

Live Content Producer

Operating Instructions

Before operating the unit, please read this manual thoroughly and retain it for future reference.

AWS-750

Software Version 2.0

Ancast Touch **HDMI**

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Important Notes

Copyrights

Using this unit for video and/or audio switching, or distribution over the Internet or otherwise may in some cases require the permission of the copyright holder of the video or audio.

To protect copyright, observe the following points carefully when using this unit.

- When connecting a recording device to this and recording video or audio, carefully observe laws relating to copyright.
- Without the permission of the copyright holder, the showing or distribution of video or audio material of which the copyright is held by a third party, and permitting of access to a private group or to the public is prohibited by law.
- Even with the right to show or distribute, the act of using this unit to edit original content with wipes or dissolves, for example, may be prohibited by law.
- With a software upgrade or functional extension, with the object of protecting copyright, the specifications for the video and audio signals that can be input may be changed without notice.
- Under copyright law, you may not use recorded video or audio other than for your personal enjoyment without the permission of the copyright holder. Note that at live performances, shows and exhibitions, even for your personal entertainment shooting may be restricted.

Note on Faulty Pixels on the LCD Panel

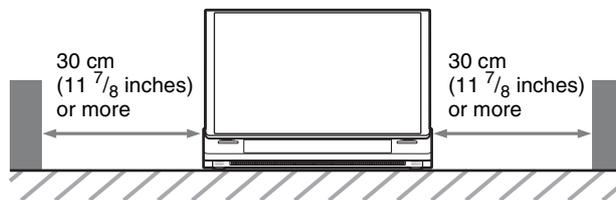
The LCD panel fitted to this unit is manufactured with high precision technology, giving a functioning pixel ratio of at least 99.99%. Thus a very small proportion of pixels maybe “stuck”, either always off (black), always on (red, green, or blue), or flashing. In addition, over a long period of use, because of the physical characteristics of the liquid crystal display, such “stuck” pixels may appear spontaneously. These problems are not a malfunction. Note that any such problems have no effect on recorded data.

Points to Check Before Using Devices

- When streaming valuable data, be sure to check the device connections beforehand, or carry out a streaming test, to make sure that the system is operating normally.
- Verify that movie files can be played on the unit beforehand.
- Sony will not be liable for any data that fails to be recorded onto the internal storage during use of the unit’s recording function.

Installation

Install the unit on a flat, level surface. There are ventilation holes on both sides of the unit. To ensure adequate air flow, there must be a space of at least 30 cm (11 7/8 inches) on each side of the unit.



Note on Images Used in this Manual

The images used in this manual are created to aid in explaining operations. The actual images that are displayed or output during operations may differ.

Version Update History

Functions Added with V2.0

The following functions have been added to V2.0 of AWS-750.

IP control for remote cameras and additional supported models

You can now control remote cameras via IP. Operation with an RM-IP10 IP Remote Controller is also possible. In addition, the SRG-300SE/301SE and SRG-120DH models are now supported.

For details, see “Controlling Remote Cameras” (page 47) and “Remote Camera Connections and Settings” (page 98).

Usable LAN 2 connector

You can now use the LAN 2 connector. The functions that can be configured for it differ from that of the LAN 1 connector.

For details, see “Right” (page 14) in the “Parts Identification” section and “Configuring Network Settings” (page 96).

Additional destination streaming servers supported

In addition to Ustream, you can now connect to other standalone servers to perform streaming. In addition, custom setting presets can now be saved for each destination streaming server.

For details, see “Streaming” (page 79).

Repeat playback for the Media Player

You can now perform repeat playback by specifying a start and end position in the playback file.

For details, see “Playing Back Material Files in the Media Player” (page 53).

Functions Added with V1.3

The following functions have been added to V1.3 of AWS-750.

Support for HD SDI 720p input and output

You can now input and output HD SDI 720p (50p, 59.94p) video signals and embedded audio signals via the HD SDI input connectors and the HD SDI output connector.

For details, see [Input] (page 102) and [Output] (page 104) of the [System Setup] menu > [Video Setup] screen.

Notes

- The recording format will be fixed at 1080i, regardless of the video format of the SDI PGM connector.
- The HD SDI connector (PGM/AUX) cannot be switched to HD (720p).

Functions Added with V1.2

The following functions have been added to V1.2 of AWS-750.

Tracking function

You can now automatically track a specified object (e.g., a person) in the video of a camera connected to the unit via a VISCA cable.

A framing function that allows you to control VISCA cameras to center the video display on the object you specify is also supported.

For details, see “Tracking Targets (Tracking Function)” (page 67).

GUI tally function

A mode that displays tallies on the buttons of sources being used as the PGM output and NEXT selection sources in the main screen’s [Input] list has been added.

For details, see “Using the GUI Tally Function” (page 51).

Camera tally function

You can now turn tally lamps on cameras on and off via the output pins on the GPI connector at the rear of the unit when a camera’s video is being used as the PGM output or NEXT selection source. In addition, the tally lamps on remote cameras connected to the VISCA connector can also be turned on and off during PGM output.

For details, see “Using the Camera Tally Function” (page 52).

Expansion of Picture-in-Picture Function

The following functions have been added for the picture-in-picture effect patterns selected in the [Effect] list.

- Color and width adjustments for borders
- Custom configuration of overlay video sizes and rotation for adding a sense of perspective
- Opacity adjustment and top/bottom switching between overlapping overlay videos
- Crop adjustment

For details, see “Compositing Videos Using Picture-in-Picture (PinP)” (page 57).

User templates added to the Titler

You can import still image files to the “Titler Template” category. This allows you to insert text on or otherwise edit imported still image files before saving them as user templates and using them.

Editing such as text modification can also be performed on preset templates, which can then be saved as user templates.

For details, see “Creating Titles (Titler)” (page 85).

Angle of view processing for SD signals

You can now select [16:9 (Wide Zoom)] as the input format for SD signals (SD SDI / composite), in addition to [4:3 (Center)].

[Squeeze] and [Edge Crop] can also be selected as the output format for SD signals (SD SDI), in addition to [Letter Box].

For details, see “Supported Input Formats” (page 116) and “Supported Output Formats” (page 117).

Additional remote camera model support

The SRG-300H, EVI-H100S, and EVI-H100V models are now supported.

In addition, “Unknown” will be displayed for the device name of unsupported cameras.

For details, see “Remote Camera Connections and Settings” (page 98).

Simultaneous operations

The following operations can now be performed simultaneously.

- Pan/tilt operations and zoom operations for remote cameras
- Enabling/disabling channels for multiple audio faders

[HDCP Handling] function added (HDCP support)

By enabling the [HDCP Handling] function, HDCP material that is input to an HDMI connector (IN4) can now be output from another HDMI connector (PGM/AUX).

However, due to compliance with HDCP, certain limitations apply when this function is enabled, such as the output of video and digital audio signals from connectors other than the HDMI output connector being disabled.

For details, see “[HDCP Handling]” under “System” (page 104).

Note

This function is only supported on AWS-750 units that support HDCP (i.e., units with the following serial numbers).

Serial number: 11001 or later

Timecode output function

Timecodes are now embedded in HD SDI outputs.

Overview

Features

The AWS-750 Live Content Producer is an all-in-one audiovisual production system equipped with video switching, camera control, audio mixing, and live Internet distribution functions. Video switching and audio mixing can be performed via simple operations.

Designed with user-friendliness in mind, the unit is equipped with two touchscreen displays, allowing you to monitor and switch source materials in the main screen while mixing audio and configuring settings in the sub screen, for example.

Main screen
Perform video switching operations.

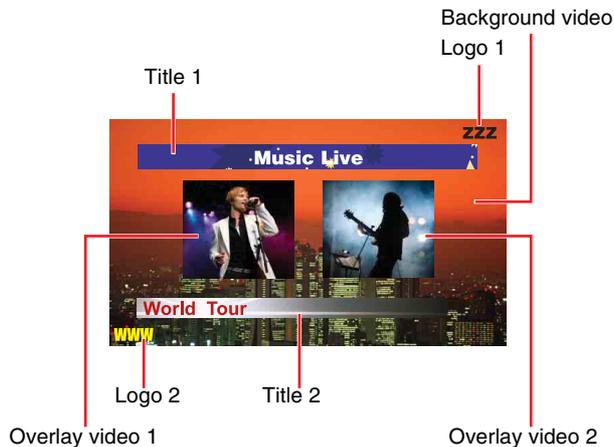


Sub screen
Perform audio mixing and setting configurations.

Video switching

Composites of up to seven sources

You can overlay up to six images onto a background video, including logos, titles, and separate picture-in-picture (PinP) videos (i.e., overlay videos).



Composites can include up to two of each type of overlay (i.e., titles, logos, and overlay videos) at one time.

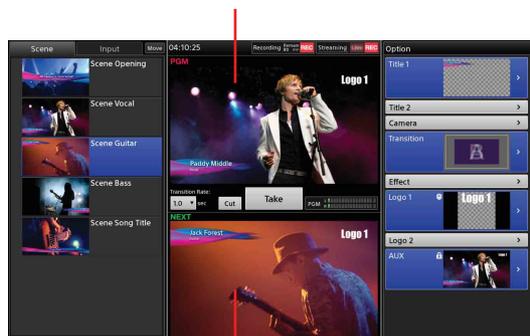
Variety of video inputs

The unit supports six video lines of input (HD/SD-SDI, composite, RGB, HDMI), allowing operations that utilize HD/SD video and PC signals at the same time, and production of a variety of video composites with high visual impact.

Video previewing

You can preview the video that will be used as the next program output in the [NEXT] viewer.

[PGM] viewer
Displays the current program output video.



[NEXT] viewer
Displays the next program output video.

Saving video composites as scenes

You can save video composites as scenes that can be recalled whenever necessary.

Title creation

This unit includes a Titler function for creating titles via simple operations.

You can use the Titler to create titles that can be immediately inserted into videos or edited whenever necessary.

Recording to internal storage

You can record video composites and mixed down audio to the unit's internal storage. The recorded files can be edited using various nonlinear editors.

Two-channel output (AUX)

In addition to PGM, another video output (AUX) is available on this unit.

You can use this feature when you want to output two different videos using two projectors, or when you want to output a video without the titles and logos of the PGM output.

Audio mixing

You can mix up to five channels audio inputs.

Each channel is equipped with various functions, such as a fader, input trim, filter, equalizer, limiter, compressor, and pan (balance), allowing you to adjust the audio quality and levels for each channel individually.

Remote camera control

You can perform pan, tilt, zoom, and other remote controls for VISCA-compatible cameras. Pan, tilt, zoom, and other conditions can be saved as presets that can be recalled whenever necessary.

You can also track people and tap the [NEXT] viewer to move the center position of the camera to the tapped position.

Tally function

You can have the tally on a camera light when the camera's video is being used as the PGM output or NEXT selection source.

Tallies can also be displayed for the PGM output and NEXT selection sources in the [Input] list.

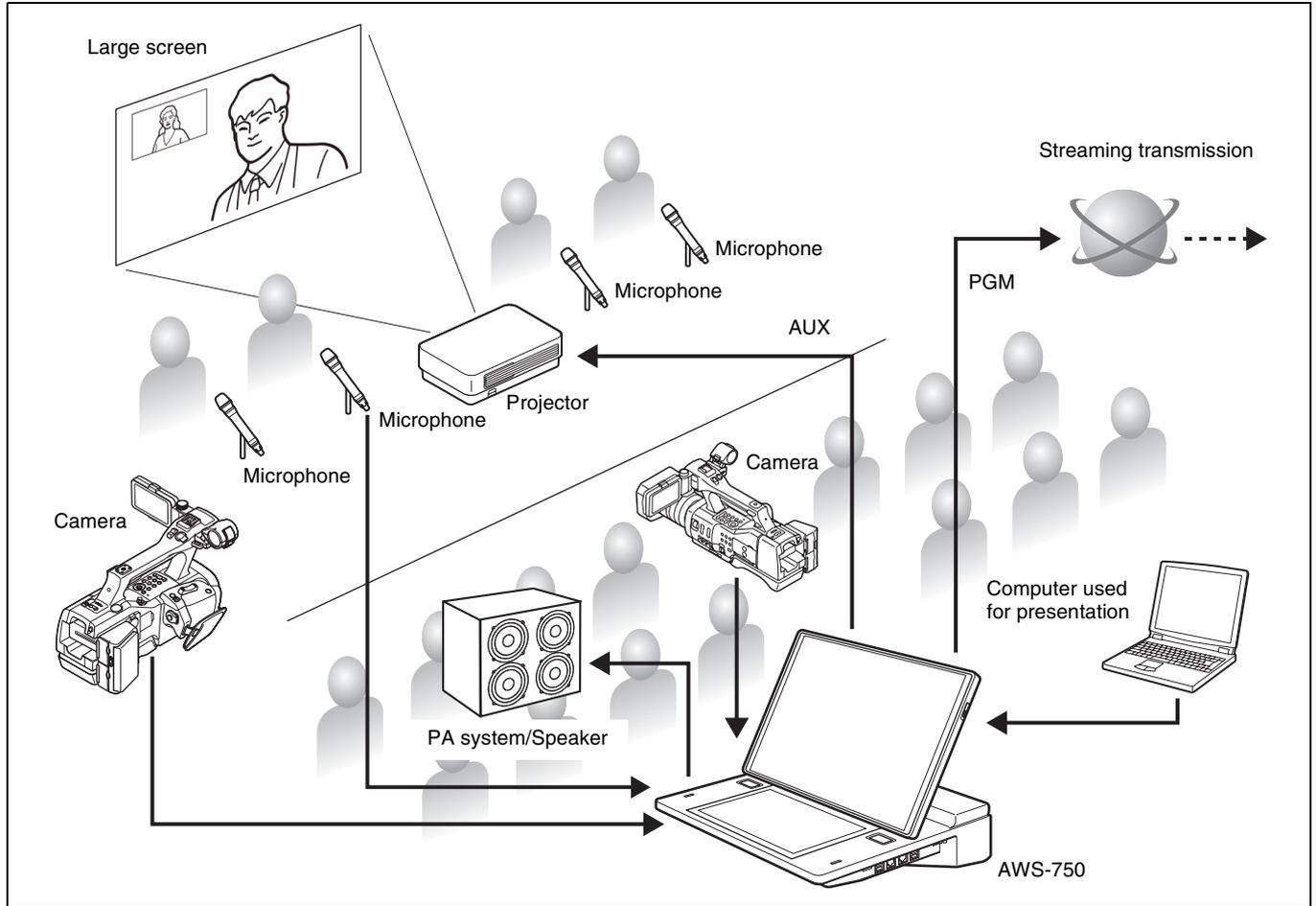
Streaming transmission

Video composites and mixed down audio can be encoded on the unit and streamed live using an external server, or recorded to the unit's internal storage as a VOD (video on demand) file.

System Configuration and Operation Flow

A system configuration example and the settings required for the configuration are described here.

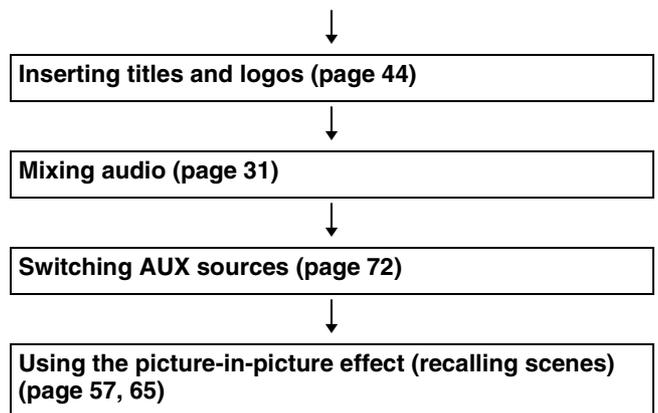
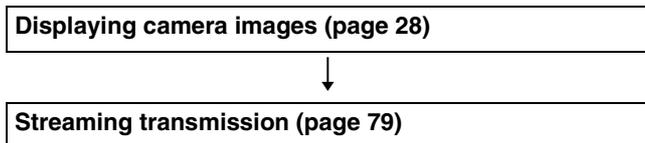
Use in Various Events



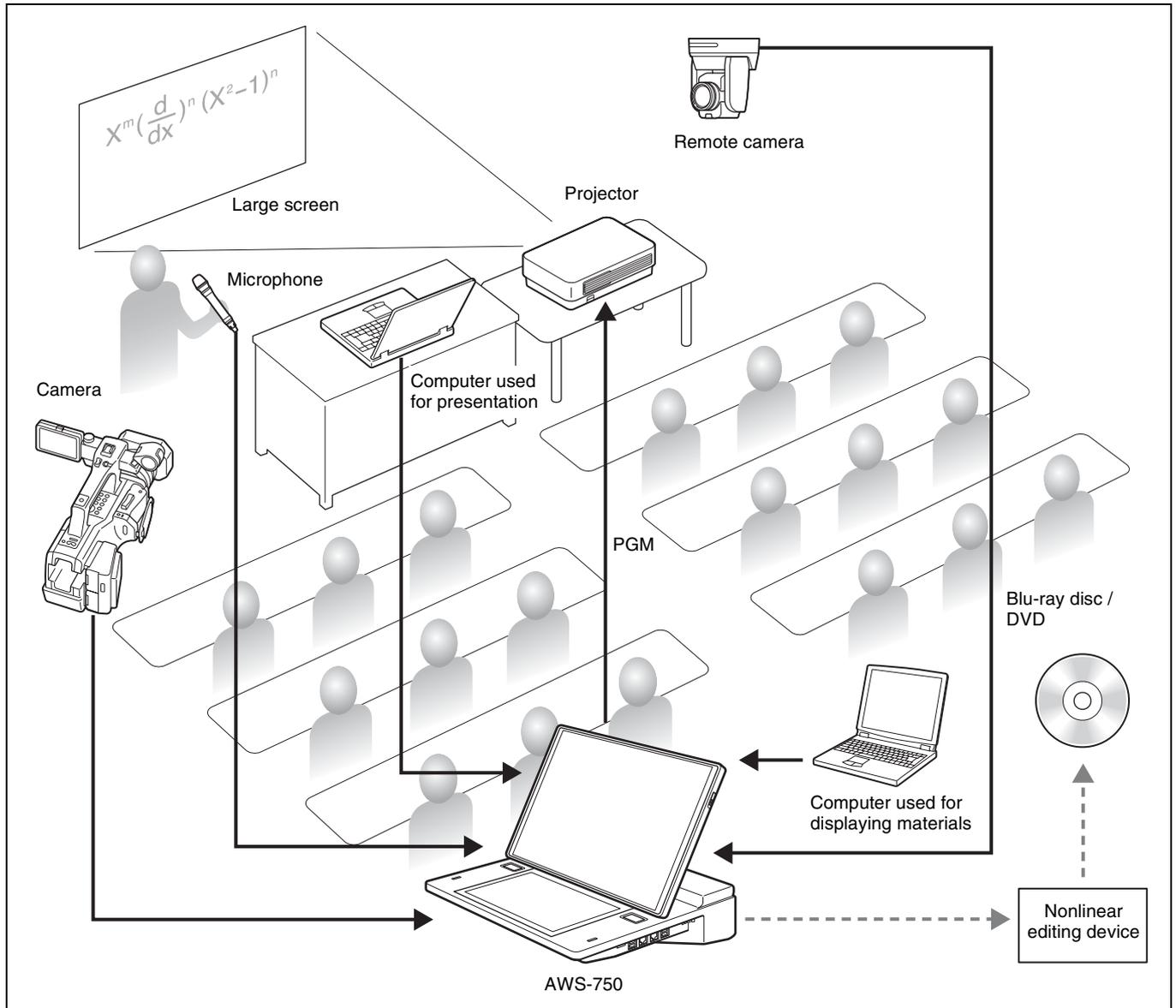
Preparation settings

- Video input/output settings (page 102)
- Audio input/output settings (page 105)
- Creating titles (page 44, 85)
- Preparing logos (page 44, 91)
- Creating and saving scenes (page 65)
- Assigning video inputs (page 39, 102)
- Streaming settings (page 79)
- AUX settings (page 71)

Operation flow



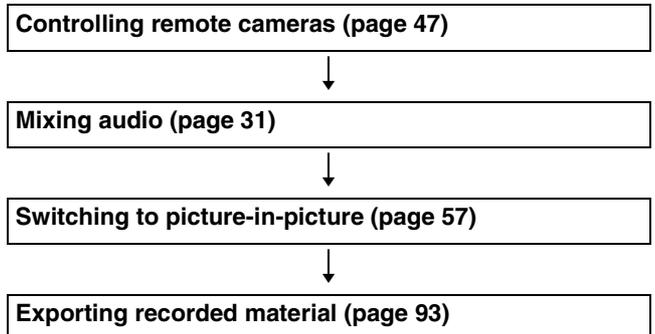
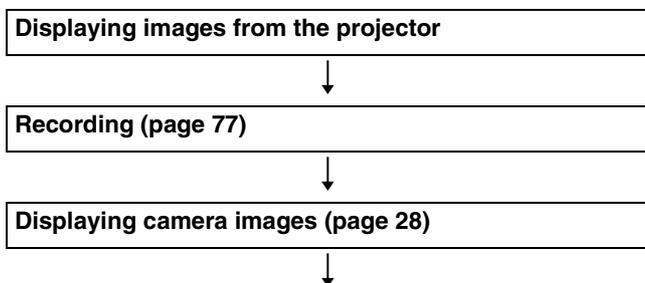
Use in Lectures and Seminars



Preparation settings

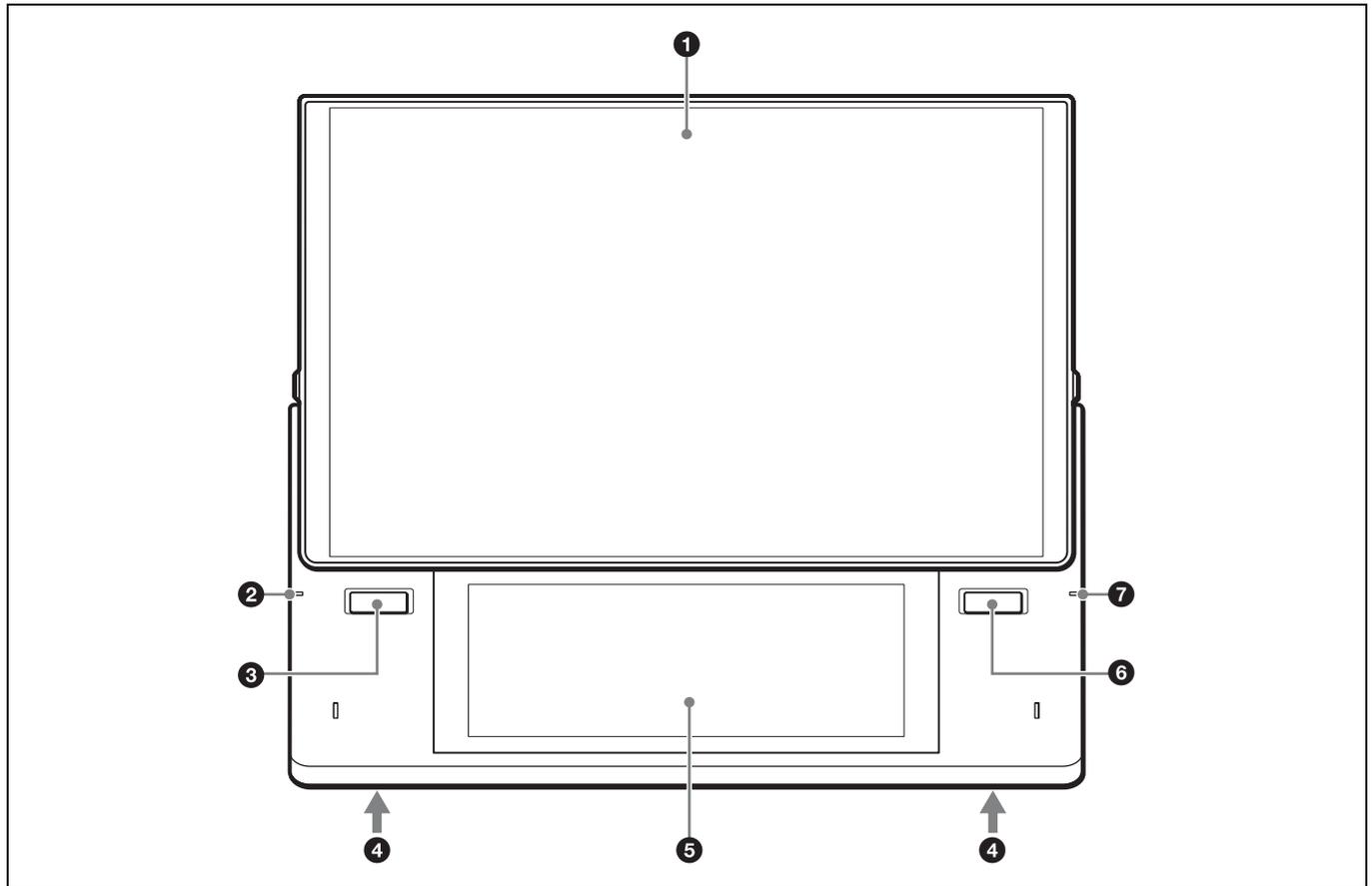
- Recording settings (page 77)
- Remote camera settings (page 98)
- Camera angle settings (page 47)

Operation flow



Parts Identification

Front



The unit's displays are touchscreens. For details on operations, see "Using the Touchscreens" (page 21).

