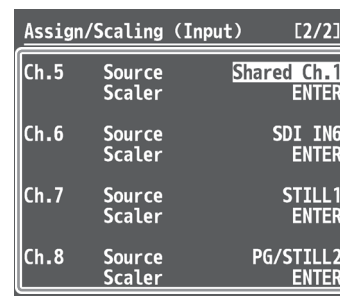
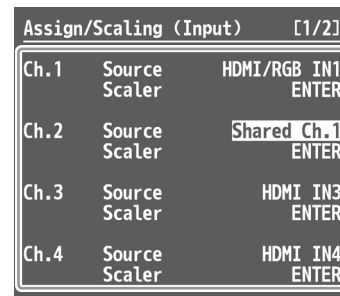
* The following settings cannot be individually specified for shared video sources.

- Color Correction
- Color Gamut
- Dynamic Range

1. Select the [MENU] button → “Input” → “Assign/Scaling,” and press the [VALUE] knob.

2. Select the “Source” of the channel whose video source you want to share, and use the [VALUE] knob to select the share-source channel.

For example, if you want to share the video source of channel 1, select “Shared Ch.1.”

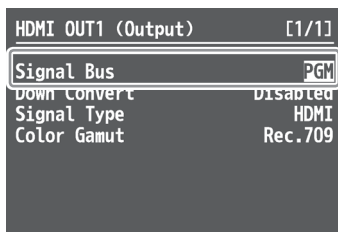


3. Repeat step 2 as many times as needed.
4. Press the [MENU] button to quit the menu.

Assigning a Bus to an Output Connector

The V-600UHD has three internal buses (PGM, PVW, and AUX). For each individual output connector, you can select which bus to output.

1. Select the [MENU] button → “Output” to select the output connector whose bus assignment you want to change, and press the [VALUE] knob.
2. Select “Signal Bus,” and use the [VALUE] knob to select “PGM,” “PVW,” or “AUX,” and set the assigned bus.



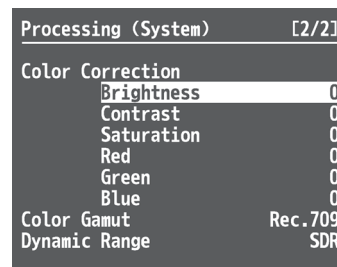
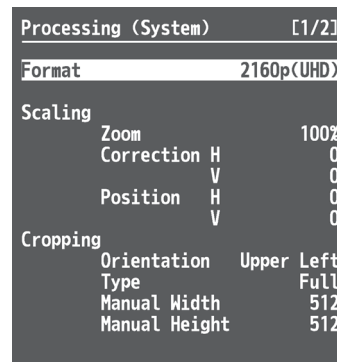
| Menu item | Signal Bus setting |
|------------|--------------------|
| HDMI OUT 1 | PGM, PVW, AUX |
| HDMI OUT 2 | PGM, PVW, AUX |
| HDMI OUT 3 | PGM, PVW, AUX |
| SDI OUT | PGM fixed |

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

Adjusting Final Output Video

You adjust the final video output to match the equipment receiving output from the V-600UHD.

1. Select the [MENU] button → “System” → “Processing,” and press the [VALUE] knob.
2. Select a menu item, then use the [VALUE] knob to adjust the output video.



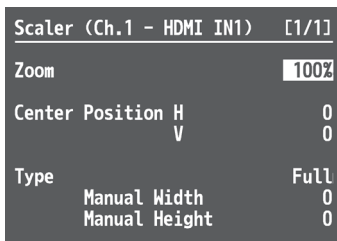
→ Details on menu items: see p. 50.

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

Adjusting the Input Video

You can adjust the image quality and scaling of video input via channels 1–8.

1. Select the [MENU] button → “Input” → “Assign/Scaling,” and press the [VALUE] knob.
2. Select the Ch.1–8 “Scaler” and press the [VALUE] knob.
3. Select a menu item, then use the [VALUE] knob to adjust the input video.



→ Details on menu items: see p. 33.

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

3. Use the [POSITION] stick to adjust the display position of the video. Also, use the [SIZE] knob to enlarge or reduce the video.



The operation results are applied in the PVW section of the multi-view monitor.

* The video in the CH 1–8 section of the multi-view monitor is not updated.

MEMO

- In the CH 1–8 section of the multi-view monitor, a border can be shown for the region that is enlarged by the ROI function. To show the ROI border, select System menu “Multi-view” → “ROI Border” and set it to either “Shared Ch” or “All On” (p. 51).
- The size (width x height) of the video after adjustment can be checked from Signal Status menu → “Input Ch.1–Ch.8” → “Scaling.”

Using ROI SCALING to Adjust the Input Video

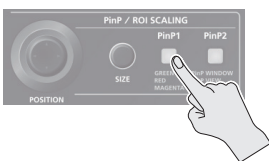
You can use the ROI (Region of Interest) function to extract a desired region from the input video.

You can operate the [POSITION] stick and the [SIZE] knob to adjust the position and size of the video to be extracted.

MEMO

By making settings to share video sources between channels 1–8 (p. 12), you can extract up to eight regions from a single input video.

1. Press the [PinP1] button or the [PinP2] button several times to make both buttons light magenta. ROI (INPUT) is selected.



2. Press PST cross-point buttons [1]–[8] to select the video that you want to control.

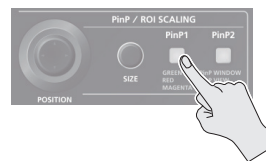


Adjusting the PinP Size

Operate the [POSITION] stick and the [SIZE] knob to adjust the position and size of the PinP inset screen.

* This cannot be controlled if PinP is being applied to the final output video.

1. Press the [PinP1] button or [PinP2] button to select the object of control.



[PinP1] button

| | |
|-----------|---------------------------------------|
| Lit green | PinP1 window |
| Lit red | Video shown in the PinP1 inset screen |

[PinP2] button

| | |
|-----------|---------------------------------------|
| Lit green | PinP2 window |
| Lit red | Video shown in the PinP2 inset screen |

2. Use the [POSITION] stick to adjust the display position of the video. Also, use the [SIZE] knob to enlarge or reduce the video.



The operation results are applied in the PVW section of the multi-view monitor.

Using the Camera Controls to Adjust the Input Video

You can operate the [POSITION] stick and [SIZE] knob to adjust the camera's Pan, Tilt, Zoom, and Focus.

1. Long-press the MODE [AUX/COMPOSITION] button so that it turns light blue.

Now you can select the Camera ID.

2. Press AUX/COMPOSITION - DSK cross-point [1]–[6] buttons to select the camera that you want to control.
3. Press the [PinP1] button or the [PinP2] button several times to make both buttons illuminate in light blue.
4. Use the [POSITION] stick to adjust Pan and Tilt, and use the [SIZE] knob to adjust Zoom or Focus.
In Remote Control menu → "Camera Control," for each Camera ID, set "SCALING SIZE Knob Assign" to specify whether the [SIZE] knob adjusts Zoom or Focus.

Inputting Copyright-Protected (HDCP) Video

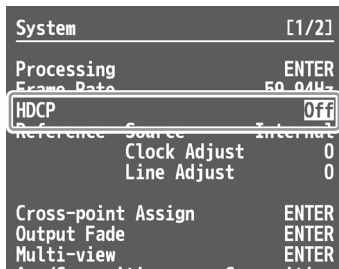
To input copyright-protected (HDCP) video from a Blu-ray Disc player or the like, follow the steps described below to change the "HDCP" setting.

* The V-600UHD must be connected to an HDCP compatible display for HDCP protected video to be connected.

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.

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



2. Use the [VALUE] knob to select "On," and then press the [VALUE] knob.

| Value | Explanation |
|-------|--|
| On | Copyright-protected (HDCP) video can be input. HDCP is also added to the video that is output. |
| Off | Copyright-protected (HDCP) video cannot be input. |

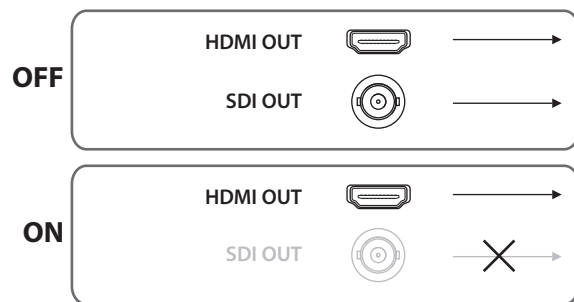
3. Press the [MENU] button to quit the menu.

Checking HDCP-compatible equipment

When "HDCP" is set to "On," you can use the [MENU] button → "Signal Status" → "Input Ch.1-8" → "HDCP" → the Input menu to check the status of HDCP compatibility of source equipment.

Output from Connectors

When "HDCP" is set to "On," video is output only from the HDMI OUT connectors.



Operation of the HDCP indicator

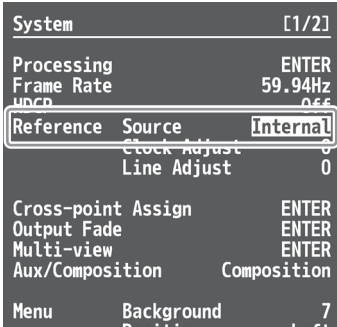


| Indicator | HDCP | Connection status |
|-----------|------|---|
| Lighted | On | An HDCP-compatible device is connected to the HDMI OUT connector. |
| | On | A device that does not support HDCP is connected. |
| Flashing | Off | Video for which copy protection (HDCP) must be enabled is being input from the HDMI IN connector. |
| | Off | — |

Specifying a Reference Clock

You can specify a clock to which operation of the V-600UHD is referenced (a reference clock).

1. Select the [MENU] button → “System” → “Reference Source,” and press the [VALUE] knob.



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

| Value | Explanation |
|----------|---|
| Internal | The V-600UHD's internal clock is used as the reference clock. |
| SDI IN5 | A signal input via an SDI IN5 connector is used as the reference clock. |

When set to “SD IN5,” adjust the following System menu items as needed.

| Value | 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 quit the menu.

Video Operations

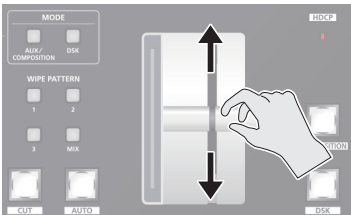
Switching the Video

You can switch the output of video input into the V-600UHD.

Switching Using the Video Fader

The video in the PGM section always becomes the final output. You use the PST section to select and check the preset video (the video to output next), then switch it.

1. Move the video fader all the way to one end or the other.



2. Press one of the WIPE PATTERN [1]–[3] buttons or the [MIX] button to select the transition effect.

The selected button lights up.

WIPE PATTERN [1]–[3] buttons
In this transition, the original video is broken into by the next video.

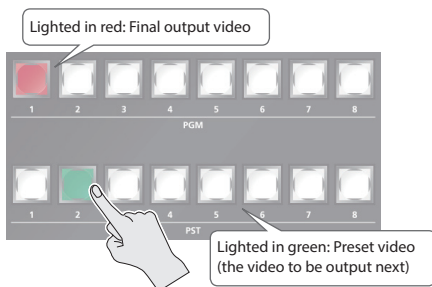
A ▶ A ▶ B

* You can change the wipe pattern and wipe direction (p. 37).

[MIX] button
The two pictures are blended together as the video is switched.

A ▶ B ▶ B

3. Press a cross-point [1]–[8] button in the PST section to select the preset video (the video to output next).



The preset video appears in the PVW section of the multi-view monitor.

4. Move the video fader in the direction opposite to the direction in step 1.

The output video is switched.

When the video has been switched completely, the lighted buttons for the PGM position and PST position change places.

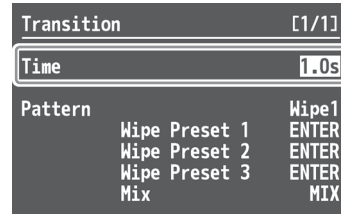
MEMO

Directly selecting the cross-point at the PGM position of the video currently being output switches the video with a cut, regardless of any selection of a transition effect.

Using the [AUTO] or [CUT] Button to Switch Video

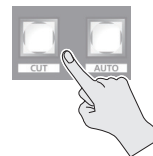
You can use the [AUTO] or [CUT] button to switch video automatically, without using the video fader.

1. Select the [MENU] button → “Transition” → “Time,” and use the [VALUE] knob to set the transition time.



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

3. Press the [AUTO] or [CUT] button at the desired timing for switching the video.



| | |
|---------------|--|
| [CUT] button | The picture switches instantly. |
| [AUTO] button | The picture switches with a transition effect applied. |

MEMO

When you use the [AUTO] or [CUT] button to switch video, the actual output might come to differ from the position of the video fader.

Using Imported Still Images

You can assign loaded a still image to channel 7 or 8, then output it in the same way as video. There are two ways to load a still image: you can capture from output video, or you can load from a USB flash drive.

The V-600UHD can handle up to eight still images.

Capturing a Still Image from the Output Video

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

MEMO

- A captured still image cannot be saved in this unit. When you turn off the power, the still image data is lost.

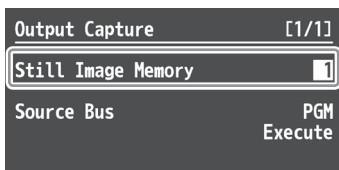
If you've saved a captured still image to a USB flash drive, that still image can be automatically loaded from the USB flash drive at startup.

For details, refer to "Saving a still image to a USB flash drive."

- The following restrictions apply to still images captured from copy-protected (HDCP) video.
 - If "HDCP" (p. 15) is off, the still image cannot be used as a video source.
 - The still image cannot be saved to a USB flash drive.

1. Select the [MENU] button → "Still Image/Capture" → "Output Capture," and press the [VALUE] knob.

2. Select "Still Image Memory," and use the [VALUE] knob to select a still image memory number (1–8).



* Memory numbers that contain a still image are indicated by a "*" symbol.

3. Select "Source Bus," then use the [VALUE] knob to specify the bus for the video source (PGM or PVW).

4. Select "Execute," and press the [VALUE] knob.

The message "Are you sure?" appears.

If you want to cancel the operation, select "NO," and press the [VALUE] knob.

5. Select "YES," and press the [VALUE] knob.

Capturing is carried out.

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

Saving a still image to a USB flash drive

Here's how a captured still image can be saved to a USB flash drive.

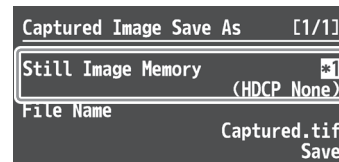
The saved still image is automatically loaded into the V-600UHD if the unit is started-up with the USB flash drive connected.

MEMO

- * Depending on the USB flash drive, recognition of the flash drive might take some time.
- * When you're using a USB flash drive for the first time, be sure to format it on the V-600UHD (p. 28).
- * The still image is saved in TIFF format. If you will be using the still

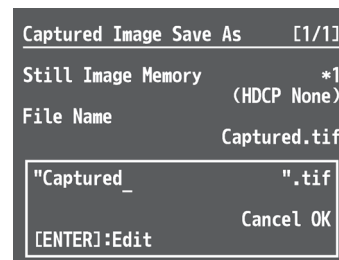
image on a computer, we recommend that you specify the output format (p. 12) as "1920 x 1080," "3840 x 2160," or "4096 x 2160."

1. Connect the USB flash drive to the USB MEMORY port.
2. Select the [MENU] button → "Still Image/Capture" → select the Output Capture "Save As," and press the [VALUE] knob.
3. Select "Still Image Memory," and use the [VALUE] knob to select a memory number (1–8) for the still image that you want to save.



* Only memory numbers that contain a captured still image are shown.

4. Select "File Name," then specify the file name (p. 10).



The extension of the file name is ".tif."

5. Select "OK," and press the [VALUE] knob.

If you want to cancel the operation, select "Cancel," and press the [VALUE] knob.
6. Select the File Name "Save," and press the [VALUE] knob.

The message "Are you sure?" appears.

If you want to cancel the operation, select "NO," and press the [VALUE] knob.
7. Select "YES," and press the [VALUE] knob.

The still image (.tif) is saved to the USB flash drive.
8. Press the [MENU] button to quit the menu.

Loading a Still Image from a USB Flash Drive

Here's how to load a still image from a USB flash drive into the unit.

Formats supported for loading

BMP

| | |
|------------|---|
| Format | Windows Bitmap file (.bmp), 24-bit color, uncompressed |
| Resolution | Maximum 4096 × 2160 pixels |
| File name | Single-byte alphanumeric characters * Be sure to append the ".bmp" file extension. |

PNG

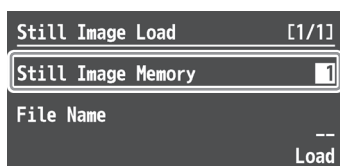
| | |
|------------|---|
| Format | PNG File (.png) * PNG alpha channel is not supported. |
| Resolution | Maximum 4096 × 2160 pixels |
| File name | Single-byte alphanumeric characters * Be sure to append the ".png" file extension. |

Loading a still image

MEMO

- Depending on the USB flash drive, recognition of the flash drive might take some time.
- When you're using a USB flash drive for the first time, be sure to format it on the V-600UHD (p. 28).
- The loaded still image cannot be saved in the unit. When you turn off the power, the still image data is lost.

- Save the still image in the root directory of the USB flash drive.
- Connect the USB flash drive containing the saved still image to the USB MEMORY port.
- Select the [MENU] button → "Still Image/Capture" → select the Still Image Memory "Load," and press the [VALUE] knob.
- Select "Still Image Memory," and use the [VALUE] knob to select a still image memory number (1–8).