1 Main display

Displays the main screen used for performing video switching operations.

For details on basic operations, see "Main Screen" (page 33).

2 Power indicator

Lights green when the unit is turned on.

3 L button

Performs operations, such as source switching. The function of this button is identical to that of the [Take] button in the main screen.

4 Internal speakers (L/R)

Outputs audio (L/R) for the monitor.

When headphones are connected to the HEADPHONES jack, output from the internal speakers is disabled.

5 Sub display

Displays the sub screen used for adjustments, settings, and other operations.

For details on basic operations, see "Sub Screen" (page 37).

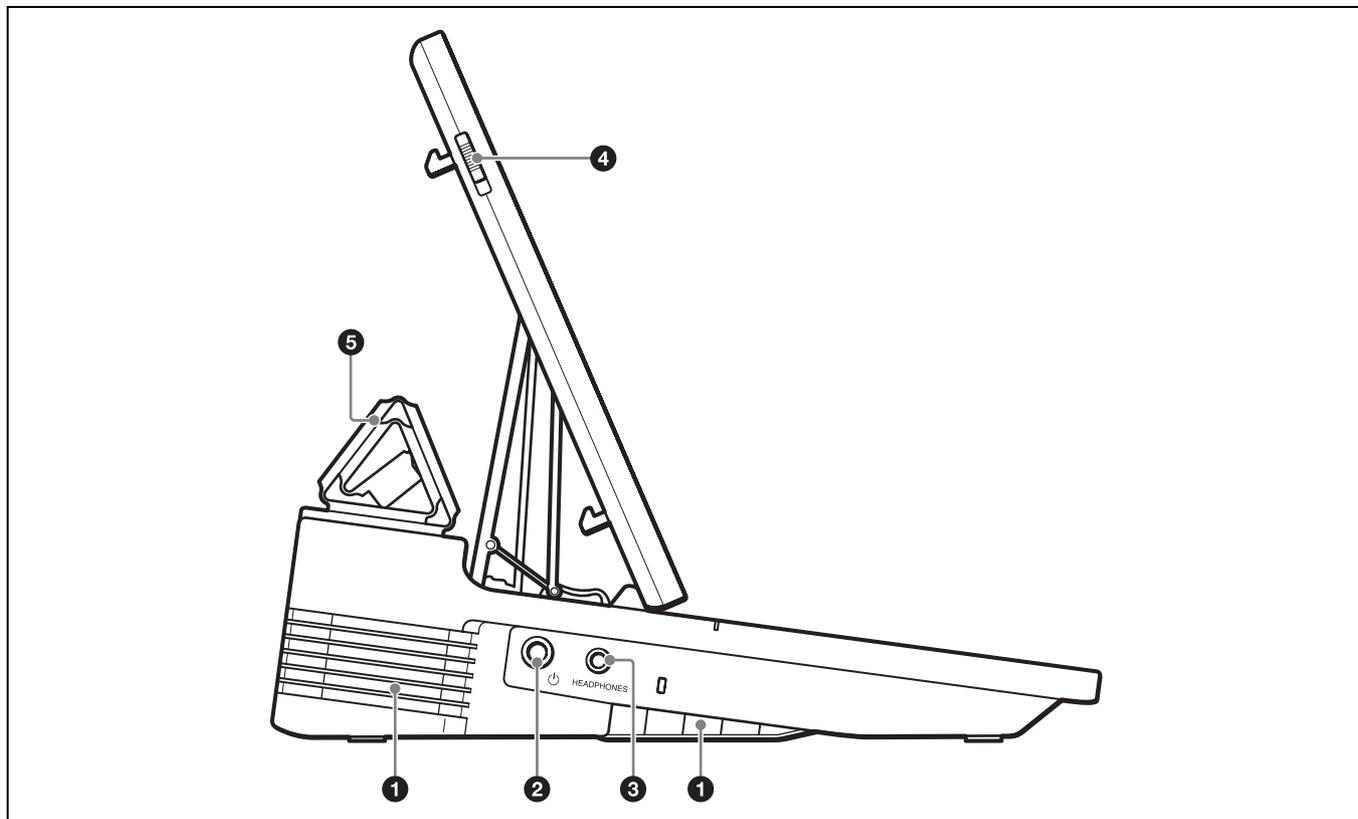
6 R button

Performs operations, such as source switching. The function of this button is identical to that of the [Take] button in the main screen.

7 Access indicator

Blinks orange when the internal storage is being accessed.

Left



1 Ventilation holes

Do not block the ventilation holes. Doing so may cause internal overheating, resulting in fire or damage to the unit.

When moving the unit after use, allow the unit to cool down sufficiently beforehand.

2 ⏻ (power) switch

Turns the unit on or off (page 25).

To turn off the unit, you can hold the switch for at least 4 seconds to force shutdown. If you force shutdown, the unit's settings data may not be saved in some cases.

3 HEADPHONES jack (standard stereo phone)

Outputs audio for the monitor.

You can adjust the output level with [Monitor Level] in the [Audio Mixer] screen (page 32).

4 Release lever

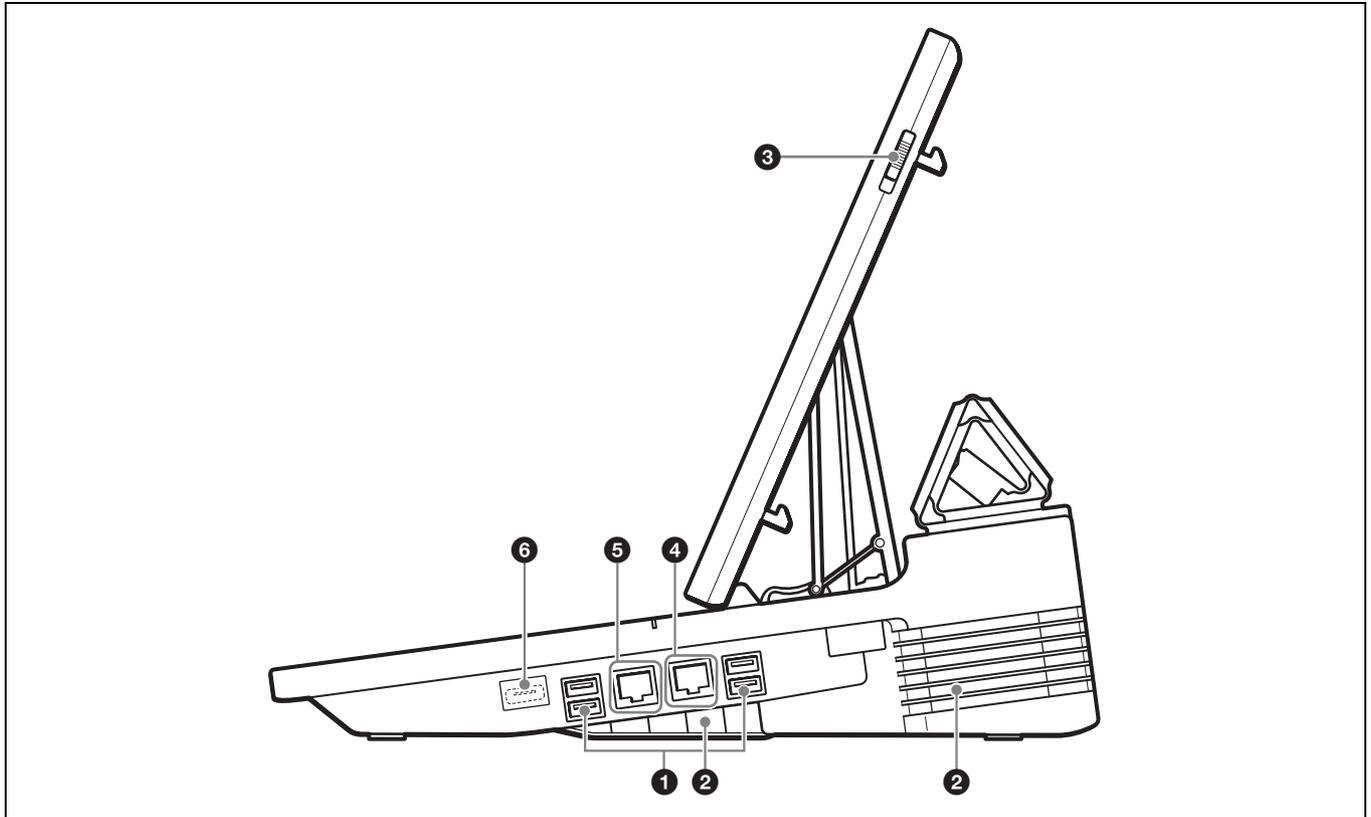
Unlocks the main display from its closed state.

For details, see "Opening and Closing the Main Display" (page 18).

5 Panel cover

Protects the main display.

Right



1 USB ports ×4

Connect USB storage devices, keyboards, and other external devices here.

The SuperSpeed USB (USB3.0) is supported. USB cameras and other USB devices not mentioned in this document are not supported.

Note

Each of the USB ports can supply a current of up to 900 mA. However, be sure to keep the total current of the four ports within 6 W (5 V 1200 mA). Operation may become unstable and the unit may not start up if 6 W is exceeded. Unusual amounts of heat may also be generated in such cases.

For details on using an external keyboard for video switching, see “Using External Devices for Video Switching and Other Operations” (page 84).

2 Ventilation holes

Do not block the ventilation holes. Doing so may cause internal overheating, resulting in fire or damage to the unit.

When moving the unit after use, allow the unit to cool down sufficiently beforehand.

3 Release lever

Unlocks the main display from its closed state.

For details, see “Opening and Closing the Main Display” (page 18).

4 LAN 1 connector (RJ-45 modular jack)

5 LAN 2 connector (RJ-45 modular jack)

Connect to a network when you want to control remote cameras via IP control or perform streaming transmissions, for example.

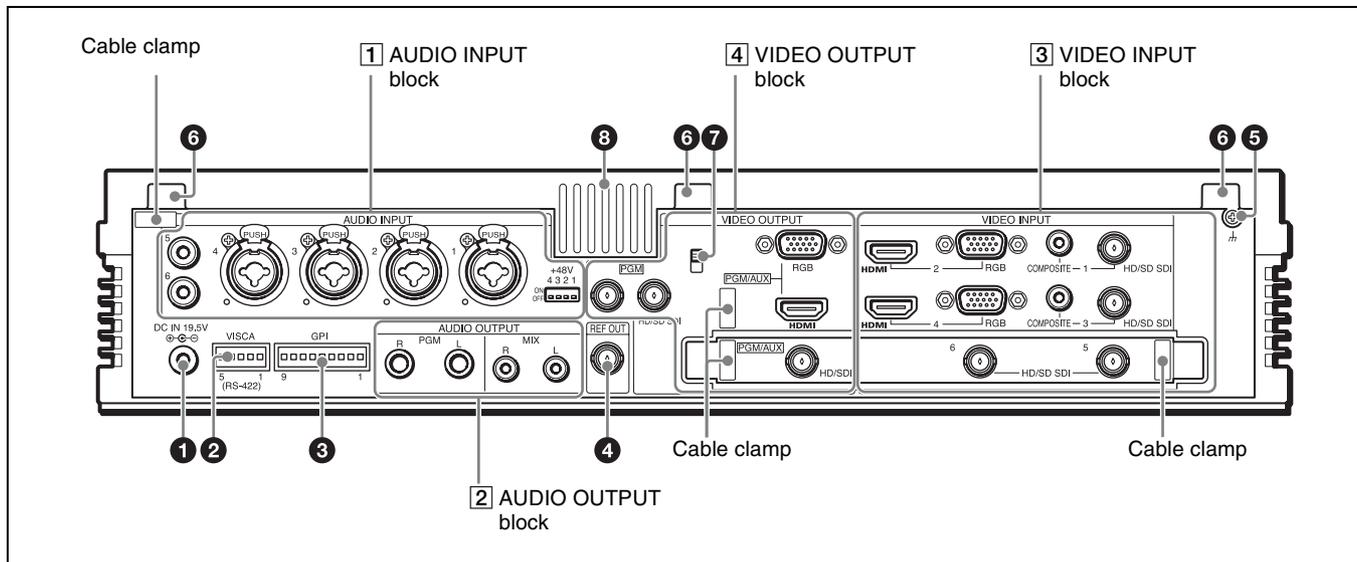
The LAN 1 connector is intended mainly for streaming, while the LAN 2 connector is intended mainly for camera control.

6 Reserve connector

Used for manufacturing purposes.

This cannot be used.

Rear



1 DC IN 19.5V (DC power input) connector
 Connect the supplied AC adapter here.
 Be sure to use the nearby cable clamp to prevent the cable from disconnecting.
 The AC adapter does not include an AC power cord.
For details on the AC power cord, see “Optional accessories” (page 114).

2 VISCA connector (RS-422, 5-pin)
 When you want to control a VISCA-compatible camera from this unit, connect the VISCA cable here (page 98).
For details on pin assignments on the connector, see “VISCA connector” (page 120).

3 GPI connector
 Connect this to the TALLY connector of a camera control unit (CCU) or similar device.
 This allows you to light the tally lamps on the cameras being used as the PGM output and NEXT selection sources.
For details on settings, see “Lighting Tallies on Cameras Connected via GPI” (page 52).

For details on pin assignments on the connector, see “GPI connector” (page 120).

4 REF OUT (reference signal output) connector (BNC type)
 Outputs black burst (BB) signals.

5 ⏏ (ground) connector
 Connect the system grounding conductor here.

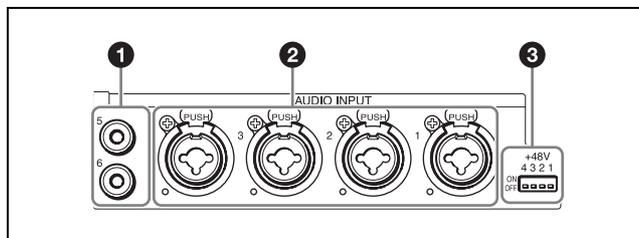
6 Panel cover attachment points

Attach the hooks of the panel cover here (page 18).

7 Anti-theft wire slot
 When you want to attach a commercially available anti-theft wire to the unit, attach it to this slot (3 × 7 mm (1/8 in. × 9/32 in.)).

8 Ventilation holes
 Do not block the ventilation holes. Doing so may cause internal overheating, resulting in fire or damage to the unit.

1 AUDIO INPUT block



1 LINE IN connectors 5 and 6 (pin jacks)
 Input analog audio signals from audio devices.

2 MIC/LINE IN connectors 1, 2, 3, and 4 (balanced XLR 3-pin / TRS combo)
 Input analog audio signals from microphones and audio devices.

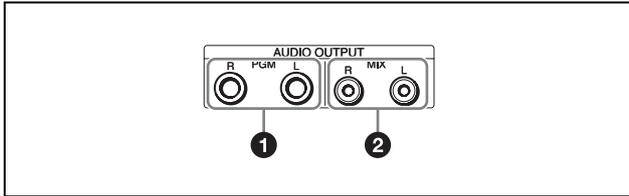
3 +48V switches
 Use these when microphones that support external power supplies are connected to MIC/LINE IN connectors 1 to 4. When set to ON, the indicators light and +48V power is supplied from the unit.

Power is only supplied to the XLR connector contact points and not to the TRS contact points. Use an insulated pointed object when setting a switch to the ON or OFF position.

Note

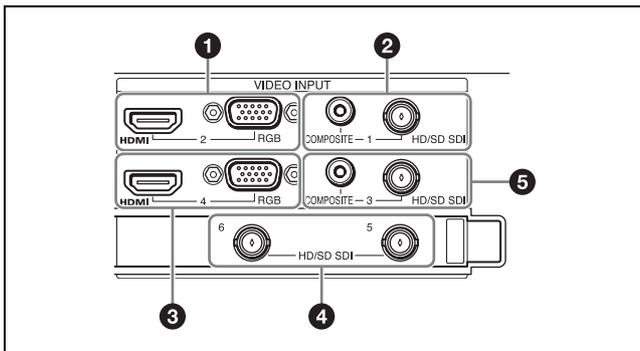
Always set these switches to OFF when you are not using microphones that supports external power supplies.

2 AUDIO OUTPUT block



- 1 PGM (PGM audio output) connectors L and R (balanced TRS)**
Outputs program audio that was mixed down on this unit.
- 2 MIX (MIX audio output) connectors L and R (pin jacks)**
Outputs mixdown audio other than the program audio.

3 VIDEO INPUT block



For details on supported signal formats, see “Supported Input Formats” (page 116).

- 1 HDMI (HDMI input) connector 2 (Type A)**
Inputs HDMI signals.

Notes

- Use a Sony HDMI cable.
Recommended cable example: HIGH SPEED HDMI CABLE DLC-HJ20 (2 m (6.6 feet))
- Use HDMI connector 4 when inputting copyright protected (HDCP) signals.

RGB (RGB video input) connector 2 (mini D-sub 15-pin)

Inputs RGB signals.

Tip

HDMI connector 2 and RGB connector 2 cannot be used simultaneously. Select one or the other for use.

- 2 COMPOSITE (composite video input) connector 1 (pin jack)**

Inputs analog video signals.

HD/SD SDI (SDI input) connector 1 (BNC type)

Inputs HD/SD-SDI signals.

Tip

COMPOSITE connector 1 and HD/SD SDI connector 1 cannot be used simultaneously. Select one or the other for use.

- 3 HDMI (HDMI input) connector 4 (Type A)**

Inputs HDMI signals.

Note

Use a Sony HDMI cable.
Recommended cable example: HIGH SPEED HDMI CABLE DLC-HJ20 (2 m (6.6 feet))

For details on input of copyright protected (HDCP) signals, see “[HDCP Handling]” under “System” (page 104).

RGB (RGB video input) connector 4 (mini D-sub 15-pin)

Inputs RGB signals.

Tip

HDMI connector 4 and RGB connector 4 cannot be used simultaneously. Select one or the other for use.

- 4 HD/SD SDI (SDI input) connectors 5 and 6 (BNC type)**

Inputs HD/SD-SDI signals.

- 5 COMPOSITE (composite video input) connector 3 (pin jack)**

Inputs analog video signals.

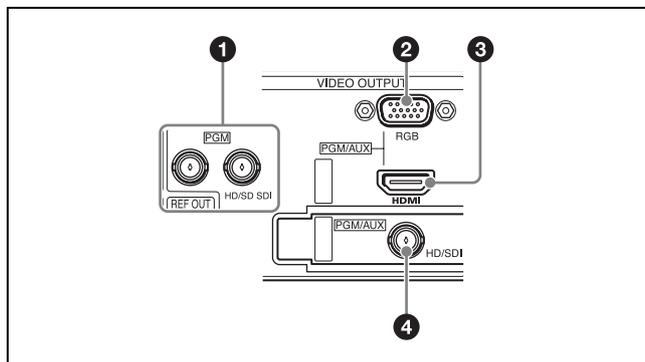
HD/SD SDI (SDI input) connector 3 (BNC type)

Inputs HD/SD-SDI signals.

Tip

COMPOSITE connector 3 and HD/SD SDI connector 3 cannot be used simultaneously. Select one or the other for use.

4 VIDEO OUTPUT block



For details on supported signal formats, see “Supported Output Formats” (page 117).

1 HD/SD SDI (SDI output) connectors (PGM only) (BNC type) × 2

Outputs the finished video processed on this unit (i.e., program video) as HD/SD-SDI signals.

2 RGB (RGB output) connector (PGM/AUX) (mini D-sub 15-pin)

The following video is output as RGB signals based on whether PGM or AUX is selected.

PGM: PGM video

AUX: AUX video

For details on selecting PGM or AUX, see “[Video Setup] Screen” (page 102).

3 HDMI (HDMI output) connector (Type A)

The following video and audio are output as HDMI signals based on whether PGM or AUX is selected.

- **Video**

PGM: PGM video

AUX: AUX video

- **Audio**

PGM: PGM audio

AUX: MIX audio

For details on selecting PGM or AUX, see “[Video Setup] Screen” (page 102).

Note

Use a Sony HDMI cable.

Recommended cable example: HIGH SPEED HDMI CABLE DLC-HJ20 (2 m (6.6 feet))

4 HD SDI (SDI output) connector (PGM/AUX) (BNC type)

The following video and audio are output as HD SDI signals based on whether PGM or AUX is selected.

- **Video**

PGM: PGM video

AUX: AUX video

- **Audio**

PGM: PGM audio

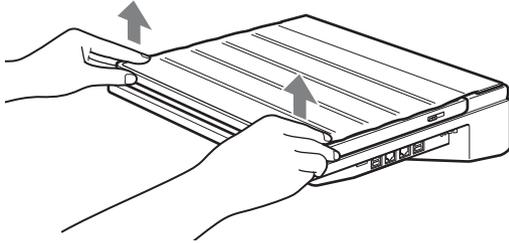
AUX: MIX audio

For details on selecting PGM or AUX, see “[Video Setup] Screen” (page 102).

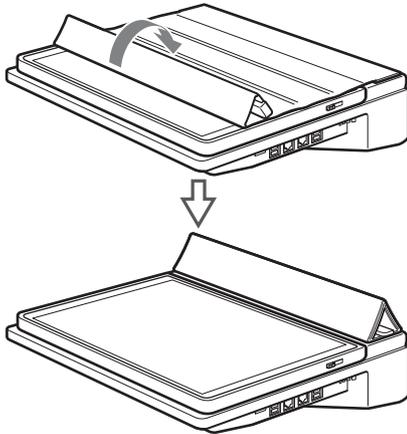
Opening and Closing the Main Display

Opening the Main Display

1 Lift the front portion of the panel cover to unlock it.



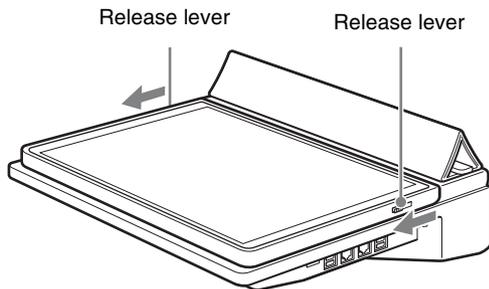
2 Open the panel cover.



Note

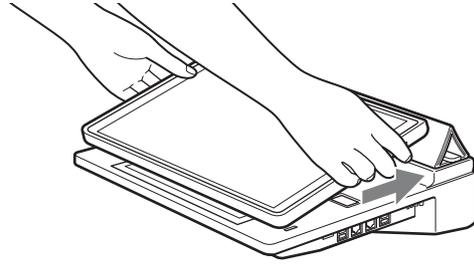
Initially, the panel cover may be stiff and may flip back to its original position.

3 Pull the release levers on the left and right sides in the direction of the arrows.



The left and right locks will release.

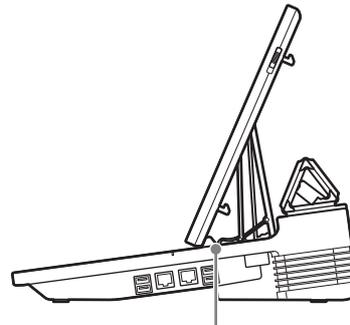
4 Lift the areas near the release levers, and slide the main display in the direction of the arrow.



The magnet locks will lock the display into place.



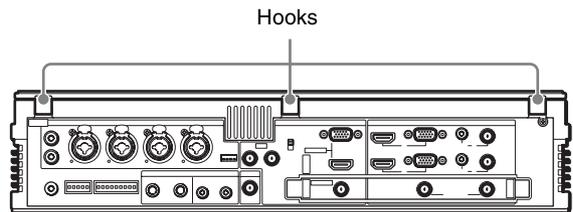
Magnet locks



Magnet lock (one each on left and right side)

Tip

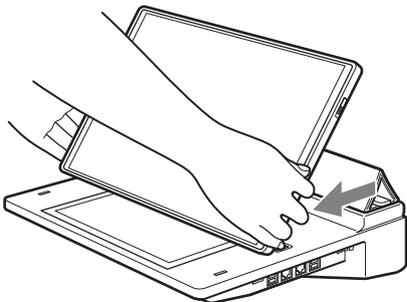
The panel cover includes mounting hooks. You can attach and detach the hooks to the rear of the unit to attach or remove the cover.



Closing the Main Display

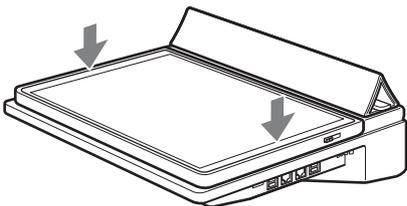
- 1 Hold the sides of the main display as illustrated, and pull the display in the direction of the arrow.

The magnet locks will release.

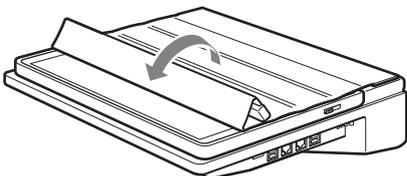


- 2 Slide the main display to the position illustrated, and push the display in the direction of the arrows to lock it into place.

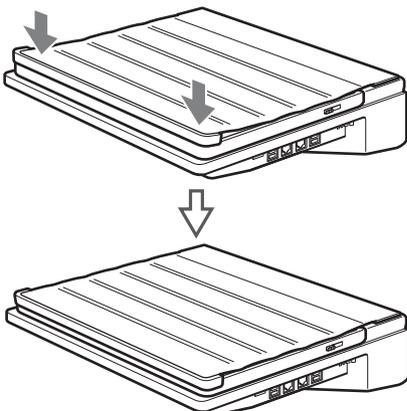
Make sure that the four hooks (two each on the right and left sides) are secure and that the main display does not open.



- 3 Close the panel cover.



- 4 Push in the direction of the arrows to lock the panel cover onto the main display.



Applying the Anti-Glare Films

Anti-glare films are supplied with this unit to protect the touchscreen displays.

Apply the anti-glare films in a dust-free environment to prevent dust from sticking to the films due to static electricity. In addition, apply the films in a well-lit environment so that you can see if air bubbles form.

Notes

- The anti-glare films cannot be reapplied once they are applied. Apply the anti-glare films with great care.
- Any dust left on the touchscreen surface will result in air bubbles.

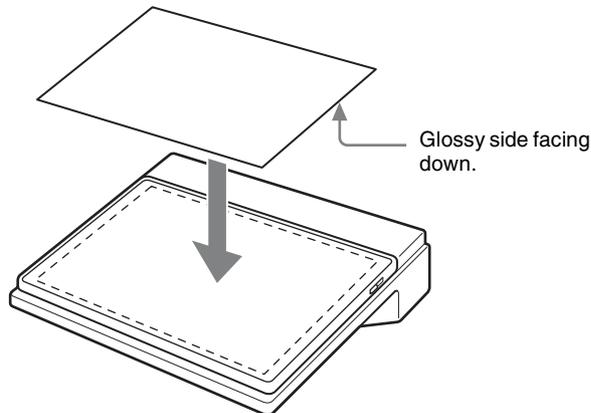
Items to prepare

- Screen-cleaning solution
- Cleaning cloth (non-woven)
- Vinyl tape (3 cm (1 ³/₁₆ in.) or more in width)

Applying the film to the main display

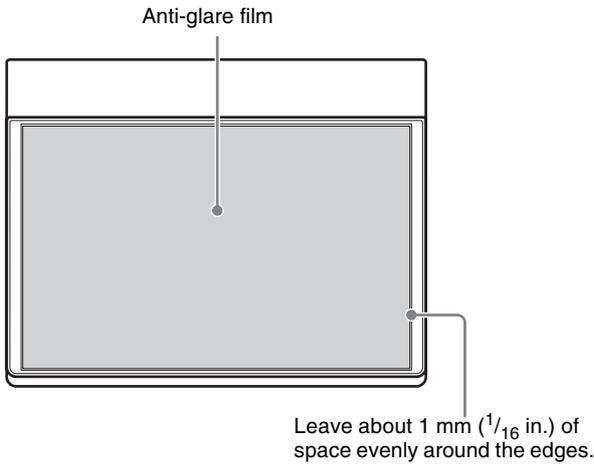
- 1 If the protective sheet from the factory is still attached, remove it.
- 2 Use the screen-cleaning solution and cleaning cloth to clean the main display and remove any fingerprints, dust, or smudges.

Be sure to also remove any leftover adhesive from the protective sheet from the factory that you removed.
- 3 Place the anti-glare film for the touchscreen on the main display with its glossy side facing down.



Placement

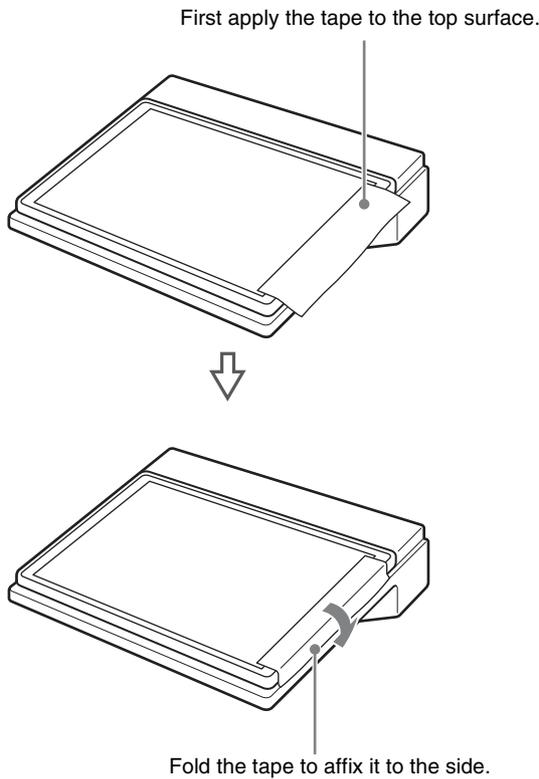
Center the film so that the surrounding uncovered edges of the display are even.



Note

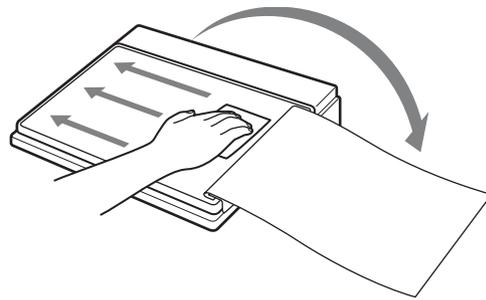
If you place the film all the way to the edge of either side, the film may shift as you are applying it to the display, resulting in misalignment.

- 4** Use vinyl tape to affix the anti-glare film to the right side of the display.



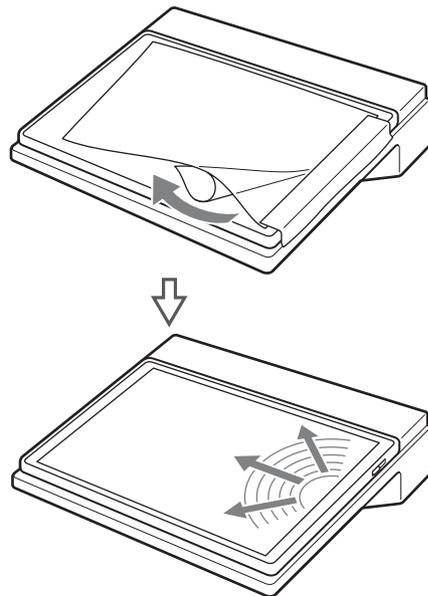
- 5** Flip the anti-glare film over, and use the screen-cleaning solution and cleaning cloth to wipe off any dust.

Wipe in a single direction from right to left. Verify that all specks of dust have been removed from the surface of the main display.



- 6** Place the anti-glare film back on the main display.
- 7** Peel off a portion of the backing sheet from the anti-glare film on the side with the vinyl tape (i.e., the inside), and use the cleaning cloth to slowly smooth out any air bubbles, starting from the center of the right side.

Apply the film while gradually peeling the backing sheet.



If air bubbles or leftover dust occur

- Remove the anti-glare film up to the location of the air bubble or leftover dust, and remove the air or dust as you reapply the film. In such cases, do not remove the entire film. You will not be able to reapply the film if you do so.
- If specks of dust are attached to the adhesive surface of the anti-glare film, use the adhesive surface of vinyl tape to remove them.

- 8** When the anti-glare film is fully applied, firmly rub the edges of the film.

- 9 Verify that there are no air bubbles or leftover dust, and remove the vinyl tape.
- 10 Use the screen-cleaning solution and cleaning cloth to wipe the anti-glare film.

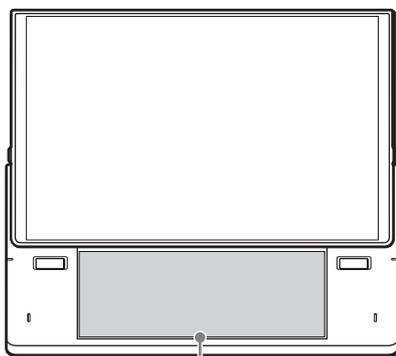
Applying the film to the sub display

Apply the anti-glare film to the sub display using the procedure used for the main display.

Place the anti-glare film on the sub display as follows.

Placement

Align the film with the front edges.



Leave about 1 mm ($1/16$ in.) of space around the three front edges.

Using the Touchscreens

You can perform touchscreen gestures on the main display and sub display with your fingers in place of keyboard and mouse operations.

This section describes how to perform basic touchscreen operations.

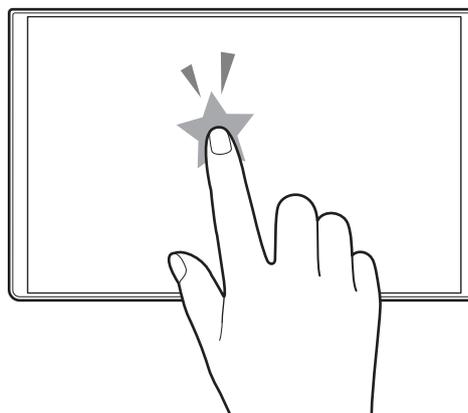
Tip

Operation errors may occur on the touchscreens if the unit is in close proximity to transceivers or other devices that emit high interference. Keep sufficient distance between the unit and such devices to prevent errors.

Tap

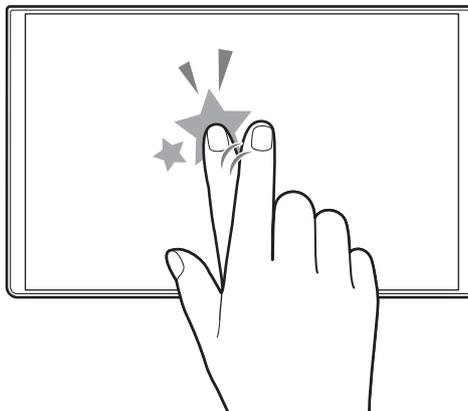
Lightly tap on a position on the screen. This performs the same operation as clicking on a mouse.

Use this gesture to perform operations, such as making and confirming selections.



Double-tap

Lightly tap a position on the screen twice. This performs the same operation as double-clicking on a mouse.

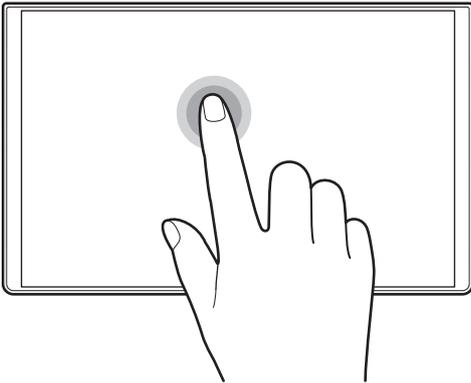




Tap and hold

Hold your finger in place for at least 1 second after tapping.

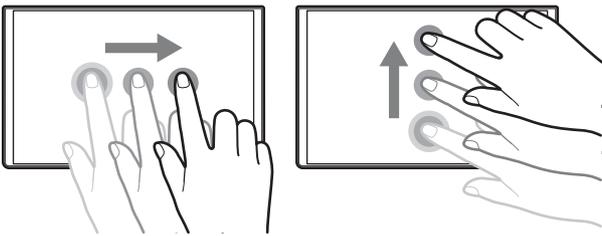
Use this gesture to perform operations, such as displaying context menus and viewing filenames that end in “...” in their entirety.



Drag

Slide your finger while holding it on the screen. This performs the same operation as dragging on a mouse.

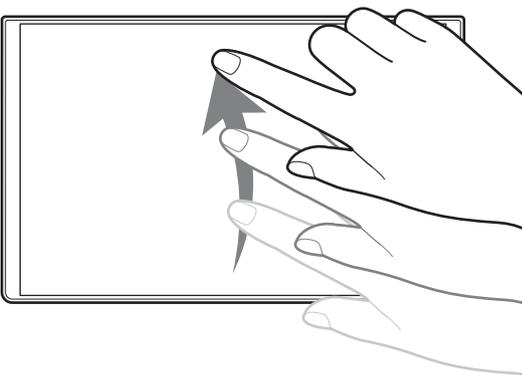
Use this gesture to perform operations, such as scrolling through lists and moving sliders.



Flick

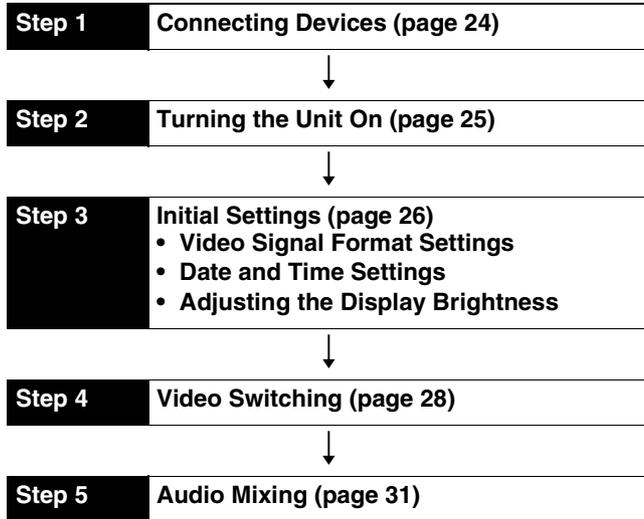
Slide your finger quickly and release.

Use this gesture to perform operations, such as scrolling quickly through lists.



Operation Flow

This chapter describes the procedures for using the unit for the first time, including the connection of various devices, video switching, and audio adjustment. Perform the steps in this chapter and begin switching video to get started.



For details on operating the touchscreen, see “Using the Touchscreens” (page 21).

Default conditions of the unit

• Video input

[Input] list display	Connector number	Input signal
IN1	1	SDI
IN2	2	HDMI
IN3	3	SDI
IN4	4	HDMI
IN5	5	SDI
IN6	6	SDI
Black		Black signal generated internally by the unit
Color Bars		Color bar signal generated internally by the unit

• System format

1080 60i

• Channel fader assignments

Name	Signal name	Input (L)	Input (R)
Fader 1	MIC1	MIC/LINE1	MIC/LINE1
Fader 2	MIC2	MIC/LINE2	MIC/LINE2
Fader 3	MIC3	MIC/LINE3	MIC/LINE3
Fader 4	MIC4	MIC/LINE4	MIC/LINE4
Fader 5	Used for audio embedded in SDI or HDMI signals or in videos played back in the Media Player (i.e., embedded audio).		

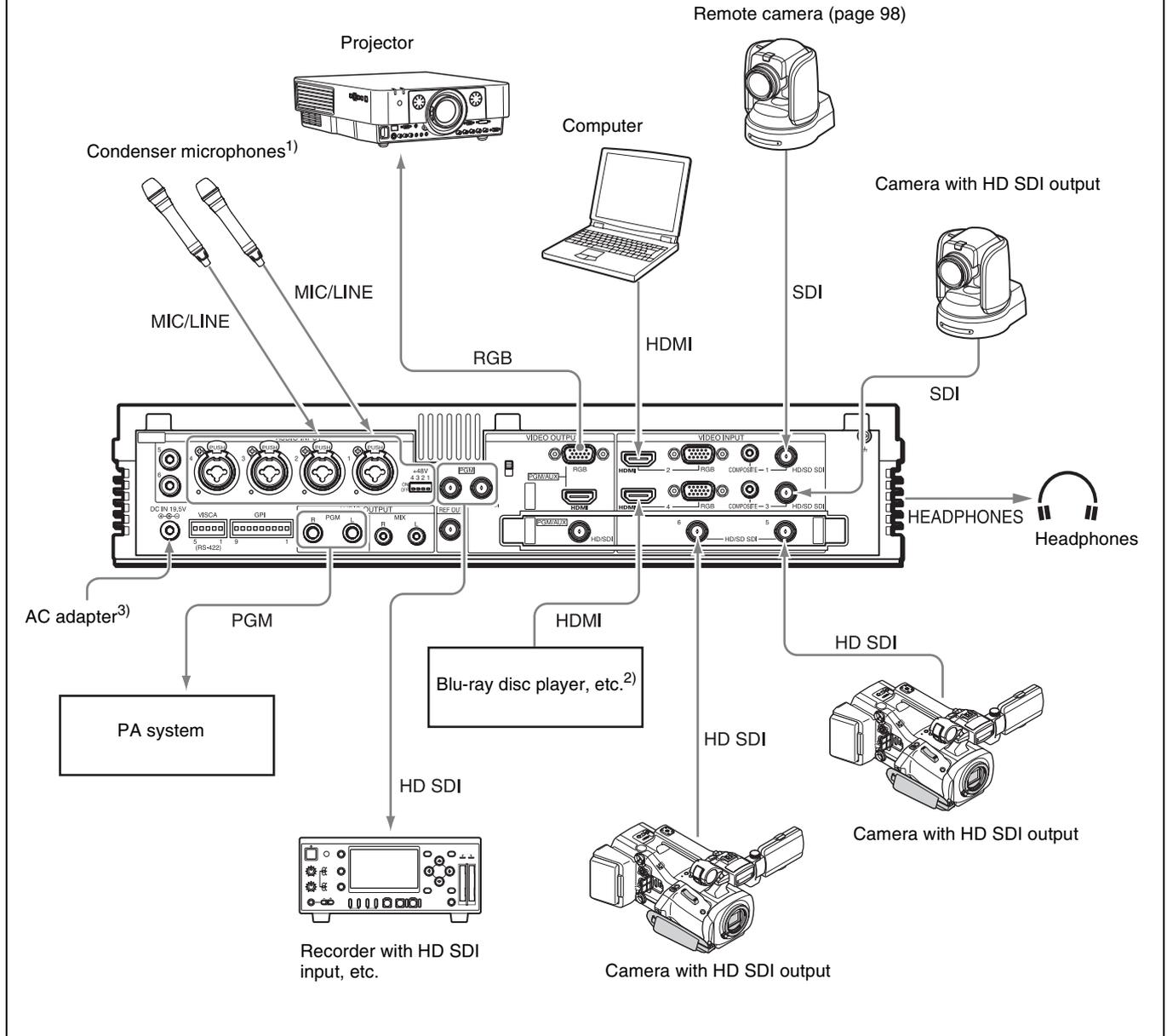
For details on changing the settings, see “Settings” (page 96).