* Memory numbers that contain a still image are indicated by a "*" symbol.

- Select the "File Name," and press the [VALUE] knob.
A list of the still image on the USB flash drive appears.
- Select the still image that you want to load, then press the [VALUE] knob.
- Select the File Name "Load," and press the [VALUE] knob.
The message "Are you sure?" appears.
If you want to cancel the operation, select "NO," and press the [VALUE] knob.
- Select "YES," and press the [VALUE] knob.
The still image is loaded into the unit.

- Press the [MENU] button to quit the menu.

MEMO

- You can make the previously-loaded still image be automatically loaded at startup. Save the same file in the root directory of the USB flash drive, and start the V-600UHD with the USB flash drive connected.
- If you want to delete a still image, use the Still Image/Capture menu's Still Image "Delete" → "Still Image Memory" to select the memory number of the still image that you want to delete, and then execute "Delete."

Assigning a Still Image to Channel 7 or 8

Here's how a still image that was captured or loaded from a USB flash drive can be assigned to channel 7 or 8.

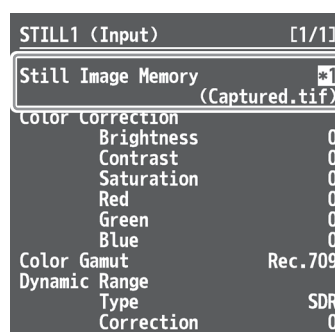
1. Channel 7

Select the [MENU] button → "Input" → "STILL1," and press the [VALUE] knob.

Channel 8

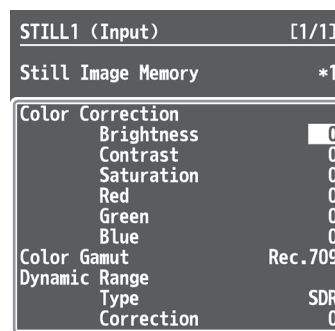
Select the [MENU] button → "Input" → "PG/STILL2" → specify "STILL2" as the source assignment → press the [VALUE] knob.

- Select "Still Image Memory," and select the memory number of the still image that you want to assign to STILL1 or STILL2.



* Memory numbers that contain a still image are indicated by a "*" symbol.

- Select a menu item, then use the [VALUE] knob to make the detailed settings.



→ Details on menu items: see p. 35.

- Press the [MENU] button to quit the menu.

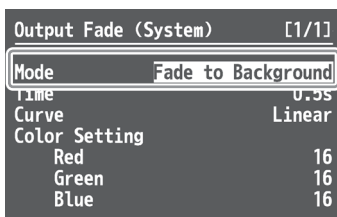
Fading-In/Out the Final Output Video

This applies a fade to final video output. This lets you make the final output fade to a monochrome picture (background color) when you want to suppress video output.

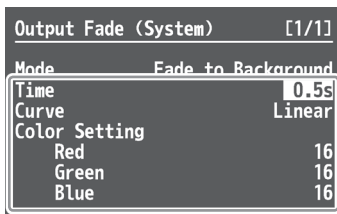
Setting the operation mode

Here's how to specify the operation mode of the [OUTPUT FADE] button.

1. Select the [MENU] button → "System" → "Output Fade," and press the [VALUE] knob.
2. Select "Mode," and use the [VALUE] knob to set the operation mode of the [OUTPUT FADE] button to "Fade to Background."



3. Select a menu item, then use the [VALUE] knob to make the detailed settings.

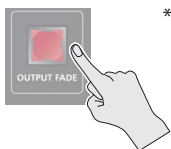


→ Details on menu items: see p. 49.

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

Fading-in/out the final output video

1. Press the [OUTPUT FADE] button to perform a fade-out.



* During the fade, the [OUTPUT FADE] button flashes.

When the fade-out is complete, the [OUTPUT FADE] button lights up.

2. To perform a fade-in, press the [OUTPUT FADE] button again.

When the fade-in is complete, the [OUTPUT FADE] button goes dark.

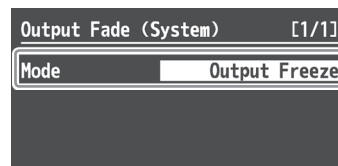
Freezing the Final Output Video (Freeze)

You can temporarily freeze the final output video (freeze function).

Setting the operation mode

Here's how to specify the operation mode of the [OUTPUT FADE] button.

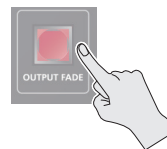
1. Select the [MENU] button → "System" → "Output Fade," and press the [VALUE] knob.
2. Select "Mode," and use the [VALUE] knob to set the operation mode of the [OUTPUT FADE] button to "Output Freeze."



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

Freezing the final output video

1. Press the [OUTPUT FADE] button to turn freeze on (lit).



The program output video freezes.

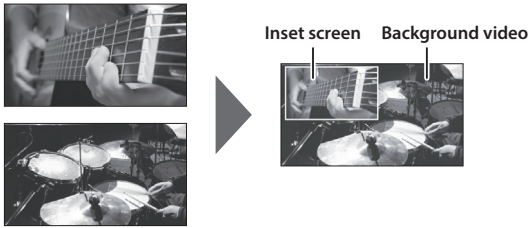
2. To turn off freeze, press the [OUTPUT FADE] button once again.

The [OUTPUT FADE] button goes dark, and normal output resumes.

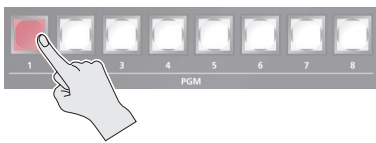
Video Composition Operations

Compositing Using Picture-in-Picture (PinP)

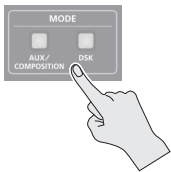
This composites video in an inset screen onto a different background video.



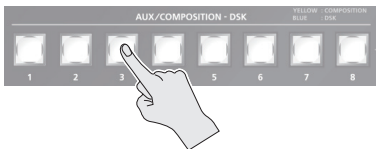
1. Press a cross-point [1]–[8] button in the PGM section to select the video you want to make the background video.



2. Press the MODE [AUX/COMPOSITION] button or [DSK] button to select the send-destination for the video.



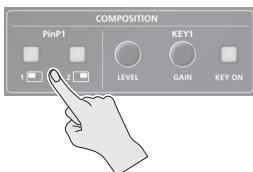
3. Press a cross-point [1]–[8] button in the AUX/COMPOSITION - DSK section to select the video you want to make the inset screen.



4. According to the button that you pressed in step 2, press one of the following buttons to turn video compositing on (lit).

If you pressed the [AUX/COMPOSITION] button

Press the COMPOSITION PinP1 [1] or [2] button.



If you pressed the [DSK] button

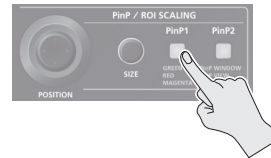
Press the DSK PinP2 [1] or [2] button.



The selected button lights up in green, and a preview of the composition results is displayed in the PVW section of the multi-view monitor.

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

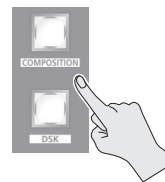
5. Press the PinP/ROI SCALING [PinP1] or [PinP2] button to select the object of control.



6. Use the [POSITION] stick and the [SIZE] knob to adjust the position and size of the inset screen.



7. If the object of control is PinP1, press the [COMPOSITION] button; if PinP2, press the [DSK] button.



At this time, the PinP [1] or [2] button light up in red.

Pressing the [COMPOSITION] or [DSK] button a second time makes the inset screen disappear.

8. To turn video compositing off, make the [COMPOSITION] or [DSK] button go dark, and then press the PinP [1] or [2] button.

Making detailed settings for the inset screen

For each of the COMPOSITION PinP1 [1] and [2] buttons and the DSK PinP2 [1] and [2] buttons, you can make settings such as the position and size of the inset screen and the border that is added to the inset screen.

PinP1 [1], [2] buttons

Select the [MENU] button → "Composition" → for PinP1, select "Position 1" or "Position 2."

→ Details on menu items: see p. 38.

PinP2 [1], [2] buttons

Select the [MENU] button → "DSK" → for PinP2, select "Position 1" or "Position 2."

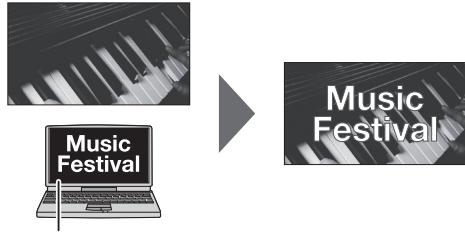
→ Details on menu items: see p. 40.

Compositing Using Luminance Key/Chroma Key

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

Luminance Key

This takes video in which white or black areas are made transparent, and composite it overlaid on a background picture.



Black or White

Chroma Key

This composites video shot against a blue or green background onto a different background video.



Blue or Green

Setting the key type and extraction color

To change the key type and extraction color to match the video you want to composite.

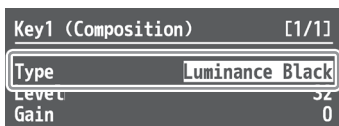
1. COMPOSITION

Select the [MENU] button → “Composition” → “Key1,” and press the [VALUE] knob.

DSK

Select the [MENU] button → “DSK” → “Key2,” and press the [VALUE] knob.

2. Select “Type,” and use the [VALUE] knob to specify the key type (extraction color) to use when compositing.

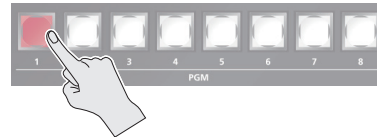


| Value | Explanation |
|-----------------|---|
| Luminance White | This uses a brightness threshold to make white transparent. |
| Luminance Black | This uses a brightness threshold to make black transparent. |
| Chroma Blue | This uses a color threshold to make blue transparent. |
| Chroma Green | This uses a color threshold to make green transparent. |
| Chroma Manual | This uses a color threshold to make manual color transparent. |

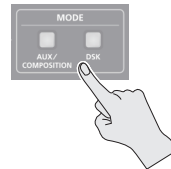
3. Press the [MENU] button to quit the menu.

Compositing using key

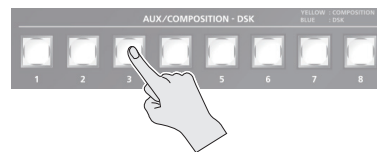
1. Press a cross-point [1]–[8] button in the PGM section to select the video you want to make the inset screen.



2. Press the MODE [AUX/COMPOSITION] button or [DSK] button to select the send-destination for the video.



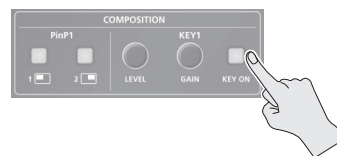
3. Press a cross-point [1]–[8] button in the AUX/COMPOSITION - DSK section to select the video to overlay.



4. According to the button that you pressed in step 2, press one of the following buttons to turn key compositing on (lit).

If you pressed the [AUX/COMPOSITION] button

Press the COMPOSITION KEY1 [KEY ON] button.



If you pressed the [DSK] button

Press the DSK KEY2 [KEY ON] button.



The KEY1 [KEY ON] or KEY2 [KEY ON] button lights up in green, and a preview of the composition results is displayed in the PVW section of the multi-view monitor.

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

5. Turn the KEY [LEVEL] or [GAIN] knob (KEY1 or KEY2) to adjust the degree of effect applied.



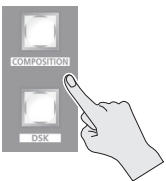
KEY [LEVEL] knob

This adjusts the degree of extraction (transparency) for the key.

KEY [GAIN] knob

This adjusts the degree of edge blur (semi-transmissive region) for the key.

6. If the object of control is KEY1, press the [COMPOSITION] button; if KEY2, press the [DSK] button.



The video you selected in steps 1 and 3 is composited and output. At this time, the KEY1 or KEY2 [KEY ON] button light up in red.

Pressing the [AUTO] or [CUT] button a second time makes the overlaid video disappear.

MEMO

- When you combine PinP (p. 21) with the compositing results from luminance or chroma key, the superimposed video becomes the inset screen. You can also use the [POSITION] stick and the [SIZE] knob to adjust the display position and size of the overlaid video.

Making advanced settings for chroma key

When the key type is “Chroma Manual,” you can use the Key menu to fine-tune the key color.

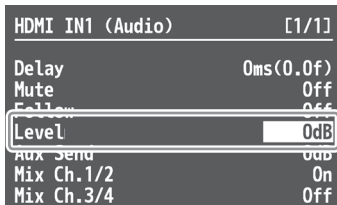
| Menu item | Explanation |
|--------------------------|---|
| Hue Center | This adjusts the center position for hue of key color. |
| Width | This adjusts the hue width (range) of key color. |
| Saturation Center | This adjusts the center position for saturation of key color. |
| Width | This adjusts the saturation width of key color. |

Audio Operations

Adjusting the Input/Output Volume

Here's how to adjust the audio volume (Level) that is being input to or output from the V-600UHD.

1. Use [MENU] button → "Audio" → "Input"/"Output" to select the object of volume adjustment, and then press the [VALUE] knob.
2. Select "Level," and use the [VALUE] knob to adjust the volume.

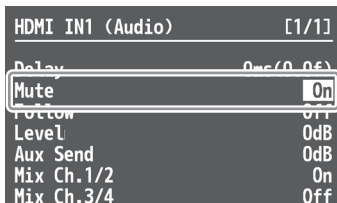


3. Press the [MENU] button to quit the menu.

Muting the Input Audio

Here's how to silence a specific audio input (mute function).

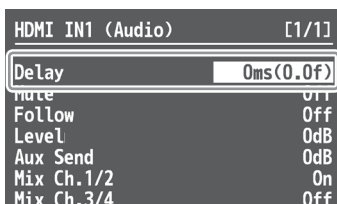
1. Use [MENU] button → "Audio" → "Input" to select the object for muting, and press the [VALUE] knob.
2. Select "Mute," and use the [VALUE] knob to set this to "On."



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

Matching the Timing of the Input/Output Audio with the Video

1. Use [MENU] button → "Audio" → "Input"/"Output" to select the object of timing adjustment, and then press the [VALUE] knob.
2. Select "Delay," and use the [VALUE] knob to specify the time by which the audio is delayed.

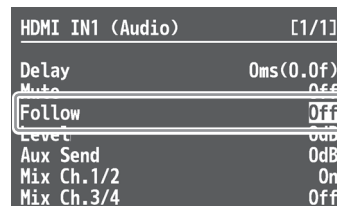


3. Press the [MENU] button to quit the menu.

Interlinking Audio Output to Video Switching (Audio Follow)

Here's how to make the specified audio be automatically output or muted in linkage with video switching.

1. Use [MENU] button → "Audio" → "Input" to select the object for audio follow, and press the [VALUE] knob.
2. Select "Follow," and use the [VALUE] knob to turn the setting On/Off.

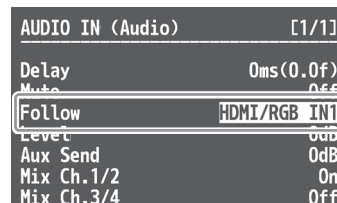


| Value | Explanation |
|-------|---|
| On | This enables the Audio Follow feature. Muting is performed automatically when video on another channel is output. |
| Off | This disables the Audio Follow feature. |

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

Applying Audio Follow to AUDIO IN

1. Select the [MENU] button → "Audio" → "Input" → "AUDIO IN," and press the [VALUE] knob.
2. Select "Follow," and use the [VALUE] knob to select the input to which audio follow will be applied.



| Value | Explanation |
|--------------|--|
| HDMI/RGB IN1 | This sets the video channel to interlink with input audio using Audio Follow. |
| HDMI IN2-4 | Audio from AUDIO IN is muted out for video channels other than what you specified. |
| SDI IN5, 6 | Audio from AUDIO IN is muted out for video channels other than what you specified. |
| Off | This assigns no video channel to Audio Follow. |

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

Mixing Input Audio with HDMI Video or SDI Video

The SDI connectors of the V-600UHD support 16 channels of embedded audio. The HDMI connectors support two channels of embedded audio. The MAIN bus of the V-600UHD's audio mixer has a 16-channel structure.

Selecting the audio input channels to mix

You can select the MAIN bus channels into which the HDMI IN, SDI IN, and AUDIO IN audio will be mixed.

1. Use [MENU] button → "Audio" → "Input" to select HDMI IN 1–4, SDI IN5–6, or AUDIO IN, and press the [VALUE] knob.
2. Select "Mix Ch.1/2"–"Mix Ch.15/16," and use the [VALUE] knob to turn the setting On/Off.

The SDI IN audio can be switched on/off by the "Mix Ch.1-16" settings.

| HDMI IN1 (Audio) [1/1] | |
|------------------------|-----------|
| Delay | 0ms(0.0f) |
| Mute | Off |
| Follow | Off |
| Level | 0dB |
| Aux Send | 0dB |
| Mix Ch.1/2 | On |
| Mix Ch.3/4 | Off |
| Mix Ch.5/6 | Off |
| Mix Ch.7/8 | Off |
| Mix Ch.9/10 | Off |
| Mix Ch.11/12 | Off |
| Mix Ch.13/14 | Off |
| Mix Ch.15/16 | Off |

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

Mixing input audio into the AUX bus

The V-600UHD has a two-channel AUX bus, and you can specify whether input audio is mixed into the AUX bus.