Step 1: Connecting Devices

Connect the various devices to the rear of the unit.

If you have already connected the devices, proceed to “Step 2: Turning the Unit On” (page 25).

Connection example



- 1) When using 48 V condenser microphones (supporting external power supply), set the +48V switches on the rear panel to the ON positions.
- 2) For details on enabling and disabling input of copyright protected (HDCP) signals, see “[HDCP Handling]” under “System” (page 104).
- 3) For details on the AC adapter, see “**ⓘ** DC IN 19.5V (DC power input)” under “Rear” (page 15).

Step 2: Turning the Unit On

Turning the unit on

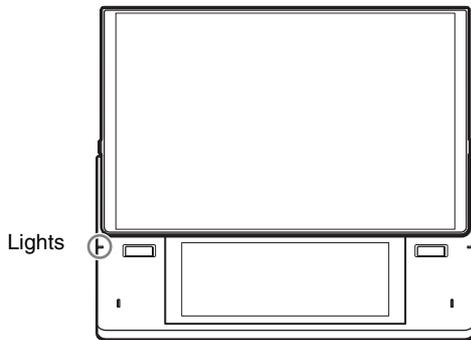
1 Connect the DC output plug of the supplied AC adapter to the DC IN 19.5V connector on the rear of the unit, and connect the AC adapter to a power supply.

2 Open the display on the unit.

For details, see “Opening and Closing the Main Display” (page 18).

3 Press the  switch on the left side of the unit.

When power is supplied, the power indicator on the front left side of the unit lights green, and the unit starts up.



The startup screen appears. When startup is complete, the main screen and sub screen appear, and you can perform operations.

Main screen



If video is being input from cameras or other devices, the video will appear immediately.

Note

This unit is designed to be used with the main display in its upright position. Do not perform operations with the main display closed.

Turning the unit off

Press the  switch on the left side of the unit.

A confirmation message appears.

The current conditions are saved before the unit shuts down and turns off. (The power indicator will turn off.)

Note

If you want to turn the unit on again after turning it off, wait at least 5 seconds before pressing the power switch again.

Step 3: Initial Settings

Specify the video signal format that will be handled by the unit and the date and time. If necessary, you can also adjust the brightness of the display.

If you have already configured these settings, proceed to “Step 4: Video Switching” (page 28).

Video Signal Format Settings

Specify the video signal format handled by the unit (i.e., system format) when necessary. The default setting is [1080 60i].

Tip

The [60i] setting is actually equivalent to “59.94i.”

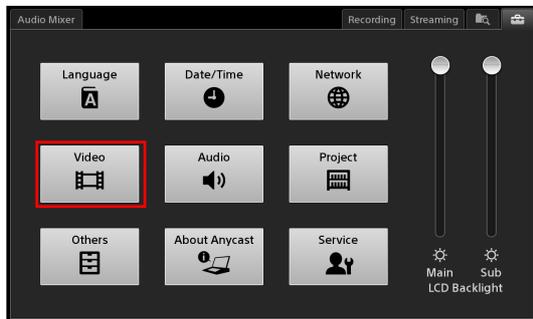
Configuration is performed in the sub screen.

- 1 Tap  at the top right of the sub screen.



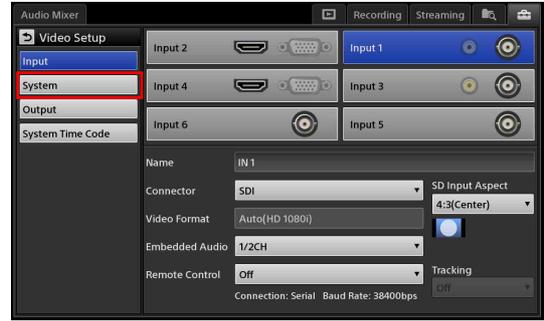
The [System Setup] screen appears.

- 2 Tap [Video].



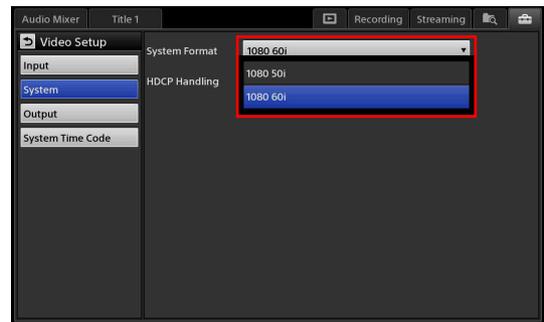
The [Video Setup] screen appears.

- 3 Tap [System] in the menu to the left.



The [System] screen appears.

- 4 Select the system format in the [System Format] drop-down list.



A confirmation message for restarting the unit appears.

- 5 Tap [Shutdown].

The unit shuts down.

- 6 Press the  switch on the left side of the unit to turn on the unit.

Changes to the system format will be applied after the unit restarts.

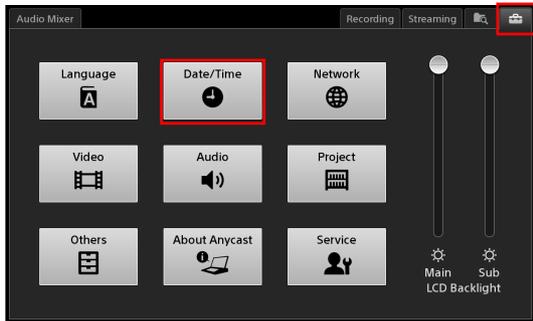
Date and Time Settings

Configure the unit’s internal clock.

This setting is used for the following.

- Clock display in the main screen
- File creation and file update date and time
- System timecode

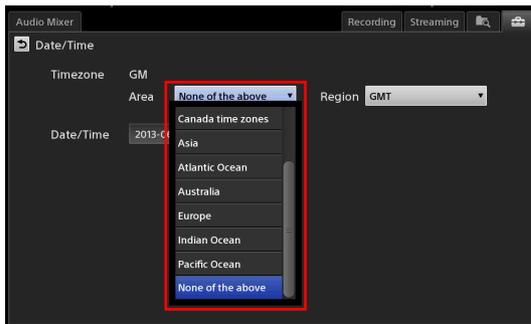
- 1 Tap the  tab to display the [System Setup] screen, and then tap [Date/Time].



The [Date/Time] screen appears.

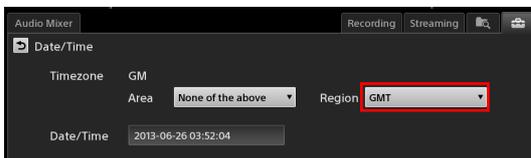
- 2 Select the time zone.

- 1 Select the area in the [Area] drop-down list.



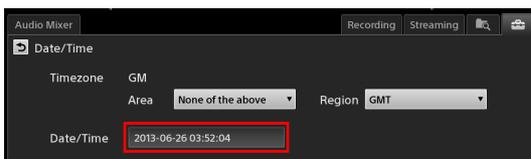
The [Region] setting changes according to the selected area.

- 2 Select the region in the [Region] drop-down list.



- 3 Specify the current date and time.

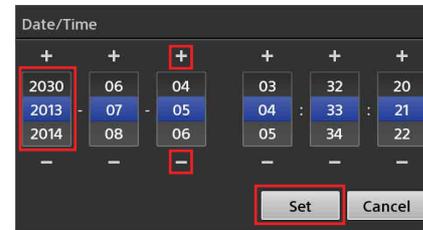
- 1 Tap the [Date/Time] field.



The configuration dialog box appears.

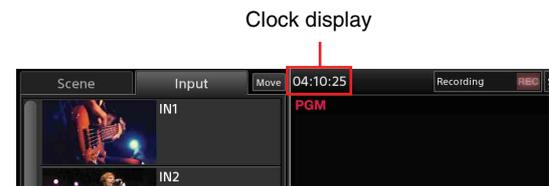
- 2 Specify the month, day, year, hour, minute, and second in order, and then tap [Set].
The values highlighted in blue indicate the currently selected values.
If the values you want to specify are not displayed,

drag the values up or down, or tap [+] or [-] to display the values.



A confirmation message appears.

- 3 Tap [Shutdown].
The unit shuts down.
- 4 Press the  switch on the left side of the unit to turn on the unit.
Changes to the date and time will be applied after the unit restarts.

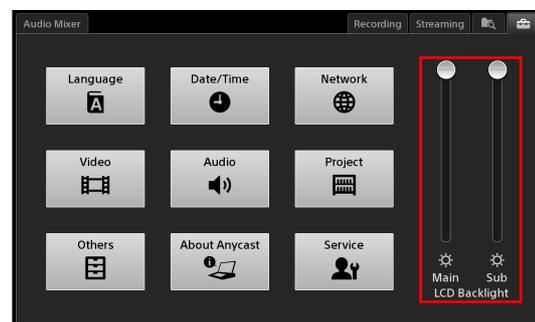


Adjusting the Display Brightness

You can adjust the backlight of the displays.

In the [System Setup] screen, drag the [LCD Backlight] sliders to adjust the brightness.

Use the [Main] slider to adjust the main screen and the [Sub] slider to adjust the sub screen.



Step 4: Video Switching

This section describes how to select an input source in the [Input] list and switch the program output video via simple operation.

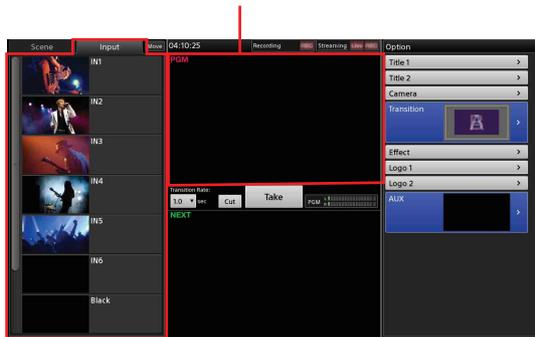
Video switching is performed in the main screen.

Switching after Viewing a Preview Video

You can switch to the next video that you want to use for program output while viewing it as a preview video. The next program output video appears in the [NEXT] viewer.

1 Tap [Input] to display the [Input] list.

The video currently being used for program output appears in the [PGM] viewer. Under initial conditions, a black signal is output.

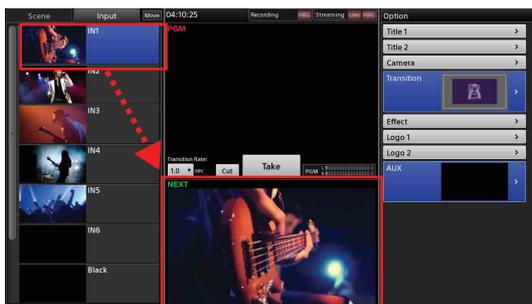


[Input] list

Displays videos being input to the unit (i.e., input sources).

2 In the [Input] list, select the input source you want to use for the program output.

The selected input source appears in the [NEXT] viewer as the next video that will be used for program output.



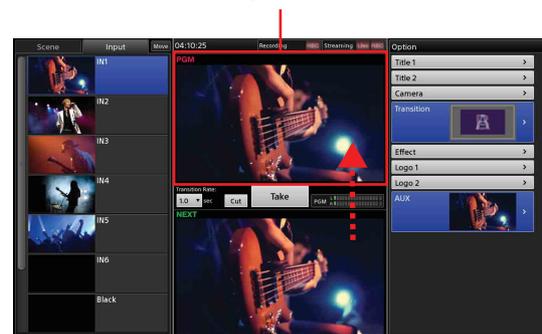
The next program output video appears in the [NEXT] viewer.

3 Tap [Take].



The video in the [NEXT] viewer appears in the [PGM] viewer and is output as the PGM output.

Program video



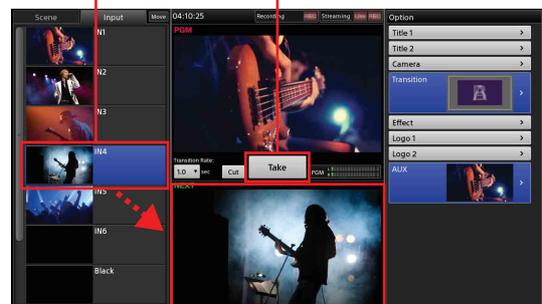
Tip

Pressing the L or R button at the left or right of the sub display performs the same operation as tapping [Take].

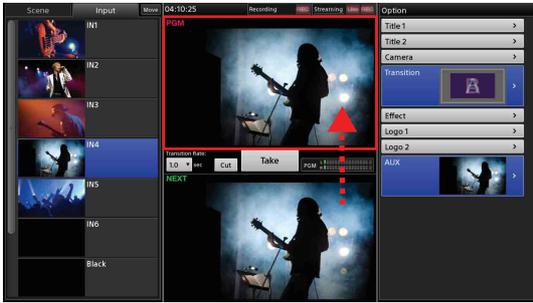
4 Repeat steps 2 to 3 to switch from one video to the next.

① Select.

② Tap.



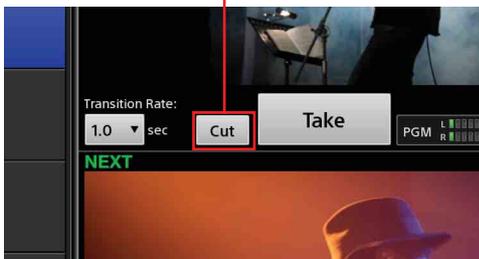
Videos switch from one to the next.



Tip

Under default conditions, tapping [Take] dissolves one video into the next using the “mix” transition method during switching. To instantly switch to the next video without a transition effect, use [Cut].

[Cut]



For details on selecting transition methods other than mix, see “Using Transition Effects” (page 30).

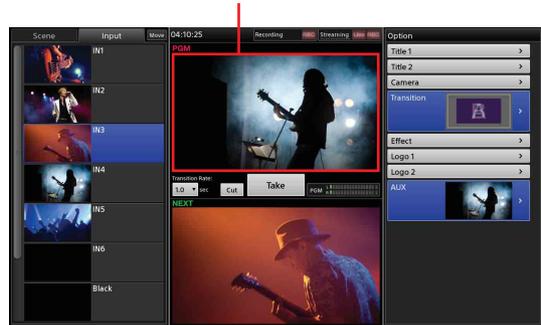
Switching the PGM Directly (Direct Take)

You can also switch the program video directly, without previewing videos in the [NEXT] viewer. This operation is referred to as a “direct take.”

Direct takes are performed in direct mode.

- 1 Tap anywhere inside the [PGM] viewer to enter direct mode.

Tap inside.



Direct mode is enabled, and the [NEXT] viewer display dims. In direct mode, “Direct Mode” appears in the [NEXT] viewer.



Dims during direct mode.

- 2 In the [Input] list, select the input source you want to use for the program output.

When you select the input source, the program video switches using the currently configured transition.



- 3 Repeat step 2 to switch from one video to the next.

For details on selecting other transition methods, see “Using Transition Effects” (page 30).

Exiting direct mode

Tap anywhere inside the [PGM] viewer again. When you exit direct mode, the [NEXT] viewer brightens again.

Tip

Direct mode can also be used for switching operations outside of the [Input] list.

Using Transition Effects

You can select from the following transitions for video switching on this unit.

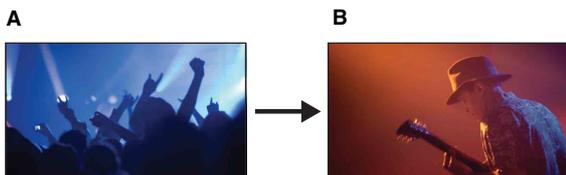
Tip

The transition function includes some limitations.

For details, see “General Limitation on Transitions” (page 124).

Cut

Switch from A to B instantly without transition effects.

**Mix**

Dissolve from one video into the next.

**Wipe**

Wipe the next output video over the program video.



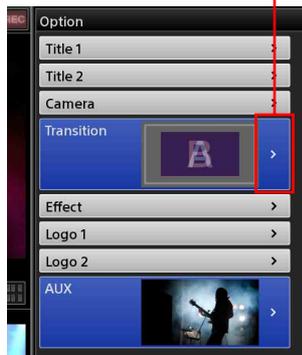
- 1 In the [Input] list, select the input source you want to use for the next program output.



The selected video appears in the [NEXT] viewer.

- 2 In the [Option] menu, tap the area on the right side of the [Transition] button.

Tap this area.



The [Transition] list appears.

- 3 Select the transition method you want to use, and then tap .

You can select from four different directions for wipes.

- 2 Return to the [Option] menu.

- 1 Select the transition method.



The [Transition] list closes, and the [Option] menu appears again.

- 4 If you want to change the transition rate, select a transition rate in the [Transition Rate] drop-down list.

The default transition rate is 1.0 second.



Tip

If you selected [Cut] in step 3, switching will be instantaneous regardless of whether you changed the transition rate.

5 Tap [Take] to execute the transition.



The program video switches using the selected transition.

For details on changing the values for the [Transition Rate] options, see “[Transition Rate]” (page 106).

Step 5: Audio Mixing

You can mix the audio being input to the unit and mix it down to stereo program audio. Audio operations are performed in the sub screen.

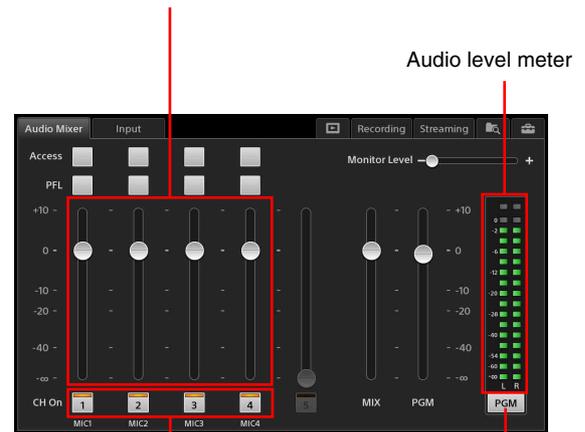
This section describes how to adjust the audio for each microphone and mix multiple audio channels.

1 Adjust the audio for each microphone.

Adjustments are made separately for each microphone.

Move the sliders while verifying the audio output and audio level meter.

2 Drag the sliders for the enabled channel faders to adjust the audio levels.



1 Tap the channel fader buttons to which microphones are assigned to enable them.

The monitored audio switches with each tap.

Tips

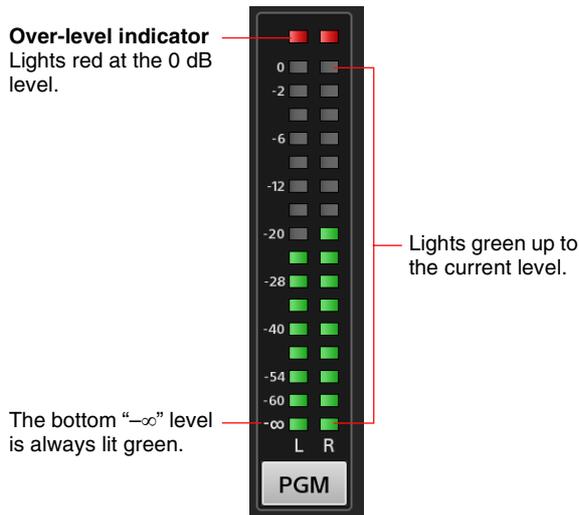
- You can operate five channel faders at the same time.
- Channel 5 is reserved for the audio embedded in the SDI or HDMI video played back in the Media Player (embedded audio).

For details, see “Adjusting the Embedded Audio of Input Sources” (page 76).

- A fader can be adjusted even when the channel is off. The adjustment will be enabled when the channel is turned on.
- If sound is barely audible even at the maximum channel fader level, change the MIC/LINE input level to [Low (-44dB)] in the [Audio Setup] screen. You can also adjust this in [Input Trim] (page 75) of the [Access] screen.

For details on configuration, see “[Input Channel Assign]” (page 105).

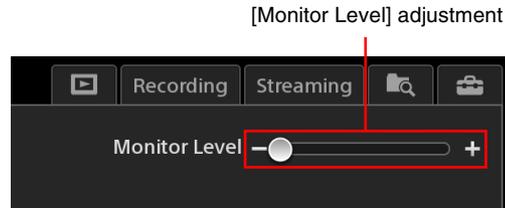
Viewing the audio level meter



In addition, the audio level meter switches to PFL mode (the button display switches to [PFL]) while the [PFL] button is held down, allowing you to check the levels of the audio input.

Adjusting the audio level for monitoring

Drag the [Monitor Level] slider to adjust the output level of the HEADPHONES jack and internal speakers within a range of 0 to 255.



For details on further operations and adjustments, see “Performing Detailed Audio Adjustments” (page 74).

- 2 Drag the slider for the PGM OUT fader to adjust the program output level.



Afterward

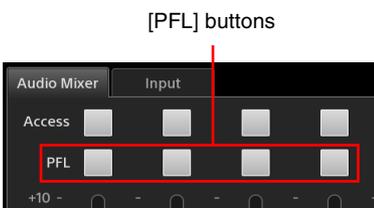
Proceed to “Basic Operations” (page 33) to gain a better understanding of this unit’s functions and how to master their operation.

Checking each audio input

You can check the audio of each channel via the HEADPHONES jack or the internal speakers using the respective [PFL] buttons (pre-fader listen). Tap and hold a [PFL] button to monitor only the audio from that channel while the button is held. The audio will be monitored until you release the button.