* The first two channels of SDI IN audio can be mixed into the AUX bus.

1. Use [MENU] button → "Audio" → "Input" to select HDMI IN 1–4, SDI IN5–6, or AUDIO IN, and press the [VALUE] knob.
2. Select "Aux Send," and use the [VALUE] knob to specify the volume that is sent to the aux bus.

| HDMI IN1 (Audio) [1/1] | |
|------------------------|-----------|
| Delay | 0ms(0.0f) |
| Mute | Off |
| Follow | Off |
| Level | 0dB |
| Aux Send | 0dB |
| Mix Ch.1/2 | On |
| Mix Ch.3/4 | Off |

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

Selecting the audio source that is output

For each output connector, you can select either a specified channel of the MAIN bus or the AUX bus as the source that will be output.

* For SDI OUT audio, you can select either the entire MAIN bus or the AUX bus.

1. Select the [MENU] button → "Audio" → "Output" → "Source," and press the [VALUE] knob.
2. Select the connector for which you want to make settings, and use the [VALUE] knob to specify the channel.

| Output Source (Audio) [1/1] | |
|-----------------------------|--------|
| SDI OUT Ch.1-16 | |
| HDMI OUT1 | Ch.1/2 |
| HDMI OUT2 | Ch.1/2 |
| HDMI OUT3 | Ch.1/2 |
| MULTI-VIEW | Ch.1/2 |
| AUDIO OUT/PHONES | Ch.1/2 |

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

Other Operations

Saving/Recalling Settings (Memory)

You can save video settings, the state of the operation panel, and other current settings in memory and call them up for use when needed. The V-600UHD has 8 internal banks for saving settings in memory. You can save settings in 8 memories in each bank, letting you use up to 64 memories for saving.

About the Last Memory function

When you use the Last Memory function, the current settings are automatically saved when you exit a menu or change the setting. To use the Last Memory function, go to the Memory menu and set "Auto Memory" to "ON."

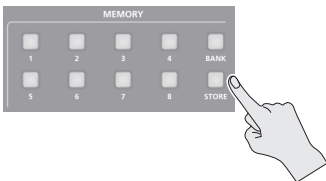
If you want the unit to recall a specified memory at start-up, use Memory menu → "Start Up" to specify the memory number.

Saving a memory

NOTE

- When the Memory menu item "Protect" is set to "On," settings cannot be saved to a memory.
- The following settings are not saved in memory.
 - The state of the following operation panel buttons
PinP SCALING [PinP1] [PinP2]
MODE [AUX/COMPOSITION] [DSK]
USER [1] [2]
[OUTPUT FADE]
 - The items of the Output, USER, Still Image/Capture, USB Memory, Memory, Remote Control, and System menus

1. Press the [STORE] button (lit red) to enable saving settings to a memory.



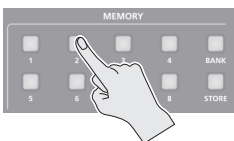
2. Press the [BANK] button (lit green), then press the MEMORY button for the bank number where you want to save the settings.



When you press the [BANK] button to make it light, the MEMORY button of the currently selected bank number is lit green.

When the bank is switched, the [BANK] button and the MEMORY button go dark.

3. Press the MEMORY button for the number whose setting you want to save.



Button illumination color when selecting memories

| | |
|----------------|--|
| Lit light blue | Current blue |
| Lit blue | Memory in which current settings are saved |
| Unlit | Memory in which no settings are saved |

The [STORE] button blinks, the current settings are saved, and then the [STORE] button goes dark.

MEMO

If you don't want to change the save-destination bank, steps 2 are not required.

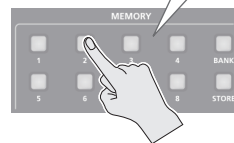
Recalling a memory

1. Press the [BANK] button (lit green), then press the MEMORY button for the bank number whose settings you want to recall.



2. Press the MEMORY button for the number whose setting you want to recall.

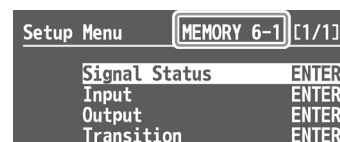
After you switch the bank, the MEMORY buttons of numbers in which settings are saved blink blue until a memory is recalled.



The memory is recalled. The MEMORY button of the current memory is lit light blue.

MEMO

- If you don't want to change the recall-source bank, steps 1 are not required.
- The top screen of the menu shows the "bank number–memory number" of the currently selected memory.



Recalling Only Specified Settings from a Memory

When recalling a memory, you can specify in advance which settings will be recalled, so that only a portion of the saved settings are actually recalled.

In "Memory menu" → "Recall Safe," set "Recall Safe" to "Enabled" and specify for each item whether settings are recalled (Off) or not recalled (On).

For details on each item, refer to the menu list.

Regardless of the Recall Safe settings, all settings are recalled for the memory that is recalled at start-up.

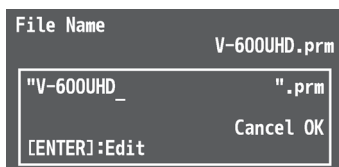
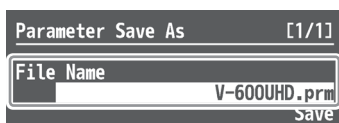
Saving the Unit's Settings on a USB Flash Drive

You can group together the unit's settings into a single file (.prm) and save it to a USB flash drive connected to the USB MEMORY port. You can access the saved file on the USB flash drive and load it into the unit for use when needed.

- * When you're using a USB flash drive for the first time, be sure to format it on the V-600UHD (p. 28).
- * Depending on the USB flash drive, recognition of the flash drive might take some time.
- * Still images (p. 18) are not saved in the file.

Choose save new

1. Select the [MENU] button → "USB Memory" → select the Parameter "Save As," and press the [VALUE] knob.
2. Select "File Name," then specify the file name (p. 10).



The extension of the file name is ".prm."

3. Select "OK," and press the [VALUE] knob.
If you want to cancel the operation, select "Cancel," and press the [VALUE] knob.
4. Select "Save," and press the [VALUE] knob.
The message "Are you sure?" appears.
If you want to cancel the operation, select "NO," and press the [VALUE] knob.
5. Select "YES," and press the [VALUE] knob.
The file (.prm) is newly saved on the USB flash drive.
6. Press the [MENU] button to quit the menu.

Saving by Overwriting

1. Select the [MENU] button → "USB Memory" → select the Parameter "Save," and press the [VALUE] knob.
2. Select the file that you want to overwrite, select "Save," and press the [VALUE] knob.
The message "Are you sure?" appears.
If you want to cancel the operation, select "NO," and press the [VALUE] knob.
3. Select "YES," and press the [VALUE] knob.
The file is saved by overwriting.
4. Press the [MENU] button to quit the menu.

Loading

Here's how to load this unit's settings that you saved on a USB flash drive. When you load settings, the current settings are overwritten.

1. Select the [MENU] button → "USB Memory" → select the Parameter "Load," and press the [VALUE] knob.
2. Select the file that you want to load, select "Load," and press the [VALUE] knob.
The message "Are you sure?" appears.
If you want to cancel the operation, select "NO," and press the [VALUE] knob.
3. Select "YES," and press the [VALUE] knob.
The settings are loaded, and the values in the unit's settings are overwritten.

MEMO

If you set "Include Still Image" to "Enabled" and recall a settings file from a USB flash drive, the still images registered in the settings file can be loaded as well.

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

Deleting a file on a USB flash drive

1. Select the [MENU] button → "USB Memory" → select the Parameter "Delete," and press the [VALUE] knob.
2. Select the file that you want to delete, select "Delete," and press the [VALUE] knob.
The message "Are you sure?" appears.
If you want to cancel the operation, select "NO," and press the [VALUE] knob.
3. Select "YES," and press the [VALUE] knob.
The settings are deleted from the USB flash drive.
4. Press the [MENU] button to quit the menu.

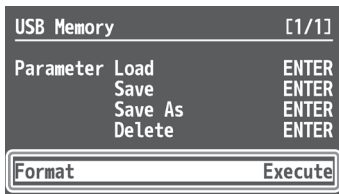
Formatting USB Flash Drives

When you're using a USB flash drive for the first time, it must first be formatted on the V-600UHD.

NOTE

- The V-600UHD does not recognize unformatted USB flash drives.
- Operation has been tested for commonly available USB flash drives, but operation of all USB flash drives is not assured. Depending on the manufacturer and type of the USB flash drive, correct operation may not be possible.
- Performing formatting causes all data already saved on the USB flash drive to be deleted. If the flash drive contains necessary data, back it up onto a computer or elsewhere before formatting the drive.
- Depending on the USB flash drive, recognition of the flash drive might take some time.

1. Select the [MENU] button → "USB Memory" → select "Format," and press the [VALUE] knob.



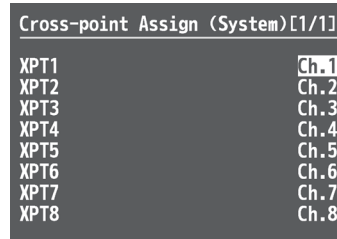
The message "Are you sure?" appears. If you want to cancel the operation, select "NO," and press the [VALUE] knob.

2. Select "YES," and press the [VALUE] knob. Formatting of the USB flash drive is carried out.
3. Press the [MENU] button to quit the menu.

Changing Cross-Point Assignments

You can change the channels assigned to the cross-point [1]–[8] buttons.

1. Select the [MENU] button → "System" → "Cross-point Assign," and press the [VALUE] knob.
2. Select cross-point cross point (from XPT1 to 8), then use the [VALUE] knob to specify the channel number (Ch. 1 to 8) to assign to the cross point.



| Value | Explanation |
|--------|--|
| Ch.1–8 | Assigns an input channel. |
| Blank | Assigns no input channel. If you press the cross-point button, a black screen is output. |
| None | Disables operation of the cross-point button. |

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

Preventing Unintended Operation (Panel Lock)

This locks operation of buttons and knobs to prevent unintended operation of the V-600UHD.

1. Select the [MENU] button → “System” → “Panel Lock,” and press the [VALUE] knob.
The Panel Lock menu appears.
2. Select the target of panel lock, and use the [VALUE] knob to specify whether panel lock applies (On) or does not apply (Off).
3. Press the [VALUE] knob to apply the setting.
Repeat steps 2 through 3 as needed.
4. Press the [MENU] button to quit the menu.
5. Press and hold the [EXIT] button and the [MENU] button at the same time (for 3 seconds or longer).
The message “PANEL LOCKED” is displayed, and panel lock is turned on. The button and controls that you set to applied (ON) in step 2 are locked.
6. To turn off panel lock, again press and hold the [EXIT] button and the [MENU] button at the same time (for 3 seconds or longer).
The message “LOCK RELEASED” is displayed, and panel lock is turned off.

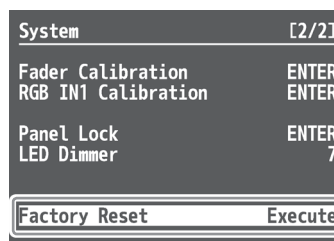
Returning to the Factory Settings (Factory Reset)

You can return the values of settings on the V-600UHD to their factory defaults.

NOTE

Executing a factory reset causes all values that have been set, settings saved in memories (p. 26), and still images saved in the unit to be lost.

1. Select the [MENU] button → “System” → “Factory Reset,” and press the [VALUE] knob.



The message “Are you sure?” appears.

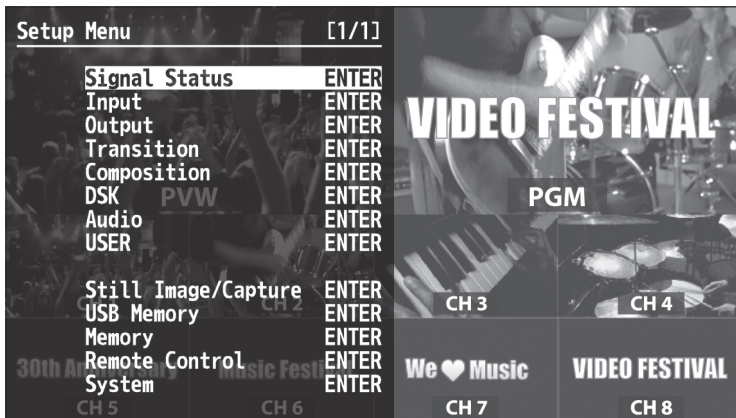
If you want to cancel the operation, select “NO,” and press the [VALUE] knob.

2. Select “YES,” and press the [VALUE] knob.
A factory reset is executed.
3. Press the [MENU] button to quit the menu.

Menu List

Press the [MENU] button to call up the menu items. The menu will appear on the multi-view monitor connected to the V-600UHD.

* Menus are shown only on the multi-view monitor connected to the HDMI OUT connector.



The menu categories are displayed at first. Choose the menu category whose setting you want to change.

| Category | Explanation |
|---------------------|---|
| Signal Status | This is for showing input signal status. |
| Input | This is for input setup like source assign etc. |
| Output | This is for output setup. |
| Transition | This is for transition setup. |
| Composition | This is for Picture in Picture setup, luminance and chroma key setup. |
| DSK | This is for Picture in Picture setup, luminance and chroma key setup. |
| Audio | This is for audio setup. |
| USER | This is for setup of user function. |
| Still Image/Capture | This is for Still Images and Capturing function. |
| USB Memory | This is for USB Flash Drive function. |
| Memory | This is for Saving/Recalling Settings (Memory). |
| Remote Control | This is for Remote Control function. |
| System | This is for system setup of the V-600UHD. |

MEMO

- When a setting value has menu items that let you make more-detailed settings, "ENTER" is displayed at the top of the screen. Press the [VALUE] knob to go down a level.
- To execute an operation, press the [VALUE] knob.
- You can change a setting value rapidly by holding down the [VALUE] button and turning.
- Long-press the [VALUE] knob returns the currently selected setting to its default value.
- You can jump the cursor position by holding down the [MENU] button and turning the [VALUE] knob.

Signal Status

| Menu item | Displayed value | Explanation |
|--------------|--|--|
| Input Ch.1-8 | This displays input status. Pressing the [VALUE] knob displays the detailed information. | |
| | ■ Ch.1-4 | |
| | No Signal | No signal |
| | RESOLUTION | Video Format: 720pRATE, 1080iRATE, 1080pRATE, 2160p(UHD)RATE, 2160p(DCI)RATE, Unsupported PC Format: WxH@RATE, Unsupported RATE is displayed only in integer part (example: 59.94 → 59). |
| | Shared Ch.1-8 | This enables sharing of the video source on the other channel. |
| | ■ Ch.5-6 | |
| | No Signal | No signal |
| | RESOLUTION | Video Format: 1080iRATE, 1080pRATE, 2160p(UHD)RATE, 2160p(DCI)RATE, Unsupported RATE is displayed only in integer part (example: 59.94 → 59). |
| | Shared Ch.1-8 | This enables sharing of the video source on the other channel. |
| | ■ Ch.7-8 | |
| | No Image | No signal |
| | RESOLUTION | Maximum 4096 x 2160, No Image |
| | Shared Ch.1-8 | This enables sharing of the video source on the other channel. |
| Output | This display output status. Pressing the [VALUE] knob displays the detailed information. | |
| | RESOLUTION | Video Format: 1080pRATE, 2160p(UHD)RATE, 2160p(DCI)RATE PC Format: WxH@RATE RATE is displayed only in integer part (example: 59.94 → 59). |

Input Ch.1-Ch.8 → [VALUE]

| Menu item | Displayed value | Explanation | |
|--------------------|--------------------------|---|--|
| Source | Input Ch.1 | HDMI IN1, RGB IN1, Shared Ch.2-8 | |
| | Input Ch.2-4 | HDMI IN2-4, Shared Ch.1-8 | |
| | Input Ch.5-6 | SDI IN5-6, Shared Ch.1-8 | |
| | Input Ch.7 | STILL1, Shared Ch.1-8 | |
| | Input Ch.8 | PG, STILL2, Shared Ch.1-7 | |
| Resolution (*1) | Input Ch.1-4 | 1024x768-4096x2160, 720p, 1080i, 1080p, 2160p(UHD), 2160p(DCI), No Signal | |
| | Input Ch.5-6 | 1080i, 1080p, 2160p(UHD), 2160p(DCI), No Signal | |
| | Input Ch.7-8 | Maximum 4096 x 2160, No Image | |
| Frame Rate (*1) | 24, 30, 50, 59.94, 60, - | This part displays the current input format. | |
| HDCP (*1) | 1.x, 2.2, None, - | | |
| Color Gamut (*1) | Input Ch.1-6 | | Rec.709, Rec.2020, RGB Full, RGB Limited, - |
| | Input Ch.7-8 | | SDR |
| Dynamic Range (*1) | Input Ch.1-6 | | SDR, HDR PQ, HDR HLG, - |
| | Input Ch.7-8 | RGB Full, RGB Limited | |
| Scaling | Input Ch.1-8 | (Width x Height) | Scaling: Indicates the size in pixel units that is being extracted from the input video by the ROI function. |

(*1) If an unsupported signal is input, the displayed value blinks.

Output → [VALUE]

| Menu item | Displayed value | Explanation | |
|-------------------|--|---|--|
| Format | 1920x1080, 3840x2160, 4096x2160, 1080p, 2160p(UHD), 2160p(DCI) | This part displays the current output format. | |
| Frame Rate | 30, 50, 59.94, 60 | | |
| HDCP | Off, On | | |
| Color Gamut | Rec.709, Rec.2020, RGB Full, RGB Limited | | |
| Dynamic Range | SDR, HDR PQ, HDR HLG | | |
| ■ HDMI1 | | | |
| BUS | PGM, PVW, AUX | This part displays output bus settings and down convert settings. | |
| Down Convert | Disabled, Enabled | | |
| ■ HDMI2 | | | |
| BUS | PGM, PVW, AUX | | |
| Down Convert | Disabled, Enabled | | |
| ■ HDMI3 | | | |
| BUS | PGM, PVW, AUX | | |
| Down Convert | Disabled, Enabled | | |
| ■ SDI (*1) | | | |
| BUS | PGM, - | | |
| Down Convert | Disabled, Enabled | | |

(*1) If HDCP is "On," SDI menu items are not shown.

Input

Assign/Scaling → [VALUE]

| Menu item | Value (Bold: default) | Explanation | |
|-----------|-------------------------------------|--|--|
| ■ Ch.1 | | | |
| Source | HDMI/RGB IN1 , Shared Ch.2-8 | This sets the video source to assign to the channel. default value of Ch.2-6 Ch.2: HDMI IN2 Ch.3: HDMI IN3 Ch.4: HDMI IN4 Ch.5: SDI IN5 Ch.6: SDI IN6 | |
| ■ Ch.2-4 | | | |
| Source | HDMI IN2-4, Shared Ch.1-8 | | |
| ■ Ch.5-6 | | | |
| Source | SDI IN5-6, Shared Ch.1-8 | | |
| ■ Ch.7 | | | |
| Source | STILL1 , Shared Ch.1-8 | | |
| ■ Ch.8 | | | |
| Source | PG/STILL2 , Shared Ch.1-7 | | |
| ■ Ch.1-8 | | | |
| Scaler | ENTER | | Pressing the [VALUE] knob displays the detailed settings menu. |

Scaler → [VALUE]

You use the following items to make settings for scaling.

| Menu item | Value (Bold: default) | Explanation |
|--------------------|-----------------------------|--|
| Zoom | 10- 100 -1000% | This adjusts the zoom ratio. |
| Center Position | H -4096- 0 +4096 | This adjusts the display position in the horizontal direction. |
| | V -2160- 0 +2160 | This adjusts the display position in the vertical direction. |
| Type | This sets the scaling type. | |
| | Full | The input image will be displayed fully on output screen. The aspect ratio will be changed. |
| | Letterbox | The entirety of the input image will be displayed on output screen. The aspect ratio will be maintained. |
| | Crop | The input image will be displayed fully on the output screen. The aspect ratio will be maintained. |
| | DotByDot | Scaling will not be executed. |
| | Manual | This performs scaling according to the "Manual Width" and "Manual Height" settings. |
| Manual Width (*1) | -4000- 0 +4000 | This adjusts the horizontal size. |
| Manual Height (*1) | -4000- 0 +4000 | This adjusts the vertical size. |
| Adjust to FHD (*2) | Execute | Scales to FHD (1920 x 1080). |
| Adjust to 2K (*3) | Execute | Scales to 2K (2048 x 1080) |
| Reset | Execute | Returns the scaling settings to the default value. The Type setting is maintained. |

(*1) Available when Type is set to "Manual."

(*2) Shown when Format is other than "2160p (DCI)" or "4096x2160."

(*3) Shown when Format is "2160p (DCI)" or "4096x2160."

Menu List

| Menu item | Value (Bold: default) | Explanation |
|---------------|--|---|
| Automatic ROI | Disabled , Enabled | This sets whether to reflect Automatic ROI information to scaling parameters. |
| Zoom | This sets the way to zoom. | |
| | Off | Do not zoom (Adjust only the position, leaving the Scaler - Zoom setting unchanged.) |
| | Close Up | Zoom face area |
| | Up Shot | Zoom the area above from the neck |
| | Bust Shot | Zoom the area above from the bust |
| | Group | Zoom as group enters in frame |
| Area | This sets the area to be detected. | |
| | All | All area |
| | Left | Left side |
| | Right | Right side |
| | Upper | Upper side |
| | Lower | Lower side |
| Face Number | 1 , 2 | This sets the person to detect. |
| Adjust | -10%– 0% –10% | This adjust the zoom size. |
| Lost Zoom Out | This sets the way to zoom out when lost detection. | |
| | Off | Do not zoom out |
| | Slow | Zoom out slowly |
| Tracking | This sets the way to track. | |
| | Off | Do not track |
| | Slow | Track slowly |
| | Fast | Track faster |
| Look Ahead | This sets how to guess the tracking. | |
| | Off | Do not guess the tracking |
| Offset | H | -4096– 0 –4096 |
| | V | -2160– 0 –2160 |
| Hold Time | 0.0– 0.5s –5.0s | This sets the hold time of zoom. |

HDMI/RGB IN1, HDMI IN2–4, SDI IN5–6, STILL1, PG/STILL2 → [VALUE]

| Menu item | Value (Bold: default) | Explanation |
|----------------------------|--|--|
| Source | HDMI IN1 , RGB IN1 | This sets the input connector assigned to channel 1. |
| | PG , STILL2 | This assigns a pattern generator (Test Pattern) or still image to channel 8. |
| EDID | Internal 4096x2160, 2160p(DCI) 3840x2160, 2160p(UHD) 1920x1080, 1080p 1080i 1920x1200 1600x1200 | This selects the EDID specified for the HDMI IN 1–4 connectors. |
| Still Image Memory (*1) | 1–8 | Selects the memory number in which the still image is saved, and assigns the still image to either STILL1 or STILL2. * Memory numbers that contain a still image are indicated by a “*” symbol. |
| Color Correction | You use the following items to perform color correction. * Not available when source is “PG.” | |
| Brightness | -64- 0 -+63 | This adjusts the brightness. |
| Contrast | -64- 0 -+63 | This adjusts the contrast. |
| Saturation | -64- 0 -+63 | This adjusts the color saturation. |
| Red | -64- 0 -+63 | This adjusts the red level. |
| Green | -64- 0 -+63 | This adjusts the green level. |
| Blue | -64- 0 -+63 | This adjusts the blue level. |
| Color Gamut | Rec.709, Rec.2020, RGB Full, RGB Limited, Auto | This part select color gamut or color spaces of Input Ch.1–6. |
| | RGB Full , RGB Limited | This part select color gamut or color spaces of Input Ch.7–8. * In the case of a captured still image, this shows the color space of the image. |
| Dynamic Range | | |
| Type | SDR, HDR PQ, HDR HLG, Auto | This part select dynamic range of Input Ch.1–6. * The dynamic range of Input Ch.7–Ch.8 cannot be changed. • In the case of a still image loaded from a USB flash drive, this is fixed at SDR. • In the case of a captured still image, this shows the dynamic range of the image. |
| Correction | -64- 0 -+63 | This adjust dynamic range. |
| Sampling | You use the following items for make settings for sampling. * Available when Source is set to “RGB IN1.” | |
| Auto Sampling | Execute | This executes automatic settings for sampling. After executing this, you can use the following menu items (Frequency, Phase, Gain, Position H, and Position V) to adjust the setting values. |
| Frequency | -8- 0 -+8 (*2) | This adjusts the sampling frequency. |
| Phase | -8- 0 -+8 (*2) | This adjusts the sampling phase. |
| Gain | -20- 0 -+20 (*2) | This adjusts the sampling gain. |
| Position | H -16- 0 -+16 (*2) | This adjusts the horizontal start position of sampling. |
| | V -16- 0 -+16 (*2) | This adjusts the vertical start position of sampling. |
| Pattern (*3) | Colorbar75% , Colorbar100%, Ramp, Step, Hatch, Frame, Circle, Red, Green, Blue, White, Black | Specifies the test pattern. |
| Motion (*3) | Disabled , Slow, Medium, Fast | Specifies the scroll speed of the test pattern. |

(*1) Only for STILL1 and PG/STILL2 (Source: STILL2).

(*2) The setting value does not change even if Auto Sampling is executed.

(*3) Available when Source is set to “PG” in Ch.8.

Output

HDMI OUT1-3 → [VALUE]

| Menu item | Value (Bold: default) | Explanation |
|--------------|--|---|
| Signal Bus | PGM, PVW, AUX (*1) | This sets the bus to be sent to HDMI OUT 1-3 connectors. |
| Down Convert | Disabled , Enabled | This specifies whether down convert from 4K to FHD is enabled or disabled. * Available when Format is set to "2160p(UHD)" or "3840x2160." |
| Signal Type | HDMI , DVI-D | This sets the output mode for HDMI output. * This can be selected if Format is "1920x1080." |
| Color Gamut | Rec.709, Rec.2020, RGB Full, RGB Limited | This part select color gamut or color spaces. * "RGB Full" and "RGB Limited" can be selected if Format is "1920x1080," "3840x2160," or "4096x2160," and Signal Type is "HDMI." * "Rec.709" and "Rec.2020" can be selected if Format is "1080p," "2160p(UHD)," or "2160p(DCI)" |

(*1) HDMI OUT 1 : PGM, HDMI OUT 2: PVW, HDMI OUT 3: AUX

SDI OUT → [VALUE]

| Menu item | Value (Bold: default) | Explanation |
|------------------|---------------------------------|---|
| Signal Bus | PGM / Disabled | This part displays the output status of SDI Output. This is fixed at PGM in the case of video resolution, and fixed at Disabled in the case of PC resolution. |
| Down Convert | Disabled , Enabled | This specifies whether down convert from 4K to FHD is enabled or disabled. * Available when Format is set to "2160p(UHD)." |
| 3G-SDI Mapping | Level A , Level B | This displays the mapping structure for 3G-SDI output. * Available when Format is set to "1080p." * This can be selected if Format is "2160p(UHD)" and Down Convert is "Enabled." |
| Video Payload ID | SMPTE SDR, SMPTE SDR/HDR | This specifies whether set HDR information on the Video Payload ID. |

Transition

| Menu item | Value (Bold: default) | Explanation |
|---------------|----------------------------------|--|
| Time | 0.0– 1.0 –4.0s | This sets the transition time. |
| Pattern | Wipe1 , Wipe2, Wipe3, Mix | This sets the transition effect. * The WIPE PATTERN [1]–[3] buttons and the [MIX] button are “Wipe Pattern” shortcut buttons. |
| Wipe Preset 1 | ENTER | This displays the Detailed Settings menu for the WIPE PATTERN [1]–[3] buttons. |
| Wipe Preset 2 | ENTER | |
| Wipe Preset 3 | ENTER | |
| Mix | FAM, NAM, MIX | |

Wipe Preset 1–3 → [VALUE]

| Menu item | Value (Bold: default) | Explanation |
|--------------|--|---|
| Pattern | Horizontal, Vertical, Horizontal Open, Vertical Open, Upper Left, Upper Right, Lower Left, Lower Right, Box (*1) | This sets the wipe pattern. |
| Direction | Normal , Reverse, N/R | This sets the wipe direction. |
| Curve | Linear , Slow In, Cosine, Slow Out | This sets the wipe curve for video transition. |
| Position | H (*2) -100.0– 0 –+100.0% | This sets the horizontal position of start video transition. |
| | V (*3) -100.0– 0 –+100.0% | This sets the vertical position of start video transition. |
| Aspect ratio | (*4) 1:1, 4:3, 3:2, 16:9 | This sets aspect ratio of video transition. |
| Correction | H (*2) -100.0– 0 –+100.0% | This adjusts the horizontal position of start video transition. |
| | V (*3) -100.0– 0 –+100.0% | This adjusts the vertical position of start video transition. |
| Border | You use the following items to adjust the border settings. | |
| Width | 0 –10pixel | This adjusts the border width. |
| Color | H 0 –359deg. | This sets the hue of border color. |
| | S 0 –100% | This sets the saturation of border color. |
| | V 0 – 50 –100% | This sets the value of border color. |

(*1) Wipe Preset 1: Horizontal, Wipe Preset 2: Vertical, Wipe Preset 3: Box

(*2) Not valid when Pattern is set to “Horizontal,” “Vertical,” or “Vertical Open.”

(*3) Not valid when Pattern is set to “Horizontal,” “Vertical,” or “Horizontal Open.”

(*4) Not valid when Pattern is set to “Horizontal,” “Vertical,” “Horizontal Open,” or “Vertical Open.”

Composition

| Menu item | Value (Bold: default) | Explanation |
|----------------|--|--|
| Status | PGM Off , On | This specifies whether the result of PinP1/KEY1 compositing is sent to the final output (On) or is not sent (Off). |
| | PVW Off, On | This specifies whether the result of PinP1/KEY1 compositing is sent to preview (On) or is not sent (Off). |
| Source Channel | XPT1- XPT3 -XPT8 | This sets the source channel of PinP1 and KEY1. |
| Type | None , PinP1-1, PinP1-2, Key1, PinP1-1+Key1, PinP1-2+Key1 | This sets the type of PinP1 and KEY1. |
| PinP1 | Position 1 ENTER | This displays the Detailed Settings menu for the PinP1 Position 1. |
| | Position 2 ENTER | This displays the Detailed Settings menu for the PinP1 Position 2. |
| Key1 | ENTER | This displays the Detailed Settings menu for the KEY1. |

PinP1 Position 1-2 → [VALUE]

| Menu item | Value (Bold: default) | Explanation |
|--------------|--|--|
| View | Use the following items to adjust the video displayed in the inset screen. | |
| Size | 10.0- 100.0 -1000.0% | This sets the zoom ratio. |
| Position | H -4096- 0 -+4095 | This adjusts the display position in the horizontal direction. |
| | V -2160- 0 -+2159 | This adjusts the display position in the vertical direction. |
| Window | Use the following items to make the settings for the inset screen. | |
| Size | 10.0- 30.0 -100.0% | This adjusts the zoom ratio. |
| Aspect ratio | 1:1, 4:3, 16:9, System | This sets the aspect ratio of the inset screen. |
| Correction | H -100.0- 0 -+100.0% | This adjust the horizontal size of the inset screen. |
| | V -100.0- 0 -+100.0% | This adjust the vertical size of the inset screen. |
| Position | H -4096-+4096 (*1) | This adjusts the display position in the horizontal direction. |
| | V -2160- -270 -+2160 | This adjusts the display position in the vertical direction. |
| Type | Border , Shadow | This sets the type of border for the inset screen. |
| Border | Use the following items to adjust the border. * Available when Type is set to "Border." | |
| Width | 0- 10 -40pixel | This sets the border width. |
| Color | H 0 -359deg. | This sets the hue of border color. |
| | S 0 -100% | This sets the saturation of border color. |
| | V 0- 50 -100% | This sets the value of border color. |
| Shadow | * Available when Type is set to "Shadow." | |
| Position | H -10.0- 0 -+10.0% | This sets the horizontal ratio of shadow to inset screen. |
| | V -10.0- 0 -+10.0% | This sets the vertical ratio of shadow to inset screen. |
| Level | 0- 50 -100% | This set darkness for shadow. |

(*1) Position 1: -480, Position 2: +480

Key1 → [VALUE]

| Menu item | Value (Bold: default) | Explanation | |
|---------------|--|---|---|
| Type | This sets the key type (extraction color) to use when compositing. | | |
| | Luminance White | This uses a brightness threshold to make white transparent. | |
| | Luminance Black | This uses a brightness threshold to make black transparent. | |
| | Chroma Blue | This uses a color threshold to make blue transparent. | |
| | Chroma Green | This uses a color threshold to make green transparent. | |
| | Chroma Manual | This uses a color threshold to make manual color transparent. | |
| Level | 0- 32 -255 | This adjusts the amount of extraction. | |
| Gain | 0-255 | This adjusts the amount of edge blur. | |
| Chroma Manual | * Available when Type is set to "Chroma Manual." | | |
| Hue | Center | 0- 120 -359deg. | This adjusts the center position for hue of key color. |
| | Width | 0- 10 -359deg. | This adjusts the hue width (range) of key color. |
| Saturation | Center | 0- 90 -100% | This adjusts the center position for saturation of key color. |
| | Width | 0- 10 -100% | This adjusts the saturation width of key color. |
| Shadow | | | |
| Position | H | 0-32pixel | This part set shadow height for key effect. |
| Level | | 0- 255 | This part set shadow darkness for key effect. |

DSK

| Menu item | Value (Bold: default) | Explanation |
|----------------|---|--|
| Status | PGM Off , On | This specifies whether the result of PinP2/KEY2 compositing is sent to the final output (On) or is not sent (Off). |
| | PVW Off, On | This specifies whether the result of PinP2/KEY2 compositing is sent to preview (On) or is not sent (Off). |
| Source Channel | XPT1- XPT8 | This sets the source channel of PinP2 and KEY2. |
| Type | None , PinP2-1, PinP2-2, DSK, PinP2-1+Key2, PinP2-2+Key2 | This sets the type of PinP2 and KEY2. |
| PinP2 | Position 1 ENTER | This displays the Detailed Settings menu for the PinP2 Position 1. |
| | Position 2 ENTER | This displays the Detailed Settings menu for the PinP2 Position 2. |
| Key2 | ENTER | This displays the Detailed Settings menu for the KEY2. |