Tip

The program output, AUX output, and MIX output are not affected during pre-fader listen.



Basic Operations

Video switching is performed in the main screen, while various adjustments and settings are performed in the sub screen.

The results of adjustments and settings are applied immediately in the main screen. Depending on the adjustments and settings, perform them while viewing the main screen.

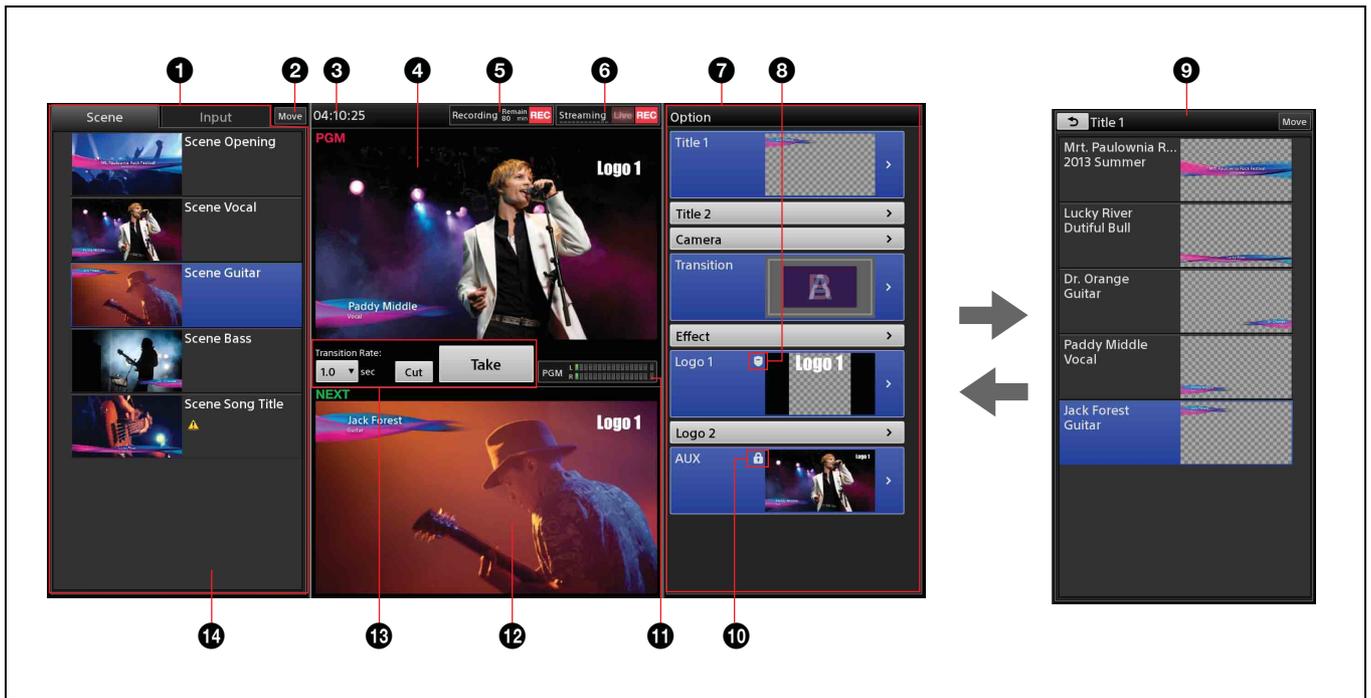
Using the Screens

This section describes the features of the main screen and sub screen and how to operate them.

Main Screen

You can perform video switching operations in the main screen.

Parts identification



1 [Scene] list / [Input] list

Videos that can be used as program output are displayed here. Select the button of the video you want to use for the program video from either list.

- The source currently selected in the [NEXT] viewer will be highlighted with a blue background.



- A light blue frame will appear around a source that is currently the target of an operation, such as deletion.



[Scene] list: Displays a list of registered scenes.

For details on loading saved scenes, see “Recalling Scenes” (page 67). For details on saving scenes, see “Creating Scenes” (page 65).

[Input] list: Displays a list of videos being input to the unit's input connectors, signals created internally on the unit (i.e., black and color bar signals), and other input sources. You can also add sources to the list and edit them.

For details, see "Creating Lists" (page 39).

When tally display is enabled

Tallies are displayed for the PGM output and NEXT selection sources in the [Input] list. The tallies are only displayed in the [Input] list.

- **PGM output source:** Red tally



- **NEXT selection source:** Green tally



- **Source selected as both the PGM output and NEXT selection:** Red tally



For details on GUI tallies, see "Using the GUI Tally Function" (page 51).

2 [Move]

Allows you to change the sort order of the items displayed in the [Scene] and [Input] lists (page 43).

3 Clock display (page 26)

4 [PGM] viewer

Displays the current program output video.

5 Recording status

Program outputs and AUX outputs can be recorded onto the unit's internal storage in high-quality picture and audio.

The recording status is indicated in this area as follows.



[Remain Time]: When recording is in progress, this displays the remaining recording time. The

remaining time is continuously updated based on the status of the internal storage.

[REC]: When recording is in progress, this lights red.

The indicator starts to blink when the remaining recording time reaches 10 minutes. When

recording is not in progress, this will remain unlit.

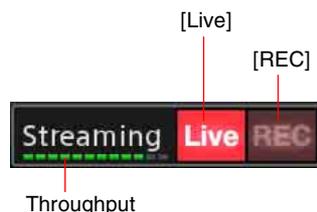
Tapping this area (i.e., within the frame) displays the [Recording] screen (page 77) in the sub screen.

For details on recording, see "Recording Outputs from the Unit to the Internal Storage" (page 77).

6 Streaming status

Program video can be encoded on the unit and streamed live using an external server or recorded as a VOD (video on demand) file.

The streaming status is indicated in this area as follows.



[Live]: When live streaming is in progress, this lights red. When streaming is not in progress, this will remain unlit.

[REC]: When recording is in progress, this lights red. When recording is not in progress, this will remain unlit.

Throughput: When streaming is in progress, this indicates the throughput. When the specified bit rate is met, the indicator lights green all the way to the far right end. As the throughput decreases and transmission slows, the indicators will turn yellow and eventually turn red. When streaming is not in progress, this will remain unlit.

Tapping this area (i.e., within the frame) displays the [Streaming] screen (page 79) in the sub screen.

For details on streaming, see "Streaming" (page 79).

7 [Option] menu

Displays a list of options that can be added to the material that will be output next.

[Title 1] / [Title 2]: Insert titles onto the video (page 44).

[Camera]: When remote control is configured for the camera video, this allows you to save or load presets (page 50).

[Transition]: Select the transition method (page 30).

[Effect]: Compose a picture-in-picture (PinP) video with a video overlaid on another video (page 57), or insert people onto backgrounds via chroma keying. Composites that include both PinP and chroma keying are possible (page 61).

[Logo 1] / [Logo 2]: Insert logos onto video (page 44).

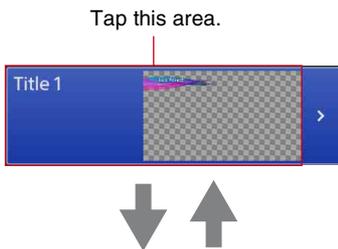
[AUX]: Select the material to output to AUX after a take (page 71).

To enable or disable options

Tap the following area of the button to enable or disable the respective option.

Enabled

The option is selected for use in the next program output.



Disabled

The material is ready for use but is not selected for use in the next program output.



Closed buttons

If the material for an option is not ready for use or the option is excluded from use with the next program output, the button will be closed.



To close a button

Display the context menu of the respective button, and select [Remove].



To display the list for an option

Tap the following area of the button to display the list for that option (see 8) that allows you to configure the option content.

• When the button is open

Tap this area.



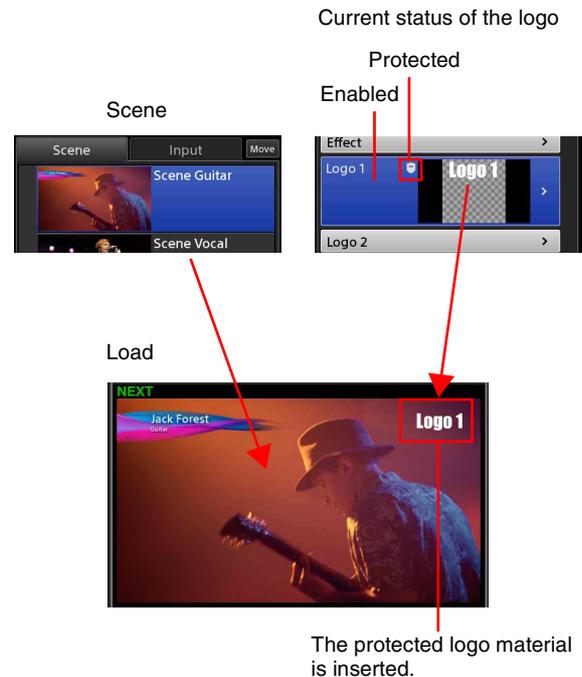
- **When the button is closed**
Tapping any area will display the list.



8 (protect) icon

Indicates that the current title or logo is protected. When an item is protected, its current status is retained. Therefore, recalling a scene will not change its status.

When you recall a scene while a title or logo is protected, the video composite will be as follows.



To enable protection

Display the context menu for the [Title 1] / [Title 2] button or the [Logo 1] / [Logo 2] button in the [Option] menu, and select [Protect].

To disable protection

Display the context menu for the [Title 1] / [Title 2] button or the [Logo 1] / [Logo 2] button in the [Option] menu, and select [Unprotect].

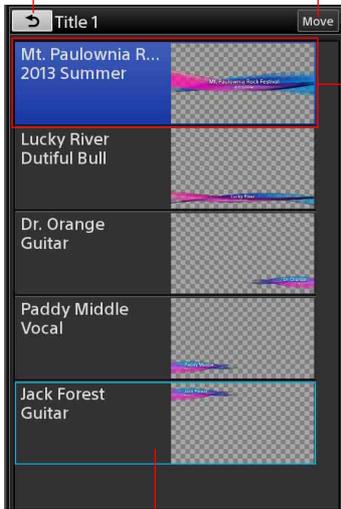
9 Option list

Displays a list of content for the option. Select the content you want to add to videos in this list.

Example: [Title 1] list

Return to the [Option] menu.

Change the sort order of the list (page 43).



The currently enabled button is highlighted with a blue background.

A light blue frame will appear around an option that is currently the target of an operation.

For details on editing the list, see “Creating Lists” (page 39).

10 (AUX lock) icon

Indicates that selection operations for the [AUX] list are locked.

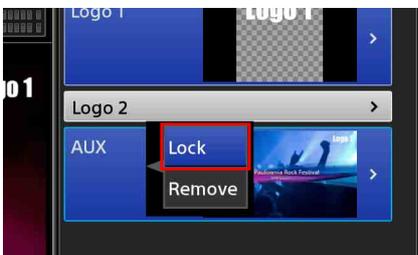
Use this function when you are using the AUX video for the purposes recording, for example, and you do not want to perform switching.

Tips

- Direct mode operations while the lock is enabled do not affect the [AUX] list.
- The AUX lock applies to selection operations in the [AUX] list. If a source other than the AUX output is selected, that material will be output as AUX after a take.

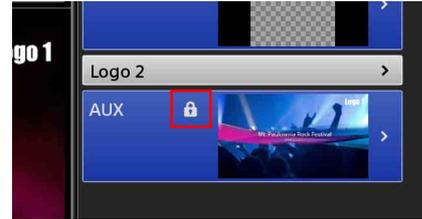
To enable the lock

Display the context menu of the [AUX] button and select [Lock].

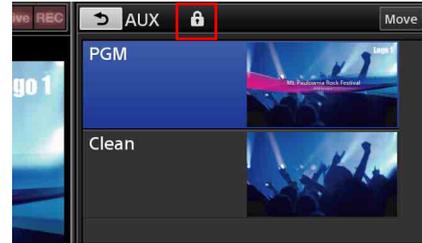


When you lock the status, the  icon appears in the [Option] menu and [AUX] list of the main screen.

- [AUX] button in the [Option] menu



- Top of [AUX] list



To release the lock

Select [Unlock] in the context menu.

11 Audio level meter

Displays the audio levels of the program output or the MIX output within a -60 dB to 0 dB range.

Viewing the audio level meter

The far-left “-∞” level is always lit green.

Over-level indicator
Lights red at the 0 dB level.



Lights green up to the current level.

The setting in the [Audio Mixer] screen of the sub screen appears here.

12 [NEXT] viewer

Displays the next program output video. You can also preview options here.

13 Program output control area

Allows you to perform operations for the program output.

[Transition Rate]: Adjusts the transition rate of program video switching.

[Cut]: Switches the program video using a cut transition.

[Take]: Switches the program video using the selected transition method and transition rate.

The transition method is selected in [Transition] of the [Option] menu. For details, see “Using Transition Effects” (page 30).

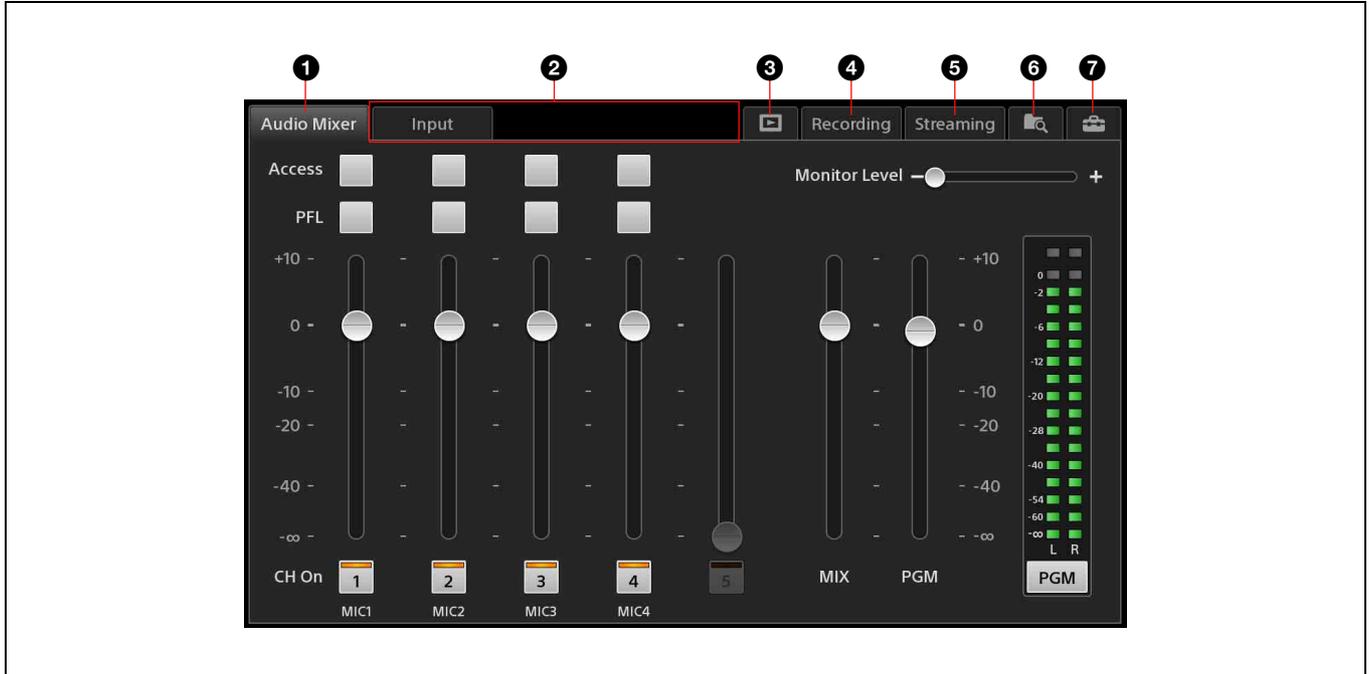
14  **mark**

This warning mark appears if a problem exists with materials in the [Scene] list or [Option] menu.

For details, see “ Icon Displays in Lists” (page 109).

Sub Screen

You can perform adjustments, configure settings, and enter text in the sub screen. Tapping each tab displays its respective operation screen.



1 **[Audio Mixer] screen**

Allows you to perform audio adjustments and mixing. The [Audio Mixer] screen appears immediately after the unit starts up.

For details, see “Step 5: Audio Mixing” (page 31).

2 **Tabs that appear according to the selections and status of the main screen**

[Input] tab

Appears when the input source selected in the [Input] list of the main screen includes audio. Allows you to enable or disable the embedded audio.

Tip

When compositing video using PinP or chroma keying, the [Input] tab will only appear when an input source from the [Input [1]] list is selected. Embedded audio cannot be used for input sources in the [Input [2]] and [Input [3]] lists.

For details, see “Adjusting the Embedded Audio of Input Sources” (page 76).

[Camera] tab

Appears when a remote camera is assigned to the input source selected in the [Input] list of the main screen.

Allows you to perform manual controls for the remote camera, and configurations and adjustments for the tracking function.

For details, see “Controlling Remote Cameras” (page 47).

[Title] tab

Appears when the [Title 1] or [Title 2] list is displayed in the main screen.

Allows you to adjust the title appearance.

For details, see “To adjust the appearance of composites” (page 45) in the “Viewing Title Composites” section.

[Effect] tab

Appears when the [Effect] list is displayed in the main screen.

Allows you to adjust the size and position of the overlay video and the appearance of chroma key composites.

For details, see “Compositing Videos Using Picture-in-Picture (PinP)” (page 57) and “Inserting People onto Backgrounds (Chroma Keying)” (page 61).

[Logo] tab

Appears when the [Logo 1] or [Logo 2] list is displayed in the main screen.

Allows you to adjust the logo position.

For details, see “To adjust the position” (page 46) in the “Viewing Logo Composites” section.

3 (Media Player) tab

Appears when [Media Player] is registered in the [Input] list or [AUX] list of the main screen.

Allows you to perform playback operations for movies (or still images) using the Media Player.

For details, see “Playing Back Material Files in the Media Player” (page 53).

4 [Recording] tab

Output can be recorded onto the unit’s internal storage in high-quality picture and audio. You can perform operations and configurations related to recording in the [Recording] screen.

For details, see “Recording Outputs from the Unit to the Internal Storage” (page 77).

5 [Streaming] tab

Output can be encoded on the unit and streamed live using an external server or recorded as a VOD (video on demand) file. You can perform operations and configurations related to streaming in the [Streaming] screen.

For details, see “Streaming” (page 79).

6 (file manager) tab

Allows you to manage files stored on the unit’s internal storage.

For details, see “Managing Files (File Manager)” (page 89).

7 (system setup) tab

Allows you to configure system settings for the unit.



Creating Lists

You can create lists by adding materials to the [Input] list, [Title 1]/[Title 2] list, [Logo 1]/[Logo 2] list, and [AUX] list. Lists are created using the context menu that appears when you tap and hold an area within the respective list. The operations that can be performed and the materials that can be added will differ depending on the list.

List	Item limit	Alpha channel support	Context menu operation					
			Add Source ¹⁾ (page 40)	Add Still Picture (page 40)	Add Media Player (page 41)	Create New (page 41)	Edit (page 42)	Delete (page 43)
[Input]	99	No	Yes	Yes	Yes	Yes	Yes	Yes
[Title 1]/ [Title 2]	99	Yes	Yes ²⁾	Yes	No	Yes	Yes	Yes
[Logo 1]/ [Logo 2]	7	Yes	No	Yes ³⁾	No	No	No	Yes
[AUX]	9	No	Yes	No ⁴⁾	Yes	No	No	Yes

- 1) The external signals configured in the [Video Setup] screen of the [System Setup] menu and the unit's internally generated signals are referred to as "sources" on this unit.
- 2) Only external signals can be added.
- 3) Only files imported to the [Logo] category can be added.
- 4) When adding still images, use [Add Media Player].

Note on image displays

Materials with aspect ratios other than 16:9 will retain their aspect ratios and be fitted to the top and bottom of their displays (black bars appear on the left and right) in the thumbnails that appear in lists and in the [NEXT] and [PGM] viewers.

Examples: List thumbnails

- **16:9 material**



- **Material other than 16:9**



Tip

The unit's internally generated signals have an aspect ratio of 16:9.

Preparing Materials

Prepare the materials to be added to the lists.

Input sources

Assign video input signals, specify input channels for embedded audio, and configure remote control settings for cameras in the [Video Setup] screen > [Input] of the [System Setup] menu.

For details on configuration, see "[Input]" (page 102).

Material files

Still image and movie files

Import still image files (including logos and titles created using other tools) and movie files to the unit's internal storage.

For details, see "Importing Files" (page 91).

Titles

Create titles using the Titrer.

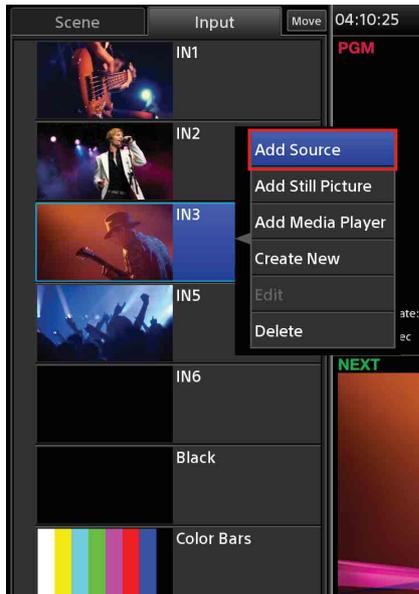
For details, see "Creating Titles (Titler)" (page 85).

Adding Input Sources to the Lists (Add Source)

Add the external signals configured in the [Video Setup] screen of the [System Setup] menu and the unit's internally generated signals to the lists.

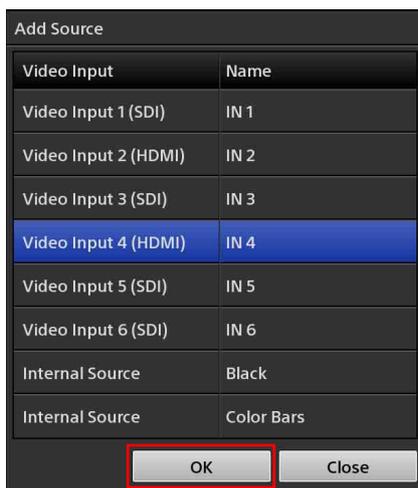
- 1 Display the context menu in the position you want to add the input source, and select [Add Source].

If you perform the operation on a button, the item will be added below that button.



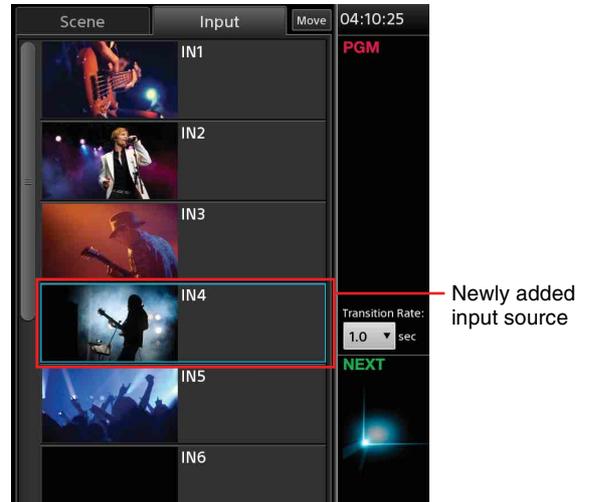
The [Add Source] dialog box appears.

- 2 Select the input source you want to add, and then tap [OK].



- 3 Tap [Close] to close the dialog box.

The input source is added to the specified position.



If necessary, you can change the input connector and name settings. For details, see “[Video Setup] Screen” (page 102).

Adding Still Images to the Lists (Add Still Picture)

Add still images imported to the unit's internal storage or still images created with the Titler to the lists.

For details on importing files, see “Managing Files (File Manager)” (page 89).

For details on the Titler, see “Creating Titles (Titler)” (page 85).

- 1 Display the context menu in the position you want to add the still image, and select [Add Still Picture].

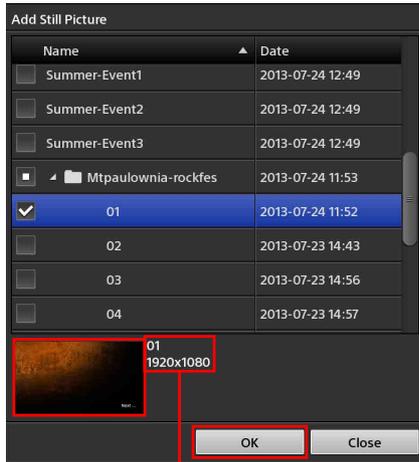
If you perform the operation on a button, the item will be added below that button.



The [Add Still Picture] dialog box appears.

- 2 Tap the file you want to add to place a check mark on it, and then tap [OK].

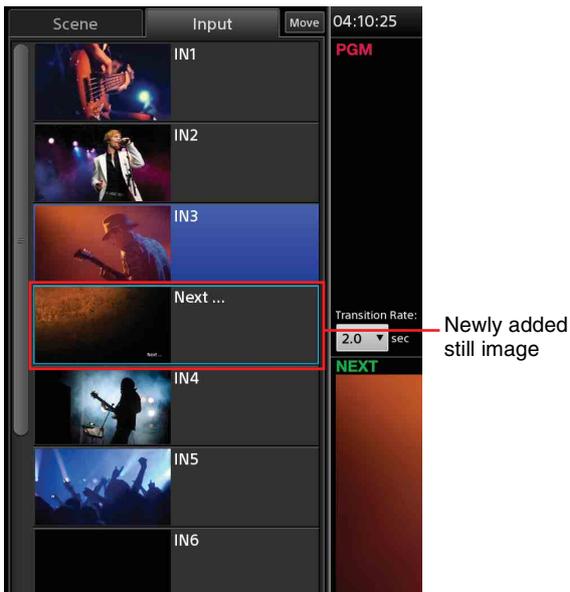
You can select multiple files.



You can view the thumbnail and resolution of the file highlighted in blue.

- 3 Tap [Close] to close the dialog box.

The still image is added to the specified position.



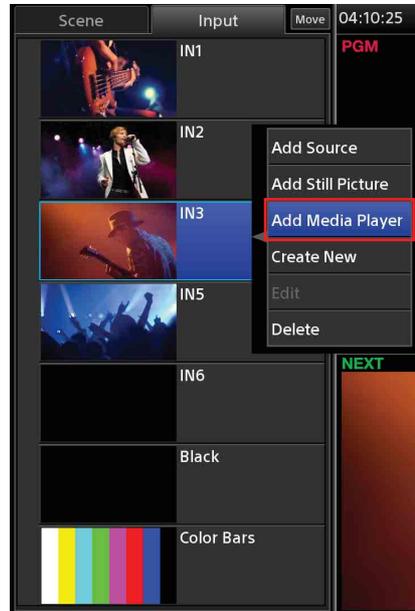
Adding the Media Player to the Lists (Add Media Player)

Add the Media Player when you want to add movies imported to the unit's internal storage or files that were recorded to the unit's internal storage via the [Recording] or [Streaming] functions to the lists. In addition, when you want to add still images to be used as PinP overlay videos or add still images to the [AUX] list, add the Media Player to the lists.

Tip

Only one instance of the Media Player can be added per list.

Display the context menu in the position you want to add the Media Player, and select [Add Media Player]. If you perform the operation on a button, the item will be added below that button.



The [Media Player] button is added to the list.

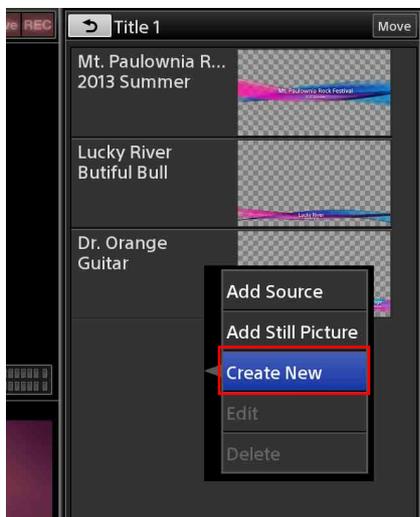
For details on Media Player operations, see "Playing Back Material Files in the Media Player" (page 53).

Creating and Adding New Titles (Create New)

You can start the Titler directly from a list and create titles and other still images to be added to the list. This is useful when you want to specify the destination for registration during the title creation process.

- 1 Display the context menu in the position you want to add the title, and select [Create New].

If you perform the operation on a button, the item will be added below that button.



The Titler starts, and the [Folder] dialog box for selecting the folder in which to save the file appears.

2 Create the title using the Titler.

For details, see steps **3** (page 85) and beyond in the “Starting from the [File Manager] screen” section and “Using the [Titler] Screen” (page 86).

3 If you want to create additional titles, display the context menu in the file list of the [Titler] screen, and select [Create New].

To create a new file by copying an existing file, display the same context menu and select [Copy] and then [Paste].

4 When you finish creation, close the [Titler] screen and return to the main screen.

The newly created still images are added to the list.

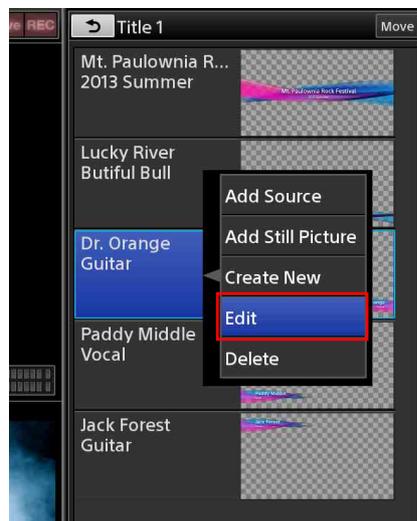
Tip

When you perform creation after starting the Titler from a list via [Create New], the still images are added directly to the list. The [Add Still Picture] operation is not necessary.

Editing Text Created in the Titler (Edit)

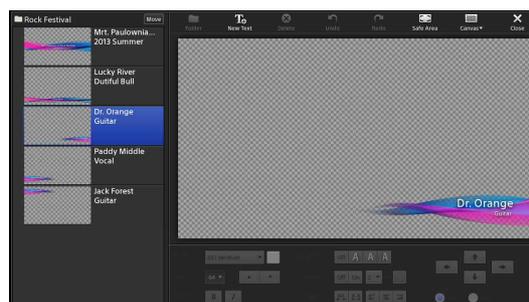
You can start the Titler directly from a list and edit text for still images that were created using the Titler.

1 Display the context menu on the button of the still image you want to edit, and select [Edit].



The Titler starts, and the editing screen of the selected still image appears.

2 Edit the text.



Tip

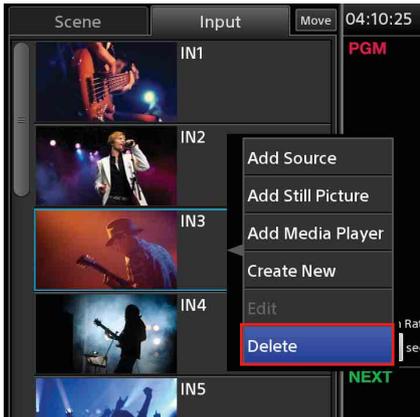
You can also edit other titles stored in the folder. However, edits will only be reflected in the list for files that are already registered to the list.

3 When you finish editing, close the [Titler] screen and return to the main screen.

The edits are reflected in the list.

Removing Material Buttons from the Lists (Delete)

Display the context menu on the button of the material you want to delete, and select [Delete].



Changing the Sort Order of the Lists

You can change the sort order of each list.

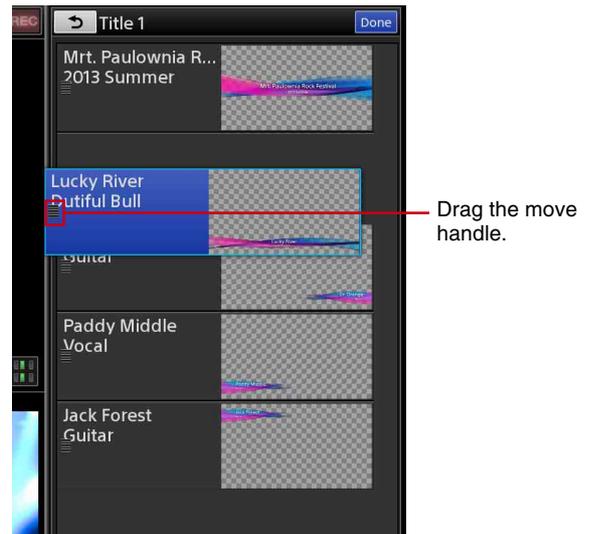
- 1 Tap [Move] at the top right of the list.



Move handles appear on each button.
The [Move] button changes to [Done], and move mode is enabled.

- 2 Drag the move handle of the button you want to move to the desired position.

Dragging an area other than the move handle will not move the button.



- 3 When you finish sorting, tap [Done].

Move mode is disabled, and the [Done] button changes to [Move].

Inserting Titles

You can insert titles onto the program video using one of the following three methods.

- Insert a title created on this unit
- Insert a still image title created using a separate tool
- Insert an external signal

Depending on the material used for the title, the title will be inserted as follows.

• Insert a still image that includes an alpha channel

The area determined by the alpha channel will be displayed as the title.

Background video



+

Title with alpha channel



Composite result



Tip

When inserting still images that do not include alpha channels, clip, gain, and density adjustments are required.

For details on the clip, gain, and density settings, see “To adjust the appearance of composites” (page 45).

• Insert an external signal

Insert a signal from a computer that is connected via SDI or HDMI interface, for example. The portions of the image with high brightness will be displayed as the title.

Background video



+

Title



Composite result



Tip

To produce a desired image, clip, gain, and density adjustments are required.

For details on the clip, gain, and density settings, see “To adjust the appearance of composites” (page 45).

Preparing Titles

Prepare the materials for titles, and add them to the [Title] list for options.

Prepare title materials using the following methods based on their intended purpose.

• When inserting titles created on this unit

Create titles using the Titrer.

For details on creation, see “Creating Titles (Titler)” (page 85).

• When inserting still image titles created using a separate tool

Create a title file that includes an alpha channel using another tool beforehand, and then import that file to the unit’s internal storage.

For details, see “Importing Files” (page 91).

• When using external input signals

For details on using external input signals, see “[Input]” (page 102).

Creating [Title] lists

Create lists by adding title materials to the [Title 1] and [Title 2] lists.

For details on creation, see “Creating Lists” (page 39).

Viewing Title Composites

You can view the appearance of a title that is inserted onto a video in the [NEXT] viewer.

This section describes the procedure for the [Title 1] list as an example.

- 1 In the [Input] list, select the background video on which you want to insert the title, and display it in the [NEXT] viewer.
- 2 Display the [Title 1] list.
- 3 Select the title you want to insert, and adjust its appearance.

When you select a title in the [Title 1] list, the title appears in the [NEXT] viewer.

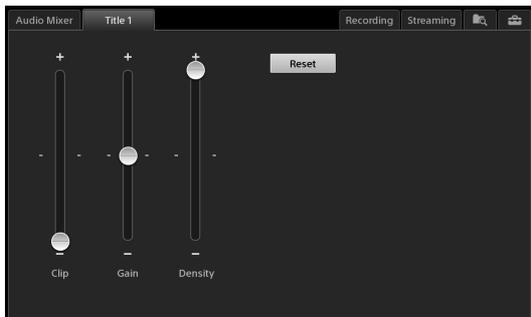
Select the title you want to insert.



If the image includes an alpha channel, a checkered pattern appears in the areas where the background image will be displayed.

To adjust the appearance of composites

When you select the title you want to adjust in the [Title 1] list, the [Title 1] tab appears in the sub screen. Tap the [Title 1] tab to display the [Title 1] screen, and drag the sliders to perform adjustments.



[Clip]: Adjust the amount of background loss (i.e., clip value) within a range of 0.00 to 100.00.

[Gain]: Adjust the sharpness of outlines (i.e., gain value) within a range of -100.00 to +100.00.

[Density]: Adjust the transparency of the title within a range of 0.00 to 100.00.

Tip

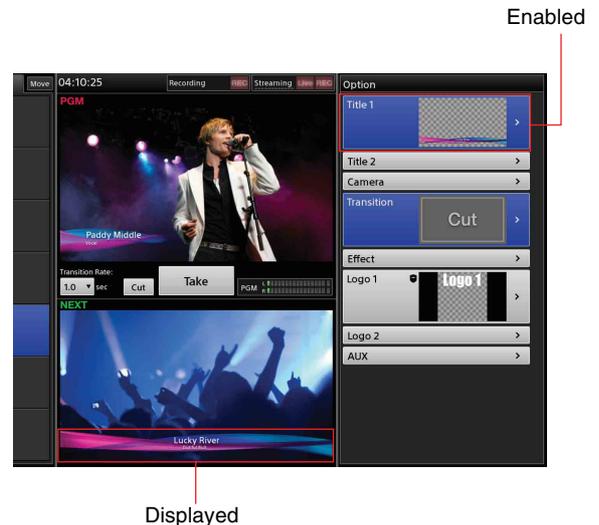
Depending on the values configured for each setting, the title may not be displayed. In such cases, tap [Reset] to restore the original state, and perform adjustment again.

4 Tap .

The [Title 1] list closes, and the [Option] menu appears again.

The thumbnail of the selected title appears on the [Title 1] button.

Tapping the button again removes the title display (i.e., the title will be in its disabled state).



Inserting Logos

You can insert up to two still images at 320 × 320 size as logos onto the video. We recommend using images that include alpha channels for logos.

The area determined by the alpha channel will be displayed as the logo.

Logo with alpha channel



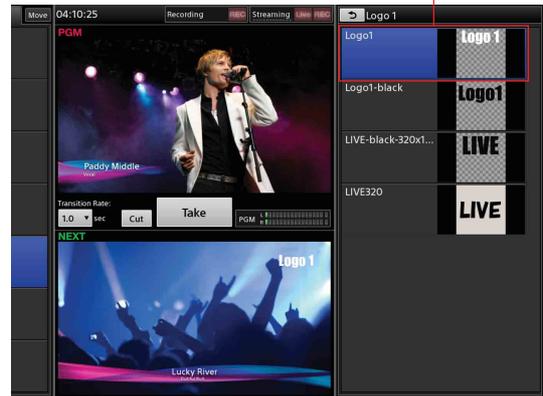
Composite result



- 3 Select the logo you want to insert, and adjust its position.

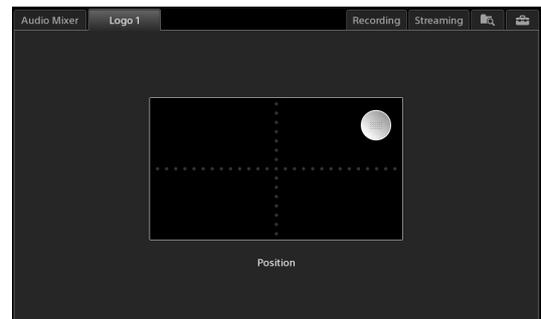
When you select a logo in the [Logo 1] list, the logo appears in the [NEXT] viewer.

Select the logo you want to insert.



To adjust the position

When you select the logo you want to adjust in the [Logo 1] list, the [Logo 1] tab appears in the sub screen. Tap the [Logo 1] tab to display the [Logo 1] screen, and drag the adjustment handle to adjust the position.



- 4 Tap .

The [Logo 1] list closes, and the [Option] menu appears again. The thumbnail of the selected logo appears on the [Logo 1] button.

Tapping the button again removes the title display (i.e., the title will be in its disabled state).

Preparing Logos

Create a logo file that includes an alpha channel using another tool beforehand, and then import that file to the unit's internal storage.

For details, see "Importing Files" (page 91).

Creating [Logo] lists

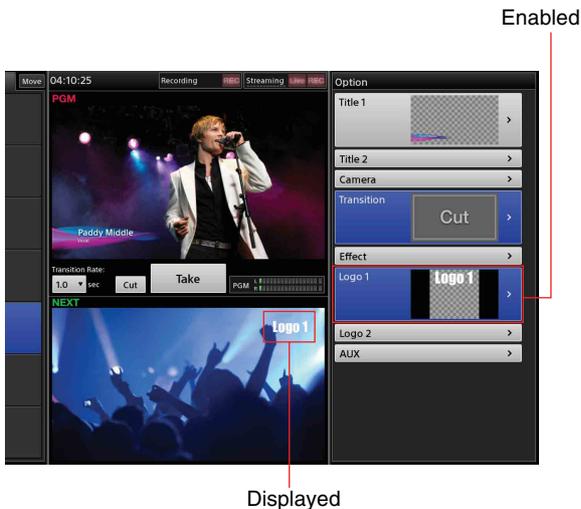
Create lists by adding logo materials to the [Logo 1] and [Logo 2] lists.

For details on creation, see "Creating Lists" (page 39).

Viewing Logo Composites

You can view the appearance of a logo that is inserted onto a video in the [NEXT] viewer. This section describes the procedure for the [Logo 1] list as an example.

- 1 In the [Input] list, select the background video on which you want to insert the logo, and display it in the [NEXT] viewer.
- 2 Display the [Logo 1] list.



Controlling Remote Cameras

The unit can control remote cameras via VISCA cable (serial connection) or LAN cable (LAN connection), and such connections are referred to as “VISCA connections.” The following controls can be performed via a VISCA connection.

- Controlling and adjusting cameras (page 47)
- Saving adjustments as presets (page 49)
- Recalling presets (page 50)
- Lighting tallies on remote cameras (page 52)

To control a camera, you must assign the camera images as an input source in the [Input] list and perform configurations to enable remote control beforehand. For details, see “Remote Camera Connections and Settings” (page 98).

You can also connect an RM-IP10 IP Remote Controller to the network and control cameras from the RM-IP10. For details on limitations and restrictions during such use, see “Notes on Using an RM-IP10” (page 51).

Tips

- Use the remote controller of the camera to configure setting items that cannot be configured from the unit. If you change the settings, be sure to restart the camera.
- Camera movement and behavior will vary depending on the camera model.
- When a camera is turned on, it starts up according to the settings stored in [Preset_1]. If you want to recall current pan/tilt positions and other camera conditions the next time you start up the camera, be sure to save them to [Preset_1] before turning off the camera.

Controlling Cameras

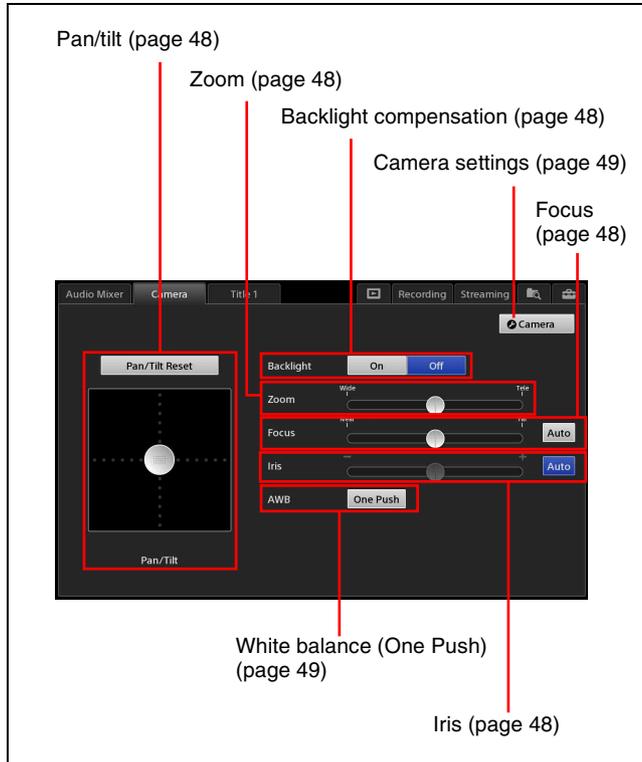
1 In the [Input] list of the main screen, select the camera input source you want to control and display its video in the [NEXT] viewer.

The [Camera] tab appears in the sub screen.

2 Tap the [Camera] tab.

The [Camera] screen appears.

3 Perform pan/tilt, zoom, iris, and other operations while viewing the video in the [NEXT] viewer.



For details on each operation, see the following sections.

Tips

- If you tap the [NEXT] viewer while the [Camera] screen is displayed, adjustment handles appear in the [NEXT] viewer, allowing you to perform pan/tilt and zoom controls. If you tap the [NEXT] viewer again, control will return to the [Camera] screen.



Adjustment handles will not appear for camera videos on which the tracking function is enabled.

For details on settings, see the [System Setup] > [Video Setup] > [Input] > [Tracking] setting (page 103).

- Although pan/tilt operations and zoom operations can be performed simultaneously in the sub screen, the [Pan/Tilt] adjustment handle and the [Zoom] slider cannot be operated simultaneously in the main screen.