PinP2 Position 1-2 → [VALUE]

| Menu item | Value (Bold: default) | Explanation |
|--------------|--|--|
| View | Use the following items to adjust the video displayed in the inset screen. | |
| Size | 10.0- 100.0 -1000.0% | This sets the zoom ratio. |
| Position | H -4096- 0 +4095 | This adjusts the display position in the horizontal direction. |
| | V -2160- 0 +2159 | This adjusts the display position in the vertical direction. |
| Window | Use the following items to make the settings for the inset screen. | |
| Size | 10.0- 30.0 -100.0% | This adjusts the zoom ratio. |
| Aspect ratio | 1:1, 4:3, 16:9, System | This sets the aspect ratio of the inset screen. |
| Correction | H -100.0- 0 +100.0% | This adjust the horizontal size of the inset screen. |
| | V -100.0- 0 +100.0% | This adjust the vertical size of the inset screen. |
| Position | H -4096+4096 (*1) | This adjusts the display position in the horizontal direction. |
| | V -2160- -270 +2160 | This adjusts the display position in the vertical direction. |
| Type | Border , Shadow | This sets the type of border for the inset screen. |
| Border | Use the following items to adjust the border. * Available when Type is set to "Border." | |
| Width | 0- 10 -40pixel | This sets the border width. |
| Color | H 0 -359deg. | This sets the hue of border color. |
| | S 0 -100% | This sets the saturation of border color. |
| | V 0- 50 -100% | This sets the value of border color. |
| Shadow | * Available when Type is set to "Shadow." | |
| Position | H -10.0- 0 +10.0% | This sets the horizontal ratio of shadow to inset screen. |
| | V -10.0- 0 +10.0% | This sets the vertical ratio of shadow to inset screen. |
| Level | 0- 50 -100% | This set darkness for shadow. |

(*1) Position 1: -480, Position 2: +480

Key2 → [VALUE]

| Menu item | Value (Bold: default) | Explanation | |
|---------------|--|---|---|
| Type | This sets the key type (extraction color) to use when compositing. | | |
| | Luminance White | This uses a brightness threshold to make white transparent. | |
| | Luminance Black | This uses a brightness threshold to make black transparent. | |
| | Chroma Blue | This uses a color threshold to make blue transparent. | |
| | Chroma Green | This uses a color threshold to make green transparent. | |
| | Chroma Manual | This uses a color threshold to make manual color transparent. | |
| Level | 0- 32 -255 | This adjusts the amount of extraction. | |
| Gain | 0 -255 | This adjusts the amount of edge blur. | |
| Chroma Manual | * Available when Type is set to "Chroma Manual." | | |
| Hue | Center | 0- 120 -359deg. | This adjusts the center position for hue of key color. |
| | Width | 0- 10 -359deg. | This adjusts the hue width (range) of key color. |
| Saturation | Center | 0- 90 -100% | This adjusts the center position for saturation of key color. |
| | Width | 0- 10 -100% | This adjusts the saturation width of key color. |
| Shadow | | | |
| Position | H | 0 -32pixel | This part set shadow height for key effect. |
| Level | | 0- 255 | This part set shadow darkness for key effect. |

Audio

Input: HDMI IN1–4 → [VALUE]

| Menu item | Value (Bold: default) | Explanation |
|--------------|-----------------------|--|
| Delay | 0–500ms | This adjusts the delay time for input audio (the frame value is also shown). |
| Mute | Off, On | This sets the Mute feature on or off. Input audio for which this is set to “On” is silenced. |
| Follow | Off, On | This switches the Audio Follow feature on or off. Video channels for which this is set to “On” are automatically muted when video on another channel is output. |
| Level | -INF–0–+10dB | This adjusts the send level to MAIN bus. |
| Aux Send | -INF–0–+10dB | This adjusts the send level to AUX bus. |
| Mix Ch.1/2 | Off, On | This switches the sending input audio to Mix Ch.1/2 on or off. |
| Mix Ch.3/4 | Off, On | This switches the sending input audio to Mix Ch.3/4 on or off. |
| Mix Ch.5/6 | Off, On | This switches the sending input audio to Mix Ch.5/6 on or off. |
| Mix Ch.7/8 | Off, On | This switches the sending input audio to Mix Ch.7/8 on or off. |
| Mix Ch.9/10 | Off, On | This switches the sending input audio to Mix Ch.9/10 on or off. |
| Mix Ch.11/12 | Off, On | This switches the sending input audio to Mix Ch.11/12 on or off. |
| Mix Ch.13/14 | Off, On | This switches the sending input audio to Mix Ch.13/14 on or off. |
| Mix Ch.15/16 | Off, On | This switches the sending input audio to Mix Ch.15/16 on or off. |

Input: SDI IN5–6 → [VALUE]

| Menu item | Value (Bold: default) | Explanation |
|-------------|-----------------------|--|
| Delay | 0–500ms | This adjusts the delay time for input audio (the frame value is also shown). |
| Mute | Off, On | This sets the Mute feature on or off. Input audio for which this is set to “On” is silenced. |
| Follow | Off, On | This switches the Audio Follow feature on or off. Video channels for which this is set to “On” are automatically muted when video on another channel is output. |
| Level | -INF–0–+10dB | This adjusts the send level to MAIN bus. |
| Aux Send | -INF–0–+10dB | This adjusts the send level to AUX bus. |
| Mix Ch.1–16 | Off, On | This switches the sending input audio to Mix Ch.1–16 on or off. |

Input: AUDIO IN → [VALUE]

| Menu item | Value (Bold: default) | Explanation |
|--------------|--|--|
| Delay | 0–500ms | This adjusts the delay time for input audio (the frame value is also shown). |
| Mute | Off, On | This sets the Mute feature on or off. Input audio for which this is set to “On” is silenced. |
| Follow | Off, HDMI/RGB IN1, HDMI IN2–4, SDI IN5–6 | This sets the video channel to interlink with input audio using Audio Follow. Audio from AUDIO IN is muted out for video channels other than what you specified. When this is set to “Off,” no video channels using Audio Follow are assigned. |
| Level | -INF–0–+10dB | This adjusts the send level to MAIN bus. |
| Aux Send | -INF–0–+10dB | This adjusts the send level to AUX bus. |
| Mix Ch.1/2 | Off, On | This switches the sending input audio to Mix Ch.1/2 on or off. |
| Mix Ch.3/4 | Off, On | This switches the sending input audio to Mix Ch.3/4 on or off. |
| Mix Ch.5/6 | Off, On | This switches the sending input audio to Mix Ch.5/6 on or off. |
| Mix Ch.7/8 | Off, On | This switches the sending input audio to Mix Ch.7/8 on or off. |
| Mix Ch.9/10 | Off, On | This switches the sending input audio to Mix Ch.9/10 on or off. |
| Mix Ch.11/12 | Off, On | This switches the sending input audio to Mix Ch.11/12 on or off. |
| Mix Ch.13/14 | Off, On | This switches the sending input audio to Mix Ch.13/14 on or off. |
| Mix Ch.15/16 | Off, On | This switches the sending input audio to Mix Ch.15/16 on or off. |

Input: Test Tone → [VALUE]

| Menu item | Value (Bold: default) | Explanation |
|--------------|-----------------------------------|--|
| Test Tone | Off , L:1k+R:2k, L:1k+R:1k | This sets the test tone. |
| Level | -INF-- 20 +10dB | This adjusts the send level to MAIN bus. |
| Aux Send | -INF-- 20 +10dB | This adjusts the send level to AUX bus. |
| Mix Ch.1/2 | Off, On | This switches the sending test tone to Mix Ch.1/2 on or off. |
| Mix Ch.3/4 | Off , On | This switches the sending test tone to Mix Ch.3/4 on or off. |
| Mix Ch.5/6 | Off , On | This switches the sending test tone to Mix Ch.5/6 on or off. |
| Mix Ch.7/8 | Off , On | This switches the sending test tone to Mix Ch.7/8 on or off. |
| Mix Ch.9/10 | Off , On | This switches the sending test tone to Mix Ch.9/10 on or off. |
| Mix Ch.11/12 | Off , On | This switches the sending test tone to Mix Ch.11/12 on or off. |
| Mix Ch.13/14 | Off , On | This switches the sending test tone to Mix Ch.13/14 on or off. |
| Mix Ch.15/16 | Off , On | This switches the sending test tone to Mix Ch.15/16 on or off. |

Output: Level/Delay → [VALUE]

| Menu item | Value (Bold: default) | Explanation |
|--------------------|---------------------------------|---|
| Main | | |
| Delay | 0 -500ms | This adjusts the delay time for MAIN bus (the frame value is also shown). |
| Level | -INF- 0 +10dB | This adjusts the volume level for MAIN bus. |
| Aux | | |
| Delay | 0 -500ms | This adjusts the delay time for AUX bus (the frame value is also shown). |
| Level | -INF- 0 +10dB | This adjusts the volume level for AUX bus. |
| AUDIO OUT | | |
| Level | -INF- 0 +10dB | This adjusts the volume level for AUDIO OUT connectors. |
| PHONES | | |
| Level | -INF- 0 +10dB | This adjusts the volume level for PHONES connectors. |
| OUTPUT Knob Assign | Main , AUDIO OUT, PHONES | This sets assign of [OUTPUT] knob for controlling volume adjust. |

Output: Source → [VALUE]

| Menu item | Value (Bold: default) | Explanation |
|--------------------|--|---|
| SDI OUT | Ch.1-16 , AUX | This sets the embedded-audio channel that is output via the SDI OUT connector. |
| HDMI OUT1 | Ch.1/2 , Ch.3/4, Ch.5/6, Ch.7/8, Ch.9/10, Ch.11/12, Ch.13/14, Ch.15/16, AUX | This sets the embedded-audio channel that is output via the HDMI OUT1 connector. |
| HDMI OUT2 | Ch.1/2 , Ch.3/4, Ch.5/6, Ch.7/8, Ch.9/10, Ch.11/12, Ch.13/14, Ch.15/16, AUX | This sets the embedded-audio channel that is output via the HDMI OUT2 connector. |
| HDMI OUT3 | Ch.1/2 , Ch.3/4, Ch.5/6, Ch.7/8, Ch.9/10, Ch.11/12, Ch.13/14, Ch.15/16, AUX | This sets the embedded-audio channel that is output via the HDMI OUT3 connector. |
| MULTI-VIEW | Ch.1/2 , Ch.3/4, Ch.5/6, Ch.7/8, Ch.9/10, Ch.11/12, Ch.13/14, Ch.15/16, AUX | This sets the embedded-audio channel that is output via MULTI-VIEW connector. |
| AUDIO OUT / PHONES | Ch.1/2 , Ch.3/4, Ch.5/6, Ch.7/8, Ch.9/10, Ch.11/12, Ch.13/14, Ch.15/16, AUX | This sets the embedded-audio channel that is output via AUDIO OUT/ PHONES connectors. |

USER

| Menu item | Value (Bold: default) | Explanation |
|---------------------|--|--|
| ■ USER1 | | |
| Assign | This sets the functions assigned to the USER [1] button. | |
| | None | No function is assigned. |
| | Follow SW | This switches the Audio Follow feature on or off. |
| | Mute Group | This switches the Mute feature on or off globally for all audio assigned to a group. |
| | Output Capture | This captures a still image from the output video. |
| | Status Bar SW | This switches the Status Bar display on Multi-View screen. |
| | STILL1 Image Select | This changes the assignment of STILL1. |
| STILL2 Image Select | This changes the assignment of STILL2. | |
| LED Color | Red , Green, Blue, Cyan, Magenta, Yellow | This part set LED color of USER [1] button. |
| Mute Group Setup | ENTER | This displays detailed setup menu of mute group. |
| ■ USER2 | | |
| Assign | This sets the functions assigned to the USER [2] button. | |
| | None | No function is assigned. |
| | Follow SW | This switches the Audio Follow feature on or off. |
| | Mute Group | This switches the Mute feature on or off globally for all audio assigned to a group. |
| | Output Capture | This captures a still image from the output video. |
| | Status Bar SW | This switches the Status Bar display on Multi-View screen. |
| | STILL1 Image Select | This changes the assignment of STILL1. |
| STILL2 Image Select | This changes the assignment of STILL2. | |
| LED Color | Red, Green , Blue, Cyan, Magenta, Yellow | This part set LED color of USER [2] button. |
| Mute Group Setup | ENTER | This displays detailed setup menu of mute group. |

Mute Group Setup → [VALUE]

| Menu item | Value (Bold: default) | Explanation |
|---------------------------------------|-----------------------|--|
| HDMI IN1-4, SDI IN5-6, AUDIO IN | Off , On | This specifies whether each item is included in the USER 1–2 mute group. |

Still Image/Capture

| Menu item | Value (Bold: default) | Explanation | |
|----------------|-----------------------|-------------|--|
| Still Image | Load | ENTER | Shows a screen where you can select the still image file to be loaded. |
| | Delete | ENTER | Shows a screen where you can select the still image to be deleted. |
| | Information | ENTER | Shows information about the still image. |
| Output Capture | Execute | ENTER | Shows a screen where you can execute still image capture. |
| | Save As | ENTER | Shows a screen where you can save the captured still image. |

Output Capture

| Menu item | Value (Bold: default) | Explanation |
|--------------------|-----------------------|---|
| Still Image Memory | 1–8 | This selects the memory number to use as the destination for saving the captured still image. * A "*" symbol is displayed for memory where a still image is already saved. |
| | File Name | Shows the loaded still image, or the file name of the captured still image. |
| Source Bus | PGM , PVW | Specifies the bus of the video source that is the target of still image capture. |
| | Execute | Captures a still image from the output video. |

USB Memory

| Menu item | Value (Bold: default) | Explanation |
|-----------------------|-----------------------|--|
| USB Memory | | Performs operations related to a USB flash drive. |
| Parameter Load | ENTER | Shows a screen where you can select a parameter file to load. If "Include Still Image" is set to "Enabled" when you load a parameter file from the USB flash drive, the still image that is registered with the parameter file will also be loaded. |
| Save | ENTER | Shows a screen where you can select the parameter file that will be overwritten. |
| Save As | ENTER | Shows a screen where you can enter a name for the parameter file that will be saved as a new file. |
| Delete | ENTER | Shows a screen where you can select a parameter file for deletion. |
| Format | Execute | This formats the USB flash drive. |

Memory

| Menu item | Value (Bold: default) | Explanation |
|--------------------|---|---|
| Protect | Off , On | When this is set to "On," the memories are protected, and settings cannot be saved to them. |
| Auto Memory | Off, On | If this is "On," the parameters are saved in Last Memory. |
| Start Up | Last Memory , MEMORY 1-1– MEMORY 8-8 | This specifies the settings loaded at startup. |
| Recall Safe | ENTER | Shows the Recall Safe screen. |
| Delete | ENTER | Shows a screen where you can select a memory for deletion. |

Recall Safe

| Menu item | Value (Bold: default) | Explanation |
|---------------------|---------------------------|---|
| Recall Safe | Disabled , Enabled | If this is set to "Enabled," only the specified settings are recalled from memory. For each of the following items, this specifies whether it will be recalled (Off) or not recalled (On). |
| Video Input | Off, On | Video input settings |
| Transition | Off , On | Transition effect settings |
| Composition | Off , On | Composition (PinP1, KEY1) settings |
| DSK | Off , On | DSK (PinP2, KEY2) settings |
| Cross-point | Off, On | Cross-point select button settings |
| Audio Input | Off, On | Audio input settings |
| Audio Output | Off, On | Audio output settings |

Remote Control

| Menu item | Value (Bold: default) | Explanation |
|----------------|-----------------------|--|
| RS-232 | Off , On | Specifies whether remote control from an RS-232 device is disabled or enabled. |
| Baudrate | 9600, 38400bps | This sets the communication speed (bps) of the RS-232 connector. |
| LAN Control | ENTER | Shows the LAN control detailed settings menu. |
| Camera Control | ENTER | Shows the camera control detailed settings menu. |
| GPI | ENTER | Shows the GPI detailed settings menu. |

LAN Control

| Menu item | Value (Bold: default) | Explanation |
|--------------------|---|--|
| Configure | | Selects how the IP address and sub-net mask settings are made. * If you change the settings, they are applied at next start-up. |
| | DHCP Server | Enables the DHCP server function. Settings needed for network connection are automatically assigned from this unit to the computers etc. that are on the LAN. |
| | DHCP Client | IP address and other settings needed for network connection are automatically obtained from the DHCP server on the LAN. |
| | Manually | IP address and sub-net mask are specified manually. |
| IP Address (*1) | 192.168.2.254 | This displays the IP address. |
| Subnet Mask (*1) | 255.255.255.0 | This displays the subnet mask. |
| MAC Address | | This displays the MAC address. |
| Remote Control URL | http://192.168.2.254:8080/ | Shows the URL used to start the WebRCS web application in your web browser. * The URL is not shown if a network connection is not established. |

(*1) This can be specified manually if Configure is set to "Manually."