Adjusting the pan/tilt

Drag the [Pan/Tilt] adjustment handle to adjust the pan and tilt of the camera.

- Dragging the handle diagonally adjusts both the pan and the tilt simultaneously. When you release your finger, the adjustment handle returns to its original position.
- If you want to redo adjustments from the home position, tap [Pan/Tilt Reset] to reset the pan/tilt positions.

Adjusting the zoom

Drag the [Zoom] slider to perform adjustments.

When you release your finger, the slider returns to the middle position.

Adjusting the focus

You can select whether to adjust the focus automatically or manually in [Focus].

Adjustment switches between auto mode and manual mode with each tap of the [Auto] button.

Auto : Auto mode

Auto : Manual mode

If the focus is set to manual mode, drag the slider to perform adjustments. When you release your finger, the slider returns to the middle position.

Adjusting the iris

You can select whether to adjust the iris automatically or manually in [Iris].

Adjustment switches between auto mode and manual mode with each tap of the [Auto] button.

Auto : Auto mode

Auto : Manual mode

If the iris is set to manual mode, drag the slider to adjust. When you release your finger, the slider returns to the middle position.

Enabling backlight compensation

Tap the [On] button for [Backlight] to enable the backlight compensation function.

Tap [Off] to disable the function.

Tip

This setting can only be configured when [Iris] is set to auto mode. Backlight compensation is disabled when [Iris] is set to manual mode.

Automatically adjusting the white balance under the current conditions

Tap the [One Push] button for [AWB] (auto white balance).

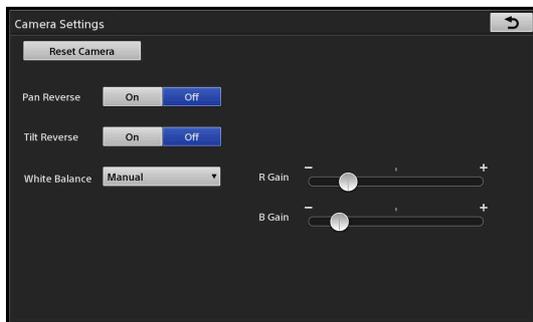
This function can be used when [White Balance] is set to [One Push] in the [Camera Settings] screen (page 49). When you tap [One Push], the white balance will be adjusted according to the current subject of the image. After doing so, view the results of automatic adjustment and check that the white areas of the video are correct in the [NEXT] viewer.

Configuring camera settings

1 In the [Camera] screen, tap .

The [Camera Settings] screen appears.

2 Configure each item.



[Pan Reverse] / [Tilt Reverse]: Use these functions to correct the reversal of up, down, left, and right movement that occurs when the camera is installed upside down on a ceiling, for example. Select [On] to reverse up, down, left, and right movement, and select [Off] to enable normal movement.

Tip

If you change the [Pan Reverse] and [Tilt Reverse] settings, be sure to save the settings to [Preset_1] in the [Camera] list. The unit starts with the settings that are saved to [Preset_1]. If you do not save the settings to [Preset_1], the settings will revert to previous values.

[White Balance]: Select one of the following white balance modes.

- **[Auto]:** Automatic adjustment.
- **[Indoor]:** Indoor mode.
- **[Outdoor]:** Outdoor mode.
- **[One Push]:** Forcibly draw out whites from the lighting condition of the subject, and use this condition during shooting. [AWB] in the [Camera] screen is only enabled when [One Push] is selected here.
- **[Manual]:** Manual adjustment.
[R Gain] and [B Gain] adjustments are only enabled when [Manual] is selected here.

[R Gain]: Drag the slider to adjust the red gain.

[B Gain]: Drag the slider to adjust the blue gain.

3 When you finish configuration, tap .

The [Camera] screen appears again.

Resetting remote cameras

When you want to change the VISCA ID for cameras and reestablish connections to cameras, tap [Reset Camera] in the [Camera Settings] screen.

Depending on the camera model, the pan and tilt may return to their default positions. When you use the [Reset Camera] function, connection will be reestablished for all cameras connected for VISCA control.

Saving Adjustments as Presets

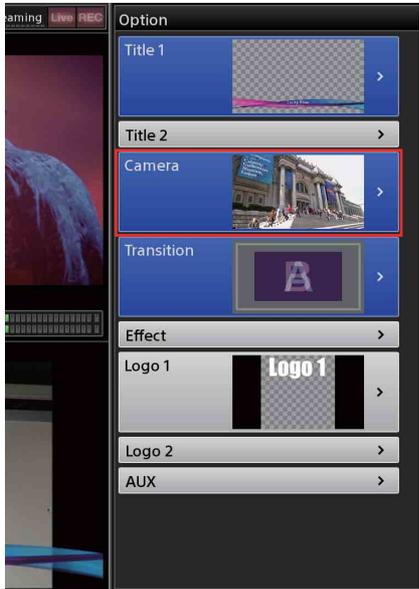
Up to 16 presets (up to 6 for the EVI-H100S and EVI-H100V) can be saved for each camera.

1 In the [Input] list, select the camera input source you want to control and display its video in the [NEXT] viewer.

The [Camera] tab appears in the sub screen.

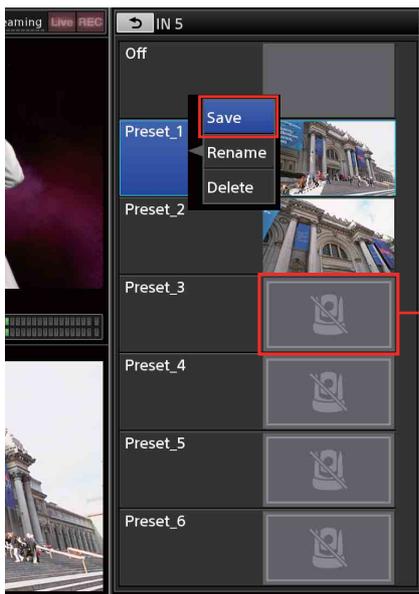
2 Tap the [Camera] tab to display the [Camera] screen, and perform pan/tilt, iris, zoom and other operations.

3 Select [Camera] in the [Option] menu.



The [Camera] list appears.

4 Display the context menu in the position you want to add the preset, and select [Save].



This image will appear on buttons for which presets are not saved.

The preset is saved, and a thumbnail appears.

Notes

- Setting values are stored on the camera.
- [Preset_1] includes some items that are only applied whenever a camera is turned on. The next time the camera is turned on, it will start according to the conditions saved to [Preset_1].

Renaming presets

Display the context menu of the preset you want to rename, and select [Rename]. When the virtual keyboard appears, you can enter up to 20 alphanumeric characters.

Deleting presets from the list

Display the context menu of the preset you want to delete, and select [Delete].

Recalling Presets

1 In the [Input] list, select the camera input source you want to control and display its video in the [NEXT] viewer.

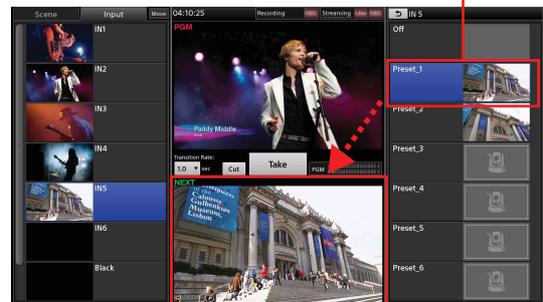
2 Select [Camera] in the [Option] menu.

The [Camera] list appears.

3 In the [Camera] list, select the preset you want to recall.

The preset video is recalled in the [NEXT] viewer.

When you select a preset...



...the preset is recalled.

Note

Depending on the [Camera] tab > [Tracking Settings] > [Pan/Tilt Limit Setting] settings (page 69), the camera video may not be recalled if the preset is out of the movement range.

Disabling presets

Use one of the following methods.

- Select [Off] in the [Camera] list.
- In the [Option] menu, display the context menu for the [Camera] button, and select [Remove] to close the button.

Notes on Using an RM-IP10

- Do not manually control the same camera from an RM-IP10 and the unit at the same time.
- If you configure position movement speeds by preset on the RM-IP10 and then recall a preset from the unit, the preset will be recalled using the speed configured on the RM-IP10. (This is because position movement speeds are stored in the camera's internal memory.)
- Even if the speed limit function for pan/tilt movement is enabled on the RM-IP10, the function will be ignored when performing pan/tilt operations from the unit. (This is because the function only applies to the RM-IP10.)

Using the GUI Tally Function

You can display tallies on the source buttons in the [Input] list that light for the sources being used as the PGM output and NEXT selection sources.

Tally display example:

PGM output: Red

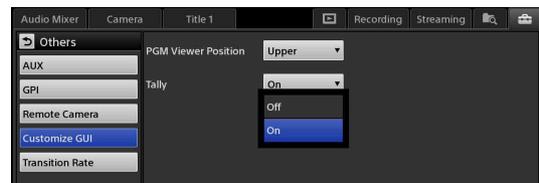


NEXT selection: Green

Tips

- The [Input] list is the only list in which the tallies appear.
- Tallies will appear or disappear when [Take] is tapped, regardless of transition settings.

- 1 Display the [System Setup] screen in the sub screen, and tap [Others].
- 2 Tap [Customize GUI] to display the [Customize GUI] screen.
- 3 Select [On] for [Tally].



Using the Camera Tally Function

You can have the tallies on cameras light via the VISCA connector and the output pins of the GPI connector at the rear of the unit or via the LAN connector when the camera's video is being used as the PGM output or NEXT selection source in the [Input] list or [Title] list.

The cameras that are compatible with the tally function and the lighting conditions are as follows.

Camera	Lighting condition	Setting
Remote cameras (VISCA connection)	<ul style="list-style-type: none"> In use as PGM output 	Not required
Cameras connected to the GPI connector on the unit via the TALLY connector on a CCU, for example (GPI connection)	<ul style="list-style-type: none"> In use as PGM output In use as NEXT selection 	Required

Tips

- The tallies on remote cameras do not support lighting in response to NEXT selection.
- Tallies will light or turn off when [Take] is tapped, regardless of transition settings.
- This function does not apply to selections made in the [AUX] list.

Lighting Tallies on Remote Cameras

Connect the remote cameras and assign them to video input connectors.

For details on connecting cameras and assigning them to video input connectors, see “Remote Camera Connections and Settings” (page 98).

Notes on using an RM-IP10

When using an RM-IP10, the tally function on the RM-IP10 must be disabled.

For details, see “IP remote controller tally settings” (page 100).

Lighting Tallies on Cameras Connected via GPI

Connect the unit's GPI connector to the TALLY connector on a CCU, for example, and configure the conditions for GPI output. The tallies on the camera will light in response to the GPI outputs.

Tip

This function supports up to four cameras.

- 1 Connect the camera to the unit.
- 2 Connect the GPI connector on the unit to the TALLY connector on the CCU.

For details on pin assignments on the GPI connector, see “GPI connector” (page 120) in the “Connector Pin Assignments” section.

- 3 Select the input source of the camera in the [Input] list of the main screen, and verify the video.
- 4 Display the [System Setup] screen in the sub screen, and tap [Others].
- 5 Tap [GPI] to display the [GPI] screen.
- 6 Specify the GPI output conditions for each pin on the GPI connector.



[GPI OUT 1] to [GPI OUT 4]: Specify the conditions for GPI output.

- **[Not Assigned]:** Do not use this function.
- **[PGM Tally Input1] to [PGM Tally Input6]:** GPI output occurs when video from the selected camera is being used as the PGM output source.
- **[NEXT Tally Input1] to [NEXT Tally Input6]:** GPI output occurs when video from the selected camera is being used as the NEXT selection source.

Playing Back Material Files in the Media Player

The following material files can be played back in the Media Player.

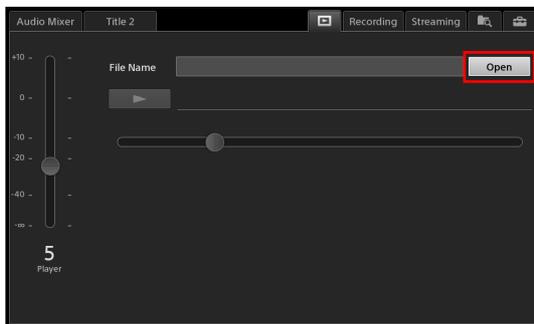
- Movies and still images imported to the unit's internal storage
- Still images created with the Titler
- Files recorded to the unit's internal storage via the [Recording] function
- Files recorded to the unit's internal storage via the [Streaming] function

For details on importing material files, see "Importing Files" (page 91).

For details on adding the Media Player to the list, see "Adding the Media Player to the Lists (Add Media Player)" (page 41).

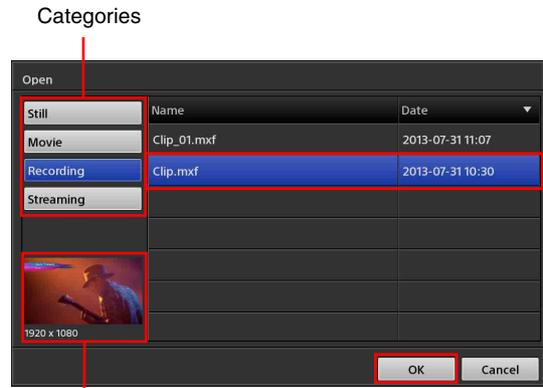
Playing Back Files

- 1 Select [Media Player] in the main screen's list.
- 2 Tap the  tab in the sub screen. The [Media Player] screen appears.
- 3 Tap [Open].



The [Open] dialog box appears.

- 4 Select the category to which the file belongs, select the file to play back, and then tap [OK].

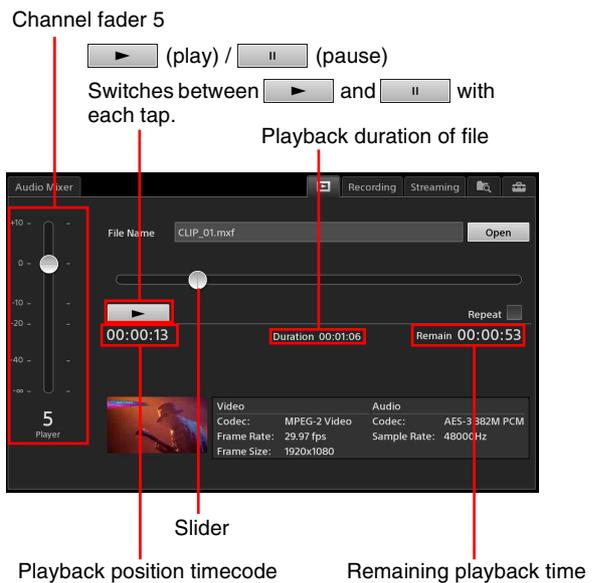


You can view the thumbnail and resolution of the selected file.

For details on categories, see "Managing Files (File Manager)" (page 89).

The thumbnail and name of the file appear in the [Media Player] screen and the list.

- 5 Adjust the playback start position and audio level of the file in the [Media Player] screen.



To adjust the playback position of files

Adjust the playback position by moving the slider while viewing the playback position timecode and video.

Tip

The timecode is a relative timecode with the beginning of the file being "00:00:00."

To adjust the audio

If a movie includes embedded audio, drag the channel fader to adjust the audio level.

Tips

- Embedded audio will be assigned to channel fader 5 automatically.
- When the [Media Player] tab is displayed, the unit enters audio preview mode automatically, allowing you to listen to audio via the HEADPHONES jack or the internal speakers. Audio preview does not affect the PGM output or MIX output.

6 Tap  to verify file playback.

Verify that playback of the file is stable.

7 Tap [Take] or [Cut] in the main screen to switch the video.

Mixing embedded audio

If embedded audio is output due to a [Take] operation, the embedded audio is automatically assigned to channel fader 5.

After the [Take], you can adjust the audio level by dragging the slider for channel 5 in the [Audio Mixer] screen.



Tip

If channel fader 5 is being used for both input and the Media Player, the Media Player will have priority.

To stop playback

Tap  in the [Media Player] screen.

Repeat Playback

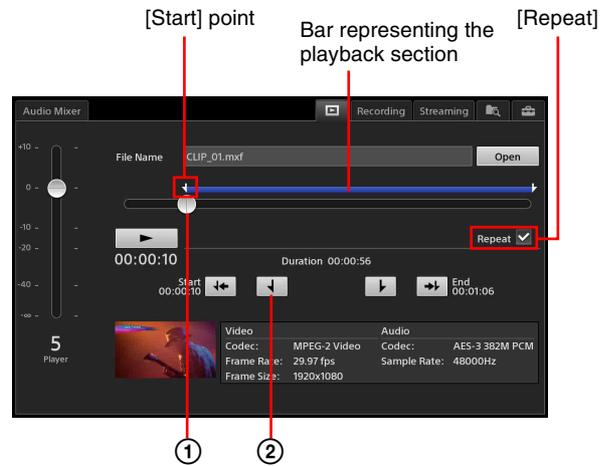
You can specify a section of a file for repeat playback.

To specify the section for repeat playback

1 Select the [Repeat] checkbox in the [Media Player] screen.

Buttons for specifying the [Start] and [End] points and a bar representing the playback section appear.

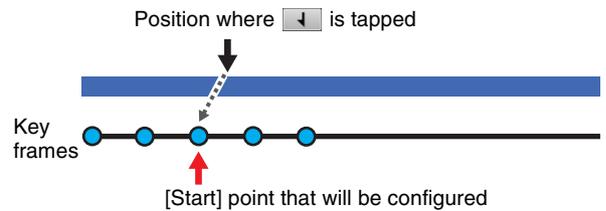
2 Configure the [Start] point.



① Play back the file or move the slider, and stop the file at the repeat playback start position.

② Tap  (Start).

The [Start] point is configured on the key frame immediately preceding the tapped position.

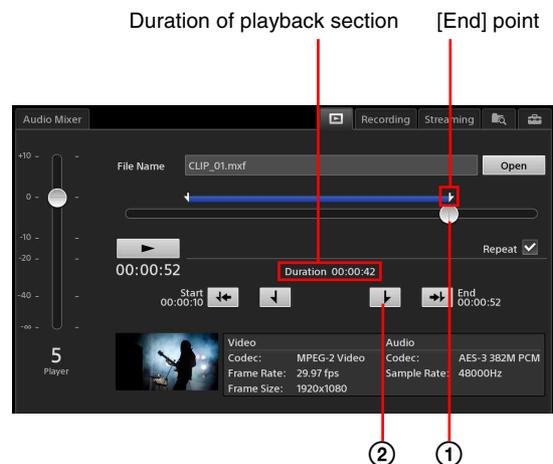


The  marker of the bar representing the playback section moves to the playback start position.

Tip

The video may move back slightly from the position where  was tapped.

3 Configure the [End] point.



- ① Play back the file or move the slider, and stop the file at the end of the repeat playback section.
- ② Tap  (End).
The [End] point is configured on the tapped position.

The  marker of the bar representing the playback position moves to the end of the repeat playback section.

Tips

- The positions of the [Start] and [End] points can be reversed or the points can be configured at the same position. However, the entire file will be specified for repeat playback in such cases.
- The remaining playback time will not be displayed during repeat playback.

- 4 Tap  (To [Start] Point) to jump to the [Start] point.

Tip

When performing repeat playback, be sure to use  to jump to the [Start] point beforehand. If you do not jump to the [Start] position, playback will start from the current position.

- 5 Tap  to verify the playback section.

Verify that playback of the file is stable.

For details on adjusting the audio, see “Playing Back Files” (page 53).

- 6 Tap [Take] or [Cut] in the main screen to switch the video.

The specified section will be played back repeatedly.

Tip

You cannot specify the number of times to repeat playback.

To disable repeat playback

In the [Media Player] screen, clear the [Repeat] checkbox.

Entering Text

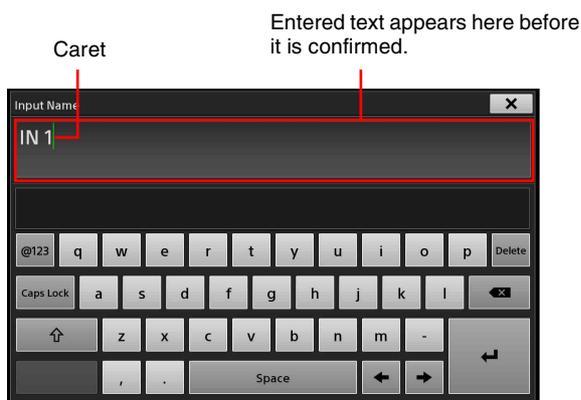
Text is entered in the sub screen using the virtual keyboard.

- 1 Tap the text entry field in the main screen or the sub screen.



The virtual keyboard appears in the sub screen.

- 2 Enter the text.



The text appears on the virtual keyboard while it is being entered.

- 3 Tap  (enter) to confirm the entry.

The virtual keyboard closes, and the text is entered.