Camera Control

| Menu item | Value (Bold: default) | Explanation |
|-----------|--|---|
| Camera ID | Camera 1 –Camera 6 | This selects the camera to be controlled. |
| Protocol | N/A , JVC, Panasonic, Canon, VISCA over IP, PTZOptics, Avonic | This sets the camera's protocol. |

When PROTOCOL = JVC, Panasonic, VISCA over IP, PTZOptics, Avonic

| Menu item | Value (Bold: default) | Explanation |
|--------------------------|--|---|
| IP Address | Camera 1: 192.168.2.101 Camera 2: 192.168.2.102 Camera 3: 192.168.2.103 Camera 4: 192.168.2.104 Camera 5: 192.168.2.105 Camera 6: 192.168.2.106 | Input the camera's IP address. |
| Login Name | ENTER | The Login Name screen appears. Enter the log-in name needed to connect with the camera when "PROTOCOL" is "JVC." |
| Password | ENTER | The Password screen appears. Enter the password needed to connect with the camera when "PROTOCOL" is "JVC." |
| Camera Preset | Off | Recall presets from the camera that is being controlled. |
| All Cameras Recall | On | Simultaneously recall presets from all cameras (CAMERA 1–6). |
| Recall | ENTER | Select a Preset 1–Preset 8 containing the camera's settings. When you execute [Recall], the preset is recalled from the camera. |
| Store | ENTER | Select a Preset 1–Preset 8 to which the camera's settings will be stored. When you execute [Store], the camera's settings are stored in the preset. * Presets are saved in the camera itself. |
| Input Ch | Camera 1: Ch.1 Camera 2: Ch.2 Camera 3: Ch.3 Camera 4: Ch.4 Camera 5: Ch.5 Camera 6: Ch.6 | This specifies the channel that is inputting the camera video. When the camera video from the V-600UHD is the final output, the camera's tally light is lit. |
| SCALING SIZE Knob Assign | Zoom , Focus | Specifies whether the PinP/ROI SCALING [SIZE] knob controls Zoom or controls Focus. |

| Menu item | Value (Bold: default) | Explanation |
|-----------|---|---|
| Pan | This adjusts the horizontal position of the camera. When the cursor is located at this value, you can control the camera. | |
| | Left | While you hold down the [VALUE] button, the camera faces left. |
| | Right | While you hold down the [VALUE] button, the camera faces right. |
| Tilt | This adjusts the vertical position of the camera. When the cursor is located at this value, you can control the camera. | |
| | Down | While you hold down the [VALUE] button, the camera faces down. |
| | Up | While you hold down the [VALUE] button, the camera faces up. |
| Speed | 1–12–24 | Adjusts the speed at which the camera changes direction. |
| Zoom | This adjusts the camera's zoom position. When the cursor is located at this value, you can control the camera. | |
| | Wide (Fast) | While you hold down the [VALUE] button, the camera zooms-out at high speed. |
| | Wide (Slow) | While you hold down the [VALUE] button, the camera zooms-out at low speed. |
| | Tele (Slow) | While you hold down the [VALUE] button, the camera zooms-in at low speed. |
| | Tele (Fast) | While you hold down the [VALUE] button, the camera zooms-in at high speed. |
| Reset | (Execute) | Resets the zoom position. |
| Focus | This adjusts the focal point of the camera. When the cursor is located at this value, you can control the camera. | |
| | Far | While you hold down the [VALUE] button, the focal point moves farther away. |
| | Near | While you hold down the [VALUE] button, the focus moves closer. |
| Auto | Off , On | When this is set to "On," the focal point is set automatically. |
| Exposure | Auto , Manual | This sets the exposure mode. |

When PROTOCOL = Canon

| Menu item | Value (Bold: default) | Explanation |
|--------------------------|--|--|
| IP Address | Camera 1: 192.168.2.101 Camera 2: 192.168.2.102 Camera 3: 192.168.2.103 Camera 4: 192.168.2.104 Camera 5: 192.168.2.105 Camera 6: 192.168.2.106 | Input the camera's IP address. |
| Login Name | ENTER | The Login Name screen appears. Enter the log-in name needed to connect with the camera. |
| Password | ENTER | The Password screen appears. Enter the password needed to connect with the camera. |
| SD Card Slot | A , B | This specifies the SD card slot to use. |
| REC Status | — | This indicates the video recording status. |
| Remaining Time | — | This indicates the remaining available recording time. |
| Automatic ROI | Disabled , Enabled | Specifies whether Automatic ROI data is captured from the camera. |
| Input Ch | Camera 1: Ch.1 Camera 2: Ch.2 Camera 3: Ch.3 Camera 4: Ch.4 Camera 5: Ch.5 Camera 6: Ch.6 | This specifies the channel that is inputting the camera video. |
| SCALING SIZE Knob Assign | Zoom , Focus | Specifies whether the PinP/ROI SCALING [SIZE] knob controls Zoom or controls Focus. |
| Zoom | This adjusts the camera's zoom position. When the cursor is located at this value, you can control the camera. | |
| | Wide | While you hold down the [VALUE] button, the camera zooms-out. |
| | Tele | While you hold down the [VALUE] button, the camera zooms-in. |
| Position | 1–6 | Adjusts the zoom position in the six levels of 1 (WIDE)–6 (TELE). |
| Focus | This adjusts the focal point of the camera. When the cursor is located at this value, you can control the camera. | |
| | Far | While you hold down the [VALUE] button, the focal point moves farther away. |
| | Near | While you hold down the [VALUE] button, the focus moves closer. |
| | Auto | Off , On |
| Guide | Off , On | If this is "On," a focus guide is shown. |
| Exposure | Auto , Tv, Av, Manual | This sets the exposure mode. |
| ND | | This specifies the type of ND filter. |
| IRIS | | This adjusts the aperture value. |
| Shutter | The values depend on the camera you're using. | This adjusts the shutter speed. |
| Gain | | This adjusts the gain. |
| AE Shift | | This adjusts the amount of exposure compensation when using auto exposure. |
| White Balance | Auto , Daylight, Tungsten, Color Temperature, Set 1, Set 2 | This specifies the white balance type. |
| | Temperature | 2000K– 5600K –15000K This is available when "White Balance" is set to "Color Temperature." |

Menu List

| Menu item | Value (Bold: default) | Explanation |
|-------------------|-----------------------|---|
| Set White Balance | Execute | When you press the [VALUE] knob, the reference white is loaded from the subject shown by the camera and stored. This is available when "White Balance" is set to "Set 1" or "Set 2." |

GPI

| Menu item | Value (Bold: default) | Explanation |
|-----------|-----------------------|---|
| GPI1-8 | | This sets the function assigned to the GPI channel. * When a control signal is input from an external source, the assigned function is executed. The GPI trigger is fixed at the trailing edge (low: ON). For details, refer to "Inputting a Control Signal". |
| | None | No function is assigned. |
| | PGM XPT1-8 | This switches the final output video. |
| | PST XPT1-8 | This switches the preset video (the video to be output next). |
| | Memory Load1-1-8 | Recalls a memory. Only BANK 1 can be recalled. |
| | DSK SRC Sel1-8 | When performing DSK compositing, this switches the cross-point for the superimposed logo or video. |

System

| Menu item | Value (Bold: default) | Explanation |
|---------------------|--|---|
| Processing | ENTER | This displays detailed setup menu of processing. |
| Frame Rate | 50, 59.94 Hz | This sets the frame rate. |
| | 30, 60Hz | * For details on combinations of format and frame rate, refer to "Output Formats" (p. 11). |
| HDCP | Off , On | This turns on/off the HDCP mode. |
| Reference | This sets the reference clock of the V-600UHD. | |
| Source | Internal | The V-600UHD's internal clock is used as the reference clock. |
| | SDI IN5 | A signal input via one of the SDI IN5 connectors is used as the reference clock. |
| Clock Adjust | -4096- 0 +4096 | This adjusts the phase horizontally. Adjust this when output is horizontally out of sync with the operation of other devices using the same clock. |
| | -2160- 0 +2160 | 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. |
| Cross-point Assign | ENTER | This displays detailed setup menu of channel assign to cross-points. |
| Output Fade | ENTER | This displays detailed setup menu of output fade. |
| Multi-view | ENTER | This displays detailed setup menu of multi-view. |
| Aux/Composition | Composition , Aux | This sets which function to use, AUX or Composition. |
| Menu | Here you can make menu-related settings. | |
| Background | 0- 4 -7 | This adjust the transparency of the menu background. |
| Position | Left , Right | This switches the position of menu display. |
| Fader Calibration | ENTER | This calibrates the video fader. |
| RGB IN1 Calibration | ENTER | This calibrates the RGB IN 1. |
| | | If you input white data to RGB IN 1 and execute "Auto," the red/green/blue reception levels are corrected automatically. Correction can also be done manually. When you long-press the [VALUE] knob, the red/green/blue values return to the corrected values. |
| Panel Lock | ENTER | This displays detailed setup menu of Panel Lock. |
| LED Dimmer | 0- 7 | This adjusts the brightness of the top panel LEDs. |
| Factory Reset | Execute | This returns the unit to its factory defaults. |
| Version | | This displays the version of the system program. |

Processing → [VALUE]

| Menu item | Value (Bold: default) | Explanation |
|------------------|--|--|
| Format | 1080p, 2160p(UHD) , 2160p(DCI), 1920x1080, 3840x2160, 4096x2160 | This part select V-600UHD's output (system) format. |
| Scaling | You use the following items to make settings for scaling. | |
| Zoom | 10- 100 -1000% | This adjusts the zoom ratio. |
| Correction | H -4000- 0 +4000 | This adjusts the horizontal zoom size. |
| | V -4000- 0 +4000 | This adjusts the vertical zoom size. |
| Position | H -4096- 0 +4096 | This adjusts the display position in the horizontal direction. |
| | V -2160- 0 +2160 | This adjusts the display position in the vertical direction. |
| Cropping | You use the following items to make settings for cropping. | |
| Orientation | Upper Left , Upper Right, Lower Left, Lower Right, Center | This sets the orientation of cropping. |
| Type | This sets the orientation of cropping. | |
| | Full | When the "Zoom" value is "100%," the entirety of the image is shown on the output screen. |
| | 4:3, 5:4, 16:9 | The image will be cropped according to the selected aspect ratio. If the Zoom value is 100%, the image will be letterboxed. |
| | Manual | The image will be cropped according to the "Manual Width" and "Manual Height" settings. |
| Manual Width | 0- 512 -4096 | This adjusts the horizontal size. |
| Manual Height | 0- 512 -2160 | This adjusts the vertical size. |
| Color Correction | You use the following items to perform color correction. | |
| Brightness | -64- 0 +63 | This adjusts the brightness. |
| Contrast | -64- 0 +63 | This adjusts the contrast. |
| Saturation | -64- 0 +63 | This adjusts the color saturation. |
| Red | -64- 0 +63 | This adjusts the red level. |
| Green | -64- 0 +63 | This adjusts the green level. |
| Blue | -64- 0 +63 | This adjusts the blue level. |
| Color Gamut | Rec.709 , Rec.2020 | This part select output (system) color gamut. This can be selected if Format is "1080p," "2160p (UHD)," or "2160p (DCI)." |
| Dynamic Range | SDR , HDR PQ, HDR HLG | This part select output (system) dynamic range. This can be selected if Format is "1080p," "2160p (UHD)," or "2160p (DCI)." |

Cross-point Assign → [VALUE]

| Menu item | Value (Bold: default) | Explanation |
|-----------|--------------------------------|--|
| XPT1 | Ch.1 -8, Blank, None | This sets the input channel to be assigned to Cross-point [1]-[8] buttons. |
| XPT2 | Ch.1- 2 -8, Blank, None | |
| XPT3 | Ch.1- 3 -8, Blank, None | |
| XPT4 | Ch.1- 4 -8, Blank, None | |
| XPT5 | Ch.1- 5 -8, Blank, None | |
| XPT6 | Ch.1- 6 -8, Blank, None | |
| XPT7 | Ch.1- 7 -8, Blank, None | |
| XPT8 | Ch.1- 8 , Blank, None | |

Output Fade → [VALUE]

| Menu item | Value (Bold: default) | Explanation |
|---------------|---|--|
| Mode | This displays the operation mode of the [OUTPUT FADE] button. | |
| | Fade to Background | This makes the final video output fade to a monochrome picture (background color). |
| | Output Freeze | This freezes the final output video (freeze function). |
| Time | 0– 0.5 –10.0s | This sets the fade time. |
| Curve | Linear , Slow In, Cosine, Slow Out | This sets the fade curve for fade to background. |
| Color Setting | You use the following items to set the background color. | |
| Red | 0– 16 –255 | This sets the red level. |
| Green | 0– 16 –255 | This sets the green level. |
| Blue | 0– 16 –255 | This sets the blue level. |

Multi-view → [VALUE]

| Menu item | Value (Bold: default) | Explanation |
|------------|---|---|
| Layout PGM | Upper Left, Upper Right , Lower Left, Lower Right | This sets the position of PGM section in multi-view monitor. Pressing the [VALUE] knob displays the label entry screen. Here you can edit the label name shown in the multi-view monitor. To confirm the label name, select "OK" and press the [VALUE] knob. |
| Label PGM | PGM | |
| PVW | PVW | |
| XPT1 | CH.1 | |
| XPT2 | CH.2 | |
| XPT3 | CH.3 | |
| XPT4 | CH.4 | |
| XPT5 | CH.5 | |
| XPT6 | CH.6 | |
| XPT7 | CH.7 | |
| XPT8 | CH.8 | |
| Label | Off, On | Turns label display on/off. |
| Background | 0– 5 –7 | Adjusts the transparency of the label background. |
| Position | Lower , Upper | Switches the displayed position of the label. |
| Font | Small, Large | Specifies the font size of the label. |
| Status Bar | Off , On | Turns the status display on/off. |
| ROI Border | This specifies whether the ROI border is shown. | |
| | Shared Ch | A border is shown only for the channel specified as "Shared Ch." |
| | All On | A border is shown for all channels. |
| | Off | A border is not shown. |
| Color | White , Red, Green, Blue, Cyan, Magenta, Yellow, Black | Specifies the color of the ROI border. |

Panel Lock

| Menu item | Value (Bold: default) | Explanation |
|--------------------|-----------------------|--|
| | | These specify whether panel lock is applied (On) or not applied (Off) for each individual button and knob. |
| All | Off , On | All buttons and knobs |
| CUT Switch | Off , On | [CUT] button |
| AUTO Switch | Off , On | [AUTO] button |
| COMPOSITION Switch | Off , On | [COMPOSITION] button |
| DSK Switch | Off , On | [DSK] button |
| OUTPUT FADE Switch | Off , On | [OUTPUT FADE] button |
| MENU Switch | Off , On | [MENU] button |
| Video Fader | Off , On | Video fader |
| PGM Switch 1–8 | Off , On | PGM bus cross-point [1]–[8] buttons |
| PST Switch 1–8 | Off , On | PST bus cross-point [1]–[8] buttons |
| MODE Block | Off , On | MODE [AUX/COMPOSITION] [DSK] button |

Menu List

| Menu item | Value (Bold: default) | Explanation |
|----------------------------------|-----------------------|---|
| AUX/COMPOSITION-DSK Block | | |
| AUX Switch 1–8 | Off , On | AUX cross-point [1]–[8] buttons |
| COMPOSITION Switch | Off , On | COMPOSITION source select cross-point [1]–[8] buttons |
| DSK Switch | Off , On | DSK source select cross-point [1]–[8] buttons |
| Camera ID Switch | Off , On | Camera ID select [1]–[8] buttons |
| Camera Preset Switch | Off , On | Camera preset select [1]–[8] buttons |
| WIPE PATTERN Block | Off , On | WIPE PATTERN [1] [2] [3] [MIX] buttons |
| PinP/ROI SCALING Block | Off , On | PinP/ROI SCALING block buttons and knobs |
| COMPOSITION Block | Off , On | COMPOSITION (PinP1, KEY1) block buttons and knobs |
| DSK Block | Off , On | DSK (PinP2, KEY2) block buttons and knobs |
| MEMORY Block | Off , On | MEMORY block buttons |
| USER1 Switch | Off , On | USER [1] button |
| USER2 Switch | Off , On | USER [2] button |
| AUDIO Block | Off , On | AUDIO block knobs |

LAN/RS-232 Command Reference

V-600UHD support two types of remote-interface communication: LAN and RS-232.

Using the LAN port or RS-232 connector to send specific commands to the V-600UHD from a controlling device lets you operate the V-600UHD remotely.

LAN Interface

This uses the LAN port on the V-600UHD.

You use Telnet to operate the V-600UHD remotely over a LAN (TCP/IP protocol).

Communication standards

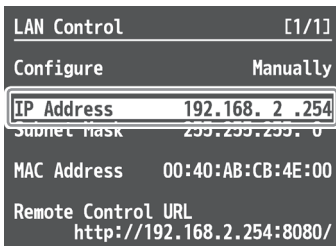
| | |
|-------------|----------|
| Port | LAN port |
| Protocol | TCP |
| Port number | 8023 |

Setting the IP address of the V-600UHD

The method of setting the IP address depends on the Configure setting.

If the Configure setting is "Manually," use the following procedure to make the setting.

1. Select the [MENU] button → "Remote Control" → "LAN Control," and press the [VALUE] knob.
2. Select "IP Address," and use the [VALUE] knob to set the IP address.

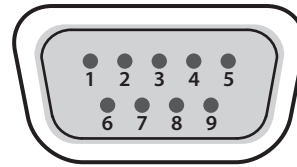


➔ Details on menu items: see p. 46.

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

RS-232 Interface

RS-232 connector pin layout



DB-9 type (male)

Pin assignments

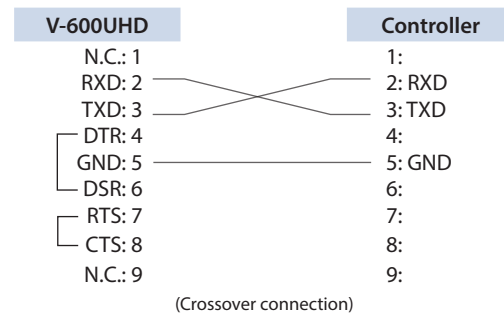
| Pin No. | Signal |
|---------|--------|
| 1 | N.C. |
| 2 | RXD |
| 3 | TXD |
| 4 | DTR |
| 5 | GND |
| 6 | DSR |
| 7 | RTS |
| 8 | CTS |
| 9 | N.C. |

Communication standards

| | |
|----------------------|---|
| Communication method | Synchronous (asynchronous), full-duplex |
| Communication speed | 9,600 bps/38,400 bps |
| Parity | none |
| Data length | 8 bits |
| Stop bit | 1 bit |
| Code set | ASCII |
| Flow control | XON/XOFF |

Cable wiring diagram

Use an RS-232 crossover cable to connect the V-600UHD and the controller (an RS-232-compatible computer or other device).



* The connections between 4 and 6 and between 7 and 8 are inside the V-600UHD.

Command Format

Commands are formatted using the configuration shown below. Commands are all in ASCII code.

| | | | | | | |
|-----|--------------|---|-----------|---|-----------|---|
| stx | Command code | : | Parameter | , | Parameter | ; |
|-----|--------------|---|-----------|---|-----------|---|

| | |
|--------------|---|
| stx | ASCII code "02H" is a control code indicating the start of a command. "H" indicates that it is a hexadecimal value. |
| Command code | This specifies the command type (3 letters of the alphabet). |
| Parameter | This is appended to a command that requires one or more parameter. The command and the parameter portion are separated by a ":" (colon). When there are multiple parameters, they are each separated by "," (comma) characters. |
| ; | This is the code that the V-600UHD recognizes as the end of a command. |

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

List of Commands

* When sending a sequence of commands to the V-600UHD from a controller, after each one, be sure to verify that an "ACK" response is returned before sending the next command.

Video-related operations

| Item | Sent command | Response command | Parameter |
|-----------------------------------|--------------|------------------|---|
| Select PGM channel | stxPGM:a; | ACK | a: 0 (XPT 1) –7 (XPT 8) |
| Select PST channel | stxPST:a; | ACK | a: 0 (XPT 1) –7 (XPT 8) |
| Select channel to send to AUX bus | stxAUX:a; | ACK | a: 0 (XPT 1) –7 (XPT 8) |
| Select transition pattern | stxTRS:a; | ACK | a: 0 (WIPE 1), 1 (WIPE 2), 2 (WIPE 3), 3 (MIX) |
| Set video transition time | stxTIM:a; | ACK | a: 0 (0.0 sec) –40 (4.0 sec) |
| Press the [AUTO] button | stxATO; | ACK | |
| Press the [CUT] button | stxCUT; | ACK | |
| Select COMPOSITION type | stxCTY:a; | ACK | a: 0 (None), 1 (PinP1-1), 2 (PinP1-2), 3 (Key1), 4 (PinP1-1+Key1), 5 (PinP1-2+Key1) |
| Select DSK type | stxDTY:a; | ACK | a: 0 (None), 1 (PinP2-1), 2 (PinP2-2), 3 (DSK), 4 (PinP2-1+Key2), 5 (PinP2-2+Key2) |
| Press the [COMPOSITION] button | stxCMP; | ACK | |
| Press the [DSK] button | stxDSK; | ACK | |
| Set output fade on/off | stxFDE:a; | ACK | a: 0 (OFF), 1 (ON) |
| Set output fade time | stxFDT:a; | ACK | a: 0 (0.0 sec)–100 (10.0 sec) |

Audio-related operations

| Item | Sent command | Response command | Parameter |
|---------------------------------------|--------------|------------------|---|
| Adjust volume level of input audio | stxIAL:a,b; | ACK | a: 0 (HDMI IN1)–7 (TEST TONE) b: -801 (-INF dB), -800 (-80.0 dB)– 0 (0.0 dB)–100 (10.0 dB) |
| Adjust volume level for master out | stxOAL:a; | ACK | a: -801 (-INF dB), -800 (-80.0 dB)– 0 (0.0 dB)–100 (10.0 dB) |
| Adjust volume level for AUX-bus audio | stxOAX:a; | ACK | a: -801 (-INF dB), -800 (-80.0 dB)– 0 (0.0 dB)–100 (10.0 dB) |

System-related operations

| Item | Sent command | Response command | Parameter |
|----------------------------|--------------|--------------------|---|
| Call up memory | stxMEM:a; | ACK | a: 0 (1-1)–63 (8-8) |
| Acquire status of V-600UHD | stxACS; | ACK | |
| Version information | stxVER; | stxVER:V-600UHD,a; | a: Version * The version info is ASCII text strings. |
| Flow control | XON | | |
| Flow control | XOFF | | |

Commands spontaneously sent from the V-600UHD

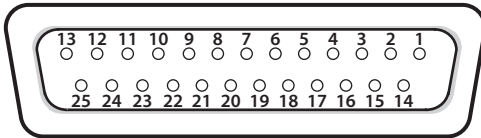
| Item | Sent command | Response command | Parameter |
|----------------|--------------|------------------|--|
| Error detected | | stxERR:a; | a: 0 (syntax error) The received command contains an error. 5 (out of range error) An argument of the received command is out of range. |
| Flow control | | XON | |
| Flow control | | XOFF | |

Control Using the TALLY/GPI Connector

You can operate the V-600UHD remotely from an external device by inputting a GPI control signal via the TALLY/GPI connector. And you can output a tally signal from the TALLY/GPI connector.

Specification of the TALLY/GPI Connector

Pin layout



DB-25 type (female)

Tally output

| | |
|----------------|----------------|
| Trigger method | Open collector |
| Maximum input | 12 V/200 mA |

Control input

| | |
|------------------|--|
| Trigger method | No-voltage contact (make-contact) triggering |
| Contact capacity | DC 24 V 0.1 A or higher |
| Input method | Photocoupler |

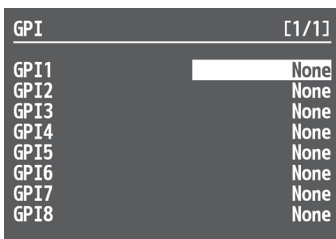
Pin assignments

| Pin No. | Function | Pin No. | Function |
|---------|-------------|---------|-------------|
| 1 | TALLY 1 PGM | 14 | TALLY 7 PST |
| 2 | TALLY 1 PST | 15 | TALLY 8 PGM |
| 3 | TALLY 2 PGM | 16 | TALLY 8 PST |
| 4 | TALLY 2 PST | 17 | GND |
| 5 | TALLY 3 PGM | 18 | GPI 1 |
| 6 | TALLY 3 PST | 19 | GPI 2 |
| 7 | TALLY 4 PGM | 20 | GPI 3 |
| 8 | TALLY 4 PST | 21 | GPI 4 |
| 9 | TALLY 5 PGM | 22 | GPI 5 |
| 10 | TALLY 5 PST | 23 | GPI 6 |
| 11 | TALLY 6 PGM | 24 | GPI 7 |
| 12 | TALLY 6 PST | 25 | GPI 8 |
| 13 | TALLY 7 PGM | | |

Inputting a Control Signal

To operate the V-600UHD remotely using control-signal input, you first assign the function to a GPI channel (1 through 8).

1. Select the [MENU] button → “Remote Control” → “GPI,” and press the [VALUE] knob.
2. Use the [VALUE] knob to specify the function to assign to the GPI channel (1 through 8).



→ Details on menu items: p. 48

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

When a control signal is input from an external source, the assigned function is executed. The GPI trigger is fixed at the trailing edge (low: On).

Outputting a Tally Signal

A tally signal is output from the connector pin corresponding to the video channel being output, also including video composition and transition effects.

Remotely Controlling a Camera

You can connect up to six cameras via the LAN port and remotely control them from the V-600UHD.

You can control cameras made by JVC, Panasonic, PTZOptics, or Avonic, cameras that support VISCA over IP, and cameras made by Canon.

* Refer also to the owner's manual of your camera.

Network Settings on the Camera

In order to control a camera from the V-600UHD, you need to make network settings on the camera. You can register up to six cameras.

1. Select the [MENU] button → "Remote Control" → "Camera Control."
2. Select the menu item, and use the [VALUE] knob to make network settings.

* If "Protocol" is "N/A," menu items following "Protocol" are not shown.

| Menu item | Explanation |
|------------|--|
| Camera ID | Selects the camera to be controlled. |
| Protocol | Specifies the camera's protocol. N/A: No protocol selected JVC: JVCKENWOOD camera Panasonic: Panasonic camera Canon: Canon camera VISCA over IP: Cameras that support VISCA over IP (such as cameras made by Sony) PTZOptics: PTZOptics camera Avonic: Avonic camera |
| IP Address | Input the camera's IP address. |
| Login Name | Press the [VALUE] knob to display the Login Name screen. Enter the log-in name needed to connect with the camera. This is shown if "Protocol" is "JVC" or "Canon." |
| Password | Press the [VALUE] knob to display the Password screen. Enter the password needed to connect with the camera. This is shown if "Protocol" is "JVC" or "Canon." |

3. Press the [VALUE] knob to apply the setting.
4. Press the [MENU] button to quit the menu.

Controlling a JVC/Panasonic/PTZOptics/Avonic Camera or a Camera That Supports VISCA Over IP

Registering Camera Settings in a Preset

Up to eight 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. Select the [MENU] button → "Remote Control" → "Camera Control" → "Camera ID."
2. Use the [VALUE] knob to select the camera that you want to control, and press the [VALUE] knob to confirm.
3. Select a menu item, and use the [VALUE] knob to control the camera's setting.
Adjust the Pan, Tilt, Zoom, and Focus etc.
4. Press the [VALUE] knob to apply the setting.
5. Select CAMERA PRESET "STORE."
6. Use the [VALUE] knob to select the preset (Preset 1–8) in which you want to register the settings, and press the [VALUE] knob.
7. Use the [VALUE] knob to select "Store," then press the [VALUE] knob.
The camera settings are registered in the preset.
8. Press the [MENU] button to quit the menu.

Recalling a Preset

Recalling from a Single Camera

1. Select the [MENU] button → "Remote Control" → "Camera Control" → set Camera Preset "All Cameras Recall" to "Off."
2. Press and hold the MODE [DSK] button to make it light up in light blue.
The unit is in camera preset mode.
The AUX/COMPOSITION - [DSK] buttons operate as preset select buttons.
3. Using the [VALUE] knob, change the "CAMERA ID" to select the camera whose preset you want to recall.
4. Press the AUX/COMPOSITION - DSK [1]–[8] buttons for the preset number whose setting you want to recall.
The preset recalled from the camera.
The selected button is lit light blue.
5. To exit camera preset mode, press the MODE [DSK] button to make it light green or blue.

Recalling from All Cameras Simultaneously

1. Select the [MENU] button → “Remote Control” → “Camera Control” → set Camera Preset “All Cameras Recall” to “On.”
2. Press and hold the MODE [DSK] button to make it light up in light blue.
The unit is in camera preset mode.
The AUX/COMPOSITION - [DSK] buttons operate as preset select buttons.
3. Press the AUX/COMPOSITION - DSK [1]–[8] buttons for the preset number whose setting you want to recall.
Presets are recalled from all cameras simultaneously.
The selected button is lit magenta.
4. To exit camera preset mode, press the MODE [DSK] button to make it light green or blue.

Controlling a Canon Camera

Here’s how to control the settings of the connected camera from the V-600UHD.

1. Select the [MENU] button → “Remote Control” → “Camera Control” → “Camera ID.”
2. Use the [VALUE] knob to select the camera that you want to control, and press the [VALUE] knob to confirm.
3. Select a menu item, and use the [VALUE] knob to control the camera’s setting.
Adjust the Zoom and Focus etc.
4. Press the [VALUE] knob to apply the setting.
5. Press the [MENU] button to quit the menu.

Setting the Automatic ROI

The explanation here describes example settings for when a supported Canon camera is connected to HDMI IN1, and Automatic ROI is used to detect the person at the left in Input Ch. 1 and the person at the right in Input Ch. 2.

Connecting the V-600UHD and Cameras

Use a network cable to connect the V-600UHD’s LAN port to the Ethernet port of the Canon camera.

Use an HDMI cable to connect the V-600UHD’s HDMI IN 1 connector to the Canon camera’s HDMI OUT connector.

Making Settings on the Canon Camera

In Network Settings, add the following Ethernet settings.

| Menu item | Value |
|------------------------------|---------------|
| IP address assignment method | Manually |
| IP Address | 192.168.2.101 |
| Subnet Mask | 255.255.255.0 |

In Network Settings, enable the “Browser Remote” function.

In Display Setup, set “HDMI Max Resolution” to “3840x2160.”

In Camera Setup, set “Face Detection & Tracking” to “On.”

Making Network Settings for the V-600UHD

1. Select the [MENU] button → “Remote Control” → “LAN Control,” and press the [VALUE] knob.
2. Set each item as follows.

| Menu item | Value |
|-------------|---------------|
| Configure | Manually |
| IP Address | 192.168.2.254 |
| Subnet Mask | 255.255.255.0 |

3. Press the [MENU] button to quit the menu.
4. Turn the [POWER] switch off to turn the power off, and then turn the [POWER] switch on to turn the power on.
After the unit restarts, the changed network settings take effect.

Making Camera Control Settings for the V-600UHD

1. Select the [MENU] button → “Remote Control” → “Camera Control” → “Camera ID.”
2. Use the [VALUE] knob to select the “Camera 1,” and press the [VALUE] knob to confirm.
3. Set each item as follows.

| Menu item | Value |
|---------------|---------------|
| Protocol | Canon |
| IP Address | 192.168.2.101 |
| Automatic ROI | Enabled |
| Input Ch | Ch.1 |

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

Making Input Assign/Scaling Settings for the V-600UHD

1. Select the [MENU] button → “Input” → “Assign/Scaling,” and press the [VALUE] knob.
2. Set each item as follows.

Ch.1

| Menu item | Value |
|-----------|--------------|
| Source | HDMI/RGB IN1 |

Ch.1 Scaler

| Menu item | Value |
|---------------|----------|
| Automatic ROI | Enabled |
| Zoom | Close Up |
| Area | Left |
| Face Number | 1 |
| Adjust | 0% |
| Lost Zoom Out | Off |
| Tracking | Slow |
| Look Ahead | Off |
| Offset H | 0 |
| Offset V | 0 |
| Hold Time | 0.5s |

Ch.2

| Menu item | Value |
|-----------|-------------|
| Source | Shared Ch.1 |

Ch.2 Scaler

| Menu item | Value |
|---------------|----------|
| Automatic ROI | Enabled |
| Zoom | Close Up |
| Area | Right |
| Face Number | 2 |
| Adjust | 0% |
| Lost Zoom Out | Off |
| Tracking | Slow |
| Look Ahead | Off |
| Offset H | 0 |
| Offset V | 0 |
| Hold Time | 0.5s |

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

Appendix

Troubleshooting

If you suspect a malfunction, please check the following points. If this does not resolve the problem, contact a nearby Roland Service Center.

| Problem | Items to check | Action | Page |
|---|---|--|-------|
| Video-related problems | | | |
| Nothing is displayed on the multi-view monitor. | Does the connected monitor support a resolution and refresh rate of 1920 x 1080/60 Hz (progressive) and HDCP? | Nothing is displayed if the monitor is not compatible. | – |
| No picture is input. | Could you be inputting copy-protected (HDCP) video? | If you want to input copy-protected (HDCP) video, set the System menu "HDCP" setting to "On." | p. 15 |
| Analog RGB input is not output. | Is the video source at the HDMI/RGB IN1 set to RGB IN1? | In the factory-default state, HDMI/RGB IN1 is assigned to HDMI IN1 input. The assignment must be changed to RGB IN1 input. | p. 12 |
| Video from the computer is corrupted. | When a rapidly moving video is input from a computer, out-of-sync motion, flicker, or other picture corruption may occur. | This is called "tearing," and does not indicate an equipment malfunction. | – |
| Nothing is output from the SDI OUT connector. | Has the setting for inputting HDCP signal been made? | When "HDCP" at the System menu is set to "On," video is output only from the HDMI OUT connectors. No video is output via the SDI OUT connectors. | p. 15 |
| Can't use COMPOSITION compositing | Could the System menu item "Aux/Composition" be set to "Aux"? | If the System menu item "Aux/Composition" is set to "Aux," you can't use COMPOSITION. If you want to use COMPOSITION, set "Aux/Composition" to "Composition." | p. 49 |
| Still-image cannot be imported. | Are you importing a still image whose format and resolution are supported by the V-600UHD? | Still images of unsupported formats or resolutions are not recognized. Prepare a still image whose format and resolution are supported by the V-600UHD. | p. 18 |
| Audio-related Problems | | | |
| No audio is output. Audio volume is low. | Could the volume of the connected amp or speaker be lowered? | Adjust the volume appropriately. | – |
| | Could the audio be muted? | In the Audio menu, defeat muting. | p. 42 |
| Other Problems | | | |
| Switching is not complete even when the video fader is moved. | Factors such as continued use and transportation can sometimes cause the video to fail to be switched completely. | Perform calibration of the video fader. Execute calibration, select "Fader Calibrate" in System menu. | p. 49 |
| The panel indicators are too bright/dark. | Has indicator brightness been adjusted appropriately? | Go to the System menu and use "LED Dimmer" to adjust indicator brightness. | p. 49 |
| A USB flash drive cannot be read. | Has the USB flash drive been formatted on the V-600UHD? | The V-600UHD does not recognize unformatted USB flash drives. Operation has been tested for commonly available USB flash drives, but operation of all USB flash drives is not assured. Depending on the manufacturer and type of the USB flash drive, correct operation may not be possible. | p. 28 |
| Can't operate buttons or knobs | Could panel lock be on? | If the multi-view monitor indicates "Operation Locked,," panel lock is on. Hold down the [MENU] button and long-press the [EXIT] button (three seconds or longer) to turn panel lock off. | – |

Shortcut List


While a menu is displayed

These shortcuts access a specific menu.

| Shortcut | Menu display |
|------------------------------------|---|
| [MENU] + USER [1] | USER (USER 1 Assign selected) (*1) |
| [MENU] + USER [2] | USER (USER 2 Assign selected) (*1) |
| [MENU] + COMPOSITION PinP1 [1] | PinP1 Position 1 (Comp.) |
| [MENU] + COMPOSITION PinP1 [2] | PinP1 Position 2 (Comp.) |
| [MENU] + COMPOSITION KEY1 [KEY ON] | Key1 (Composition) |
| [MENU] + DSK PinP2 [1] | PinP2 Position 1 (DSK) |
| [MENU] + DSK PinP2 [2] | PinP2 Position 2 (DSK) |
| [MENU] + DSK KEY2 [KEY ON] | Key2 (DSK) |
| [MENU] + [OUTPUT FADE] | Output Fade (System) |
| [MENU] + PST [1]–[8] | <p>While the Signal Status menu is displayed Shows the detailed settings menu for each input channel.</p> <p>While the Input menu is displayed Shows the detailed settings menu for the corresponding input connector.</p> <p>While the Audio menu is displayed Shows the detailed settings menu for the corresponding audio input.</p> <p>While the Still Image/Capture menu item Still Image Information is displayed Shows information for the corresponding still image (1–8).</p> <p>While a menu other than the above is displayed Shows the detailed settings menu for each input channel's Scaler.</p> |
| [MENU] + MODE [AUX/COMPOSITION] | System (Aux/Composition selected) |
| [MENU] + WIPE PATTERN [1] | Wipe Preset 1 (Transition) |
| [MENU] + WIPE PATTERN [2] | Wipe Preset 2 (Transition) |
| [MENU] + WIPE PATTERN [3] | Wipe Preset 3 (Transition) |
| [MENU] + WIPE PATTERN [MIX] | Transition (Pattern Mix selected) |
| [MENU] + [COMPOSITION] | Composition |
| [MENU] + [DSK] | DSK |

(*1) If the USER1 and USER2 settings are "Mute Group" and "Mute Group Setup" is shown, you can use [MENU] + USER [1] to move to USER1 Mute Setup, or use [MENU] + USER [2] to move to USER2 Mute Setup.

While a menu is not displayed

| Shortcut | Function |
|---|--|
| [MENU] + PST [1]–[8] [MENU] + [EXIT] + PST [1]–[8] | <p>Switches to the video source of the input channel corresponding to the PST [1]–[8] button number. The video source switches each time you hold down the [MENU] button and press the PST button.</p>  <p>* If you perform the same operation while holding down the [EXIT] button, you switch to the previous video source.</p> |
| [EXIT] + USER [1] [EXIT] + USER [2] | <p>If the USER1/USER2 settings are "STILL1 Image Select"/"STILL2 Image Select," hold down the [EXIT] button and press the USER [1]/USER [2] button to switch the still image selection to the previous one.</p> |

Main Specifications

Roland V-600UHD: 4K HDR MULTI-FORMAT VIDEO SWITCHER

| ■ Processing | | | |
|--|---|---|--|
| Video Processing | 4:4:4 (Y/Pb/Pr), 10-bit | | |
| Supported Video Input Formats (*1) | HDMI | Video, CEA-861-F | 720/50p, 720/59.94p, 1080/59.94i, 1080/50i, 1080/59.94p, 1080/50p, 2160/59.94p (UHD 4K), 2160/50p (UHD 4K), 2160/59.94p (DCI 4K), 2160/50p (DCI 4K) |
| | | PC, VESA DMT | 1600 x 1200/60 Hz (UXGA) |
| | | PC, VESA DMT | 1024 x 768/60 Hz (VGA) |
| | | PC, VESA CVT | 1280 x 768/60 Hz (WXGA) |
| | | PC, VESA DMT | 1280 x 1024/60 Hz (SXGA) |
| | | PC, VESA CVT | 1400 x 1050/60 Hz (SXGA+) |
| | | PC, CEA-861-F | 1920 x 1080/60 Hz (FHD) |
| | | PC, VESA CVT | 1920 x 1200/60 Hz (WUXGA, Reduced blanking) |
| | | PC, CEA-861-F | 3840 x 2160/24 Hz (UHD 4K), 3840 x 2160/30 Hz (UHD 4K), 3840 x 2160/60 Hz (UHD 4K), 4096 x 2160/24 Hz (DCI 4K), 4096 x 2160/30 Hz (DCI 4K), 4096 x 2160/60 Hz (DCI 4K) |
| | RGB | PC, VESA DMT | 1600 x 1200/60 Hz (UXGA) |
| | | PC, CEA-861-F | 1920 x 1080/60 Hz (FHD) |
| | SDI | Video, SMPTE ST274 | 1080/59.94i, 1080/50i, 1080/59.94p, 1080/50p |
| | | Video, SMPTE ST2036 | 2160/59.94p (UHD 4K), 2160/50p (UHD 4K) |
| | | Video, SMPTE ST2048 | 2160/59.94p (DCI 4K), 2160/50p (DCI 4K) |
| | Still Image | Windows Bitmap File (.bmp), Maximum 4096 x 2160 pixels, 24-bit per pixel, uncompressed | |
| | | PNG File (.png), Maximum 4096 x 2160 pixels * Alpha channel of PNG file is not loaded. | |
| Pattern Generator: | 12 patterns, 4 motions | | |
| Supported Video Output Formats (*1) | HDMI | Video, CEA-861-F | 1080/59.94p, 1080/50p, 2160/59.94p (UHD 4K), 2160/50p (UHD 4K), 2160/59.94p (DCI 4K), 2160/50p (DCI 4K) |
| | | PC, CEA-861-F | 1920 x 1080/30 Hz (FHD) (*2), 1920 x 1080/60 Hz (FHD), 3840 x 2160/30 Hz (UHD 4K), 3840 x 2160/60 Hz (UHD 4K), 4096 x 2160/30 Hz (DCI 4K), 4096 x 2160/60 Hz (DCI 4K) |
| | | MULTI-VIEW, PC, CEA-861-F | 1920 x 1080/60 Hz (FHD) |
| | SDI | Video, SMPTE ST274 | 1080/59.94p, 1080/50p |
| | | Video, SMPTE ST2036 | 2160/59.94p (UHD 4K), 2160/50p (UHD 4K) |
| | | Video, SMPTE ST2048 | 2160/59.94p (DCI 4K), 2160/50p (DCI 4K) |
| Video Effects | Transition | Mix, Cut, Wipe (9 patterns) | |
| | Composition | PinP, Key (*3), PinP + Key (*3) | |
| | DSK | PinP, Key (*3), PinP + Key (*3) | |
| | Others | Output Fade, Output Freeze, Output Capture | |
| Audio Processing | 24 bits/48 kHz | | |
| Audio formats | SDI IN/OUT | Linear PCM, 24 bits/48 kHz, 16 ch (Conforms to SMPTE 299M) | |
| | HDMI IN/OUT | Linear PCM, 24 bits/48 kHz, 2 ch | |
| Audio Effects | Matrix mixer Delay (1 ms units, max 500 ms) Test tone output | | |
| Other Functions | Memory (64 settings) EDID Emulator (HDMI IN) Panel Lock function Remote Camera Control | | |

(*1) Conforms to VESA DMT, VESA CVT, CEA-861-F
Color Gamut: Rec.709, Rec.2020
Dynamic Range: SDR, HDR PQ (HDR10), HDR HLG

(*2) "1920 x 1080/30 Hz (FHD)" is output when the following settings are used.

- In System menu → Processing → Format: 3840x2160
- In System menu → Frame Rate: 30Hz
- In Output menu → HDMI OUT 1-3 → Down Convert: Enabled

(*3) Luminance Key, Chroma Key

| Connectors | | |
|-------------------|-------------------------------|---|
| Input Connectors | HDMI IN 1–4 connectors | HDMI type A (HDMI 2.0) |
| | SDI IN 5–6 connectors | BNC type (12G/3G/HD-SDI, Conforms to SMPTE 2082, 424M (Level-A, Level-B), 292M) |
| | RGB IN 1 connector | HD DB-15 type (Analog RGB, Select HDMI IN 1 or RGB IN 1 using menu) |
| | AUDIO IN L/R connectors (*4) | XLR-3-31 type (balanced) |
| Output Connectors | SDI OUT connector | BNC type (12G/3G-SDI, Conforms to SMPTE 2082, 424M (Level-A, Level-B)) |
| | HDMI OUT 1–3 connectors | HDMI type A (HDMI 2.0) |
| | MULTI-VIEW connector | HDMI type A (HDMI 1.4) |
| | AUDIO OUT L/R connectors (*4) | XLR-3-32 type (balanced) |
| | PHONES jack | Stereo miniature phone type |
| Other Connectors | USB MEMORY port | USB A type (for USB flash drive) |
| | RS-232 connector | DB-9 type (Male) (for Remote Control) |
| | LAN port | RJ45 type, 100BASE-TX (for Remote Control) |
| | TALLY/GPI port | DB-25 type (Female) (Tally: 16, GPI: 8) |

(*4) XLR type: 1 GND, 2 HOT, 3 COLD

| Audio Input/Output Characteristics | | |
|------------------------------------|---------------|---------------------------|
| Input Level | AUDIO IN L/R | +4 dBu (Maximum: +24 dBu) |
| Input Impedance | AUDIO IN L/R | 15 kΩ |
| Output Level | AUDIO OUT L/R | +4 dBu (Maximum: +24 dBu) |
| | PHONES | 92 mW + 92 mW (32 Ω) |
| Output Impedance | AUDIO OUT L/R | 600 Ω |
| | PHONES | 10 Ω |

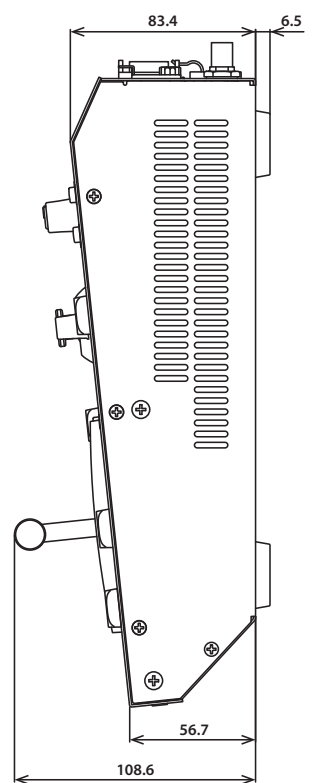
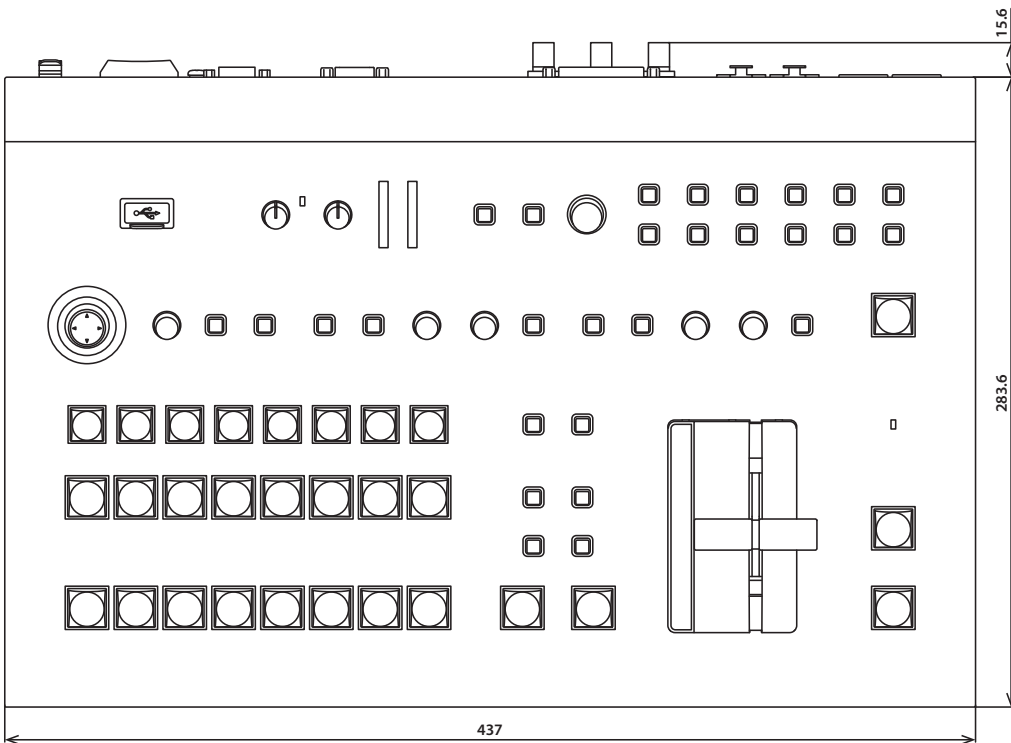
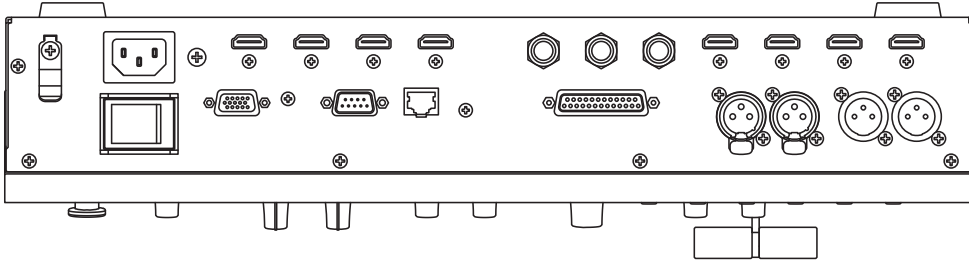
| Others | |
|-----------------------|--|
| Power Consumption | 80 W |
| Dimensions | 482 (W) x 300 (D) x 116 (H) mm 19 (W) x 11-13/16 (D) x 4-5/8 (H) inches * When rack mount angles are fitted. |
| Weight | 5.3 kg 11 lbs 11 oz * Including rack mount angles. |
| Operation Temperature | +5 to +40 degrees Celsius +41 to +104 degrees Fahrenheit |
| Accessories | Owner's Manual Power cord Rack-mount angle x 2 |

* 0 dBu = 0.775 Vrms

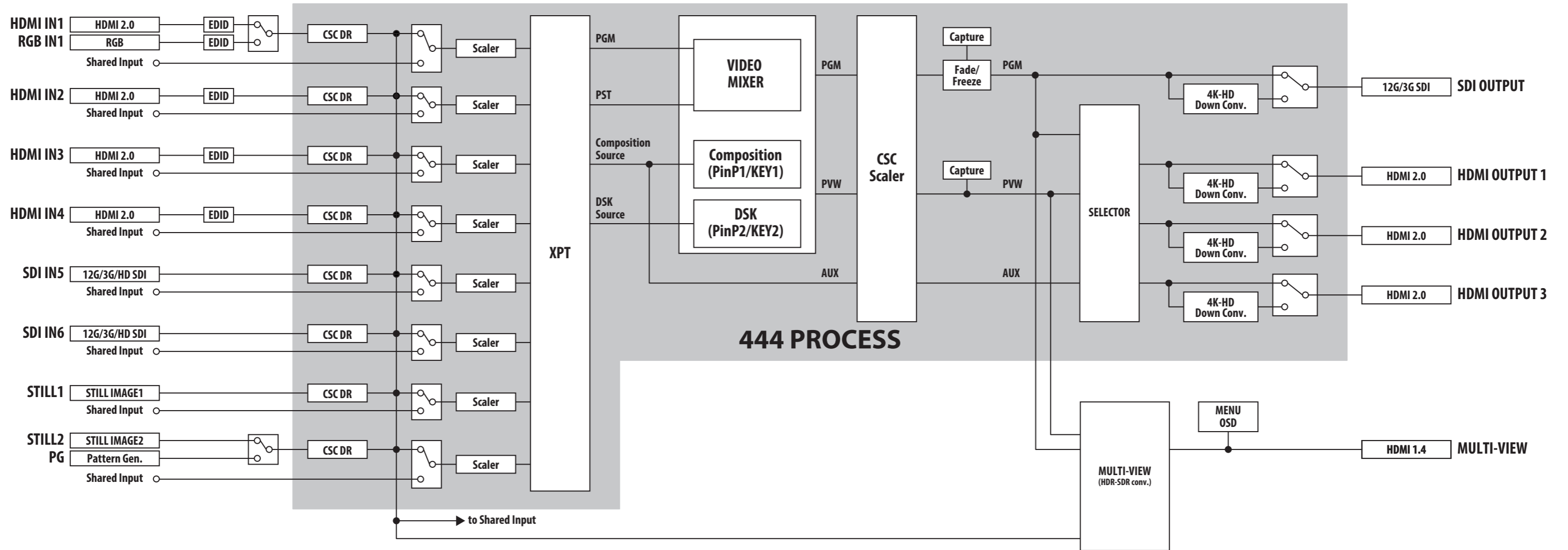
* This product is a Class A digital device under FCC part 15.

Dimensions

Unit: mm



VIDEO Block Diagram



AUDIO Block Diagram