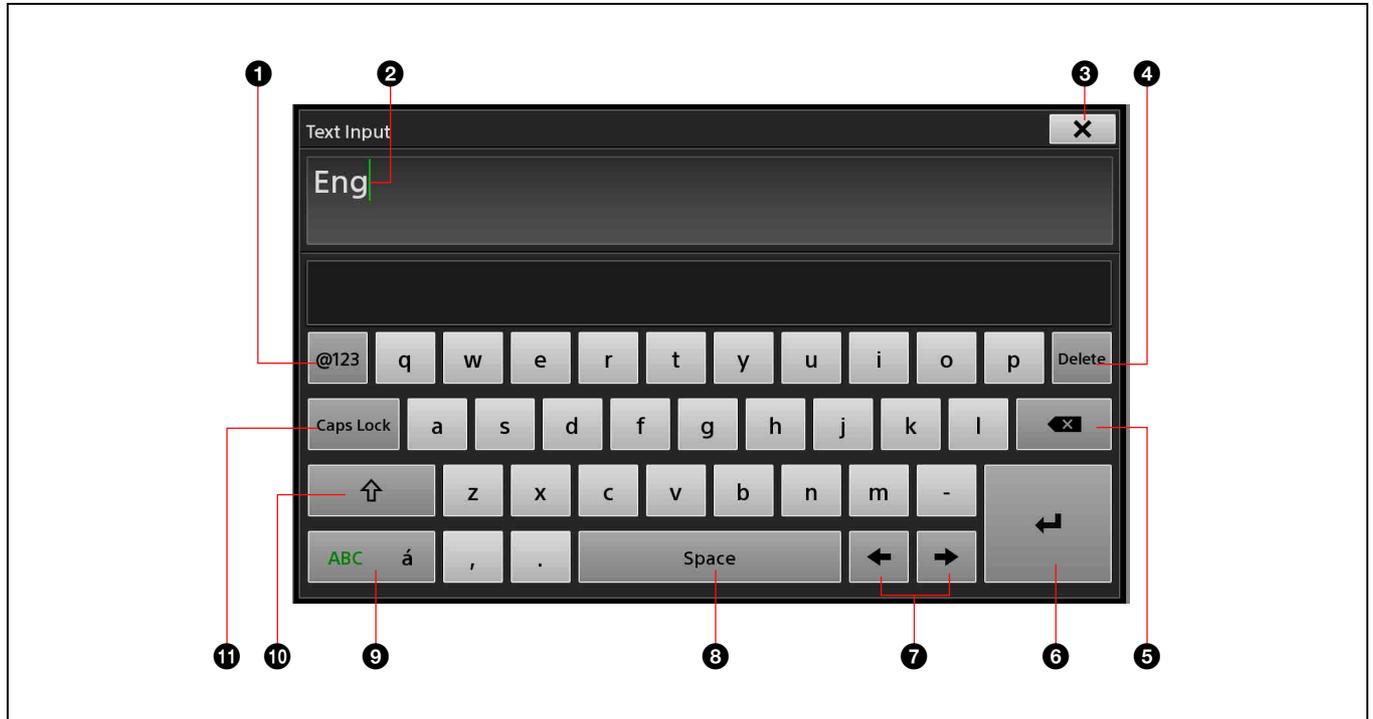
Tips

- Tapping  on the virtual keyboard also confirms the entry.
- When entering text for the Titler, tapping any location that exits the entry mode confirms the entry.

Using the Virtual Keyboard

The following image of the virtual keyboard is a sample. Depending on the functions you are using, the keyboard that is displayed may differ.

The keyboard that is displayed will differ depending on the input language. For details on changing the input language, see “[Input Language]” (page 102) in the “[Language]” section.



- 1** [**@123**] (numeric) button
Switches to the numeric keyboard.
- 2** Caret (green)
- 3** **X**
Exits text entry mode, and closes the virtual keyboard.
- 4** [**Delete**]
When characters are selected, this deletes the selected characters.
When characters are not selected, this deletes characters immediately following the caret one at a time.
- 5** **X** (Backspace)
Deletes characters immediately preceding the caret one at a time.
- 6** **↵** (Enter)
Confirms the text entry or inserts a line break.
- 7** [**←**] and [**→**]
Moves the caret position to the left or right one position at a time.
- 8** [**Space**]
Enters a space.
- 9** [**ABC á**]
Switches the keyboard to umlaut character mode or standard alphabet mode with each tap.
After switching to umlaut character mode, entering a single character returns the keyboard to standard alphabet mode.
- 10** [**↑**] (shift)
Switches the keyboard to upper case mode or lower case mode with each tap.
After switching to upper case mode, entering a single character returns the keyboard to lower case mode.
- 11** [**Caps Lock**]
When this is enabled, the keyboard enters upper case mode. Disabling this returns the keyboard to lower case mode.

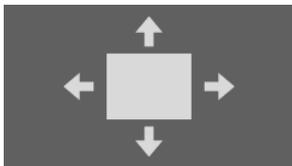
Compositing Videos Using Picture-in-Picture (PinP)

You can composite a video consisting of one video (overlay video) inserted on top of another video (background video) using the picture-in-picture effect. You can use up to two overlay videos.

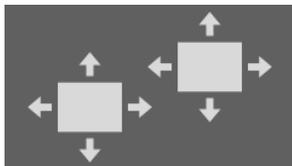


You can select from the following PinP patterns.

Pattern_01



Pattern_02



Pattern_03



Pattern_04



Pattern_05



Pattern_06



Pattern_07



Pattern_08



Pattern_09



Pattern_10



Pattern_11

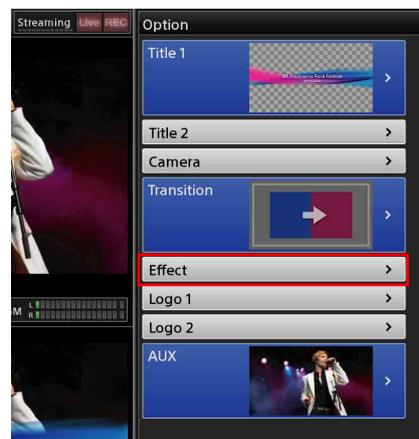


OFF



Selecting Composite Patterns

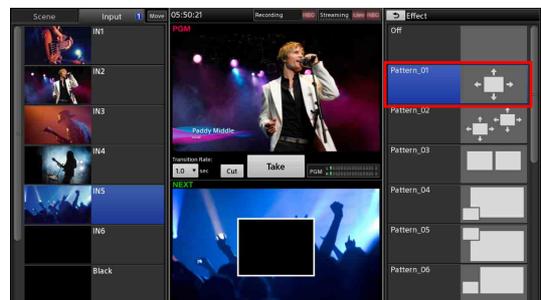
- 1 Select [Effect] in the [Option] menu.



The [Effect] list appears.

- 2 Select the pattern you want to use.

The video composite appears in the [NEXT] viewer according to the selected effect pattern.



- 3 Tap .

The [Option] menu appears again.

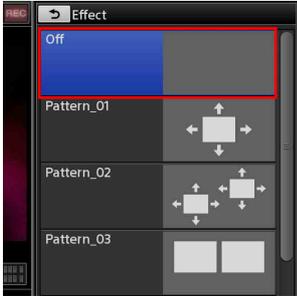
Canceling composites

Use one of the following methods.

- Select [Off] in the [Effect] list

1 Select [Off].

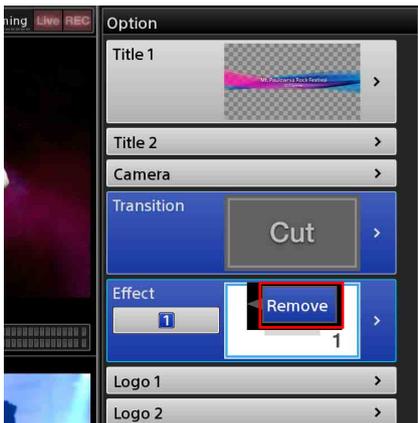
The composite overlay video disappears.



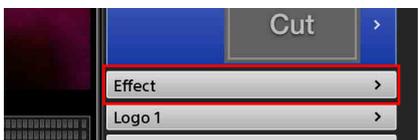
2 Tap .

The [Option] menu appears again.
The [Effect] button closes.

- Close the [Effect] button in the [Option] menu
Display the context menu, and select [Remove].



The [Effect] button closes, and the composite will be canceled.



Selecting Composite Materials

Select the videos you want to use for the composite in the [Input] list.

1 In the [Option] menu, tap the input control number button on the [Effect] button.

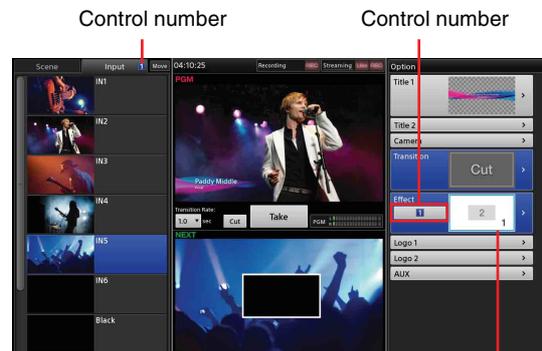
The control number appears in the [Option] menu and the [Input] list.

The number changes with each tap.

[1]: Background video

[2]: Overlay video 1

[3]: Overlay video 2 (for patterns with two)



A light blue frame appears around the area that the selected control number represents.

2 Verify the input control number, and select the input sources you want to use for the background video and overlay videos.

The selected video appears in the [NEXT] viewer.



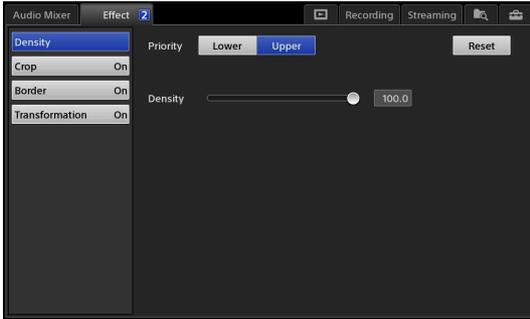
Tip

If you want to use still images for the overlay image, use the Media Player.

For details on Media Player operations, see “Adding the Media Player to the Lists (Add Media Player)” (page 41).

Adjusting Overlay Videos

- 1 In the [Option] menu, tap the input control number button on the [Effect] button.
- 2 Display the [Effect] list.
- 3 In the sub screen, tap the [Effect] tab to display the [Effect] screen, and select the settings you want to adjust in the menu to the left.



The items that you can configure will differ depending on the selected pattern. For Pattern_03 to Pattern_11, only the [Border] setting can be configured.

- **[Density]:** Specify the opacity of the inserted image.
- **[Crop]:** Crop the portions of the overlay video that you do not want inserted.
- **[Border]:** Specify whether to add a border to the edges of the overlay video.
- **[Transformation]:** Adjust the size and position of the overlay video.

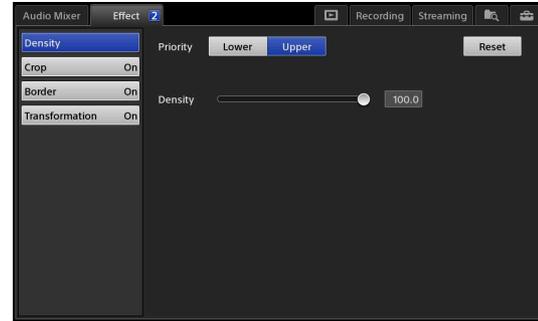
Tip

If there are two overlay videos, the target for adjustment in the sub screen will be as follows, depending on the selected input control number.

Input control number	Target for adjustment
[1]	Overlay video 1
[2]	Overlay video 1
[3]	Overlay video 2

Configuring the [Density] settings

Specify the opacity of the inserted image.



[Priority]: Specify the top/bottom relationship between videos when overlay video 1 and overlay video 2 overlap.

This item cannot be configured when using [Pattern_01].

- **[Lower]:** When configuring overlay video 1, this places overlay video 1 under overlay video 2. When configuring overlay video 2, this places overlay video 2 under overlay video 1.
- **[Upper]:** When configuring overlay video 1, this places overlay video 1 over overlay video 2. When configuring overlay video 2, this places overlay video 2 over overlay video 1.

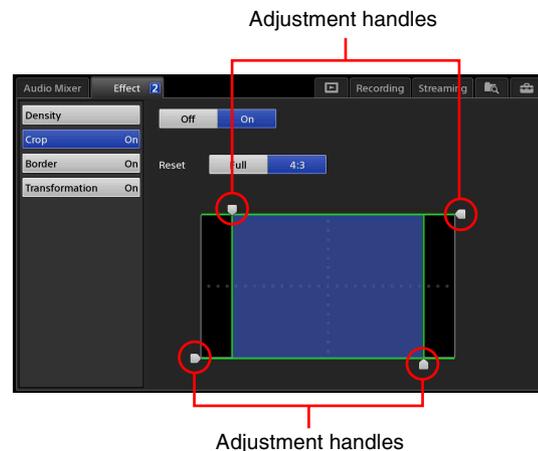
[Density]: Drag the slider to adjust the opacity of the inserted image.

To restore the original value

Tapping [Reset] restores the original value.

Configuring the [Crop] settings

Crop the portions of the overlay video that you do not want inserted.



[Crop]: Selects whether to use the [Crop] function.

- **[On]:** Enable the function.
- **[Off]:** Disable the function.

[Reset]: Sets the cropped area of the image to the following values.

Item	Setting values			
	Left	Top	Bottom	Right
[Full]	-100	+100	-100	+100
[4:3]	-75	+100	-100	+75

Tip

If you move the adjustment handles after enabling [Full] or [4:3] (highlighted in blue), the button will turn off (no longer highlighted), indicating deviation from the [Reset] settings.

Adjustment handles: Drag each handle to specify the areas of the image to be cropped.

Configuring the [Border] settings

Specify whether to add a border to the edges of the overlay video.



[Border]: Selects whether to add a border around the edges of the cropped image.

- **[On]:** Add a border.
- **[Off]:** A border is not added.

Drag the sliders for the following items to adjust them.

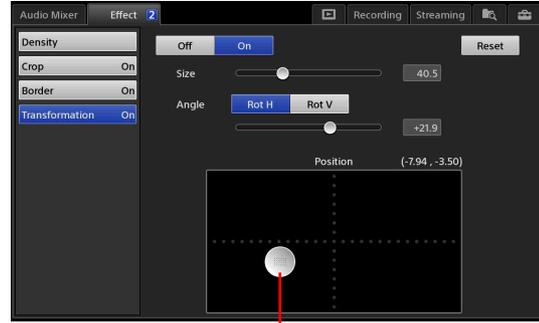
- [Width]:** Specify the width of the border.
- [Luminance]:** Specify the luminance of the border.
- [Saturation]:** Specify the saturation of the border.
- [Hue]:** Specify the hue of the border.

To restore the original value

Tapping [Reset] restores the original value.

Configuring the [Transformation] settings

Adjust the size and position of the overlay video.



Adjustment handles

[Off] / [On]: Selects whether to use the [Transformation] function.

- **[On]:** Enable the function.
- **[Off]:** Disable the function.

[Size]: Drag the slider to adjust the size of the inserted image.

[Angle]: If you want to rotate the inserted image, select the rotation direction, and drag the slider to specify the angle of rotation.

- **[Rot H]:** Rotate the image horizontally
- **[Rot V]:** Rotate the image vertically.

[Position]: Drag the adjustment handle to adjust the position of the inserted image.

To restore the original value

Tapping [Reset] restores the original value.

Inserting People onto Backgrounds (Chroma Keying)

You can use chroma keying to insert a person onto a background, for example.

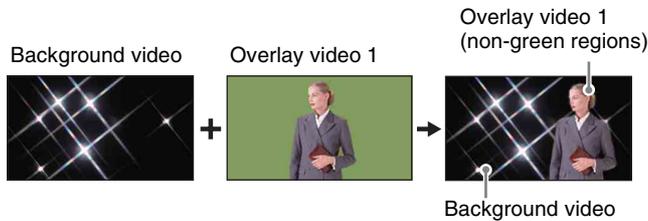
Chroma keying is a compositing technique that involves specifying regions of a single color in the overlay video (green in the following example), and inserting the regions other than the specified regions (a person in the following example) onto the background video. You can also adjust the size and position of the overlay video, and use chroma keying and PinP at the same time.

You can select from the following patterns.

Pattern_12



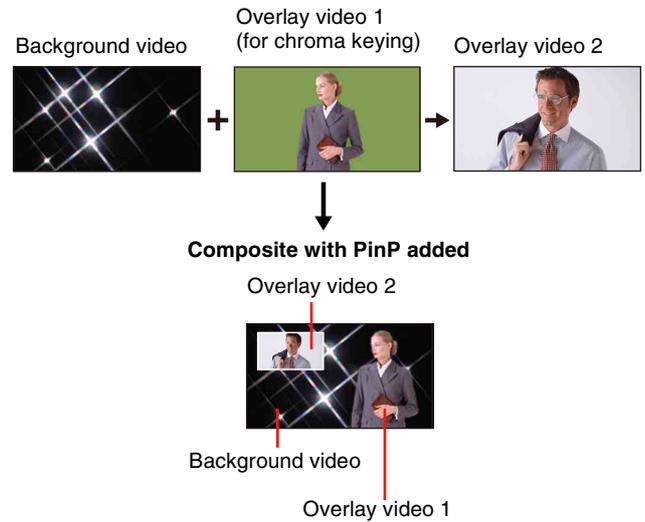
Composite example:



Pattern_13



Composite example:

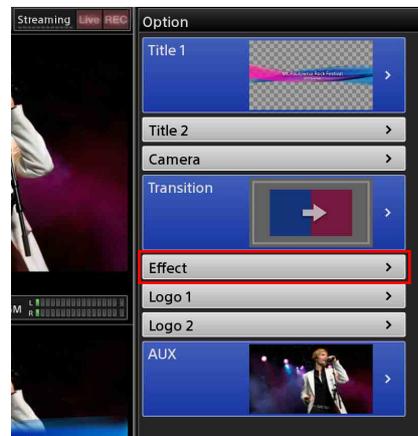


Tip

You can only add one PinP overlay video when using chroma keying.

Selecting Composite Patterns

- 1 Select [Effect] in the [Option] menu.



The [Effect] list appears.

- 2 Select [Pattern_12] or [Pattern_13].

The video composite appears in the [NEXT] viewer according to the selected effect pattern.



3 Tap .

The [Option] menu appears again.

Canceling composites

For details, see “Canceling composites” (page 58) of the “Compositing Videos Using Picture-in-Picture (PiP)” section.

Selecting Composite Materials

Select the videos you want to use for the composite in the [Input] list.

1 In the [Option] menu, tap the input control number button on the [Effect] button.

The control number appears in the [Option] menu and the [Input] list.

The number changes with each tap.

[1]: Background video

[2]: Overlay video 1

[3]: Overlay video 2 (for patterns with two)



A light blue frame appears around the area that the selected control number represents.

2 Verify the input control number, and select the input sources you want to use for the background video and overlay videos.

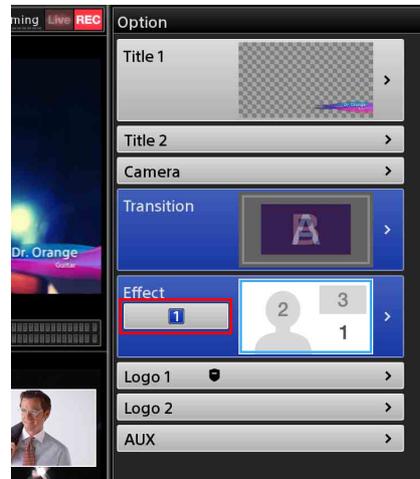
Tip

If you want to use still images for the overlay image, use the Media Player.

For details on adding the Media Player, see “Adding the Media Player to the Lists (Add Media Player)” (page 41).

Adjusting Overlay Video 1

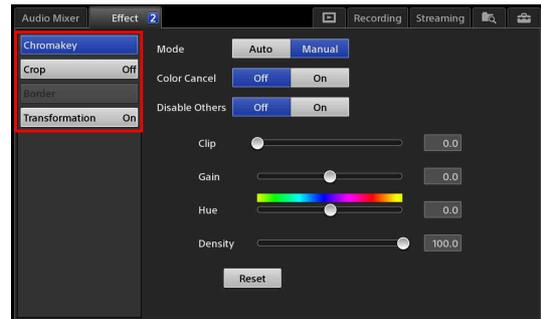
1 In the [Option] menu, tap [1] (background video) or [2] (overlay video 1) on the [Effect] button.



2 Display the [Effect] list.

3 In the sub screen, tap the [Effect] tab to display the [Effect] screen, and select the settings you want to adjust in the menu to the left.

Overlay video 1 can be adjusted, even when the [1] button (background video) is selected.



You can configure the following settings for overlay video 1.

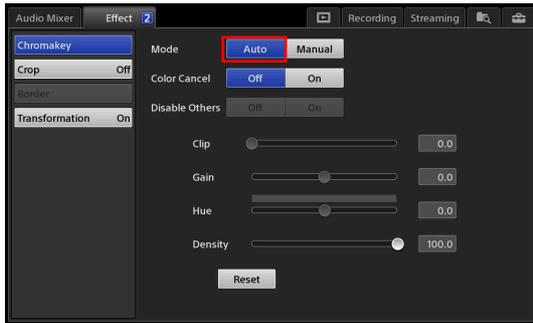
- **[Chromakey]:** Specify the color that will not be composited with the background video, and adjust the compositing. The color region can be adjusted in [Auto] mode or [Manual] mode (page 63).
- **[Crop]:** Crop regions in overlay video 1 that you do not want included in the composite (page 64).

- **[Transformation]:** Adjust the size and position of overlay video 1 (page 64).

Adjusting [ChromaKey] in [Auto] mode

In [Auto] mode, you specify the color that you do not want composited with the background video in the [NEXT] viewer, and adjustments are performed automatically.

- 1 Tap [Auto] for [Mode].



[Auto] mode is enabled, and the color picker (white frame) appears in the [NEXT] viewer.

- 2 Tap an area that includes the color you want to remove to move the color picker.

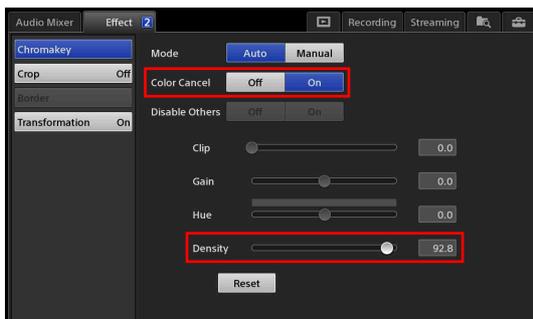


Color picker (white frame)

Tip

In [Auto] mode, the composite of only overlay video 1 and the background video will appear in the [NEXT] viewer. Titles and logos will not be displayed.

- 3 If necessary, adjust the outlines and density of the image to be inserted.



[Color Cancel]: Use this if remnants of the color that is supposed to be removed appear in the outlines of the inserted image (e.g., in a person's hair). When [On] is selected, the remnants of the specified color in the outlines are made colorless (usually gray in appearance) to reduce noticeability.

[Density]: Drag the slider to adjust the density of the inserted image.

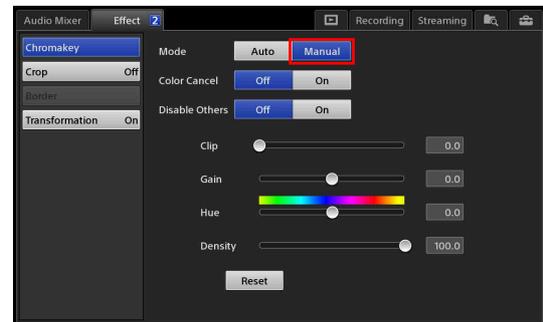
To restore the original value

Tapping [Reset] restores the original value.

Adjusting [ChromaKey] in [Manual] mode

In [Manual] mode, adjustments are performed by configuring each setting value manually. You can also perform automatic adjustment in [Auto] mode, and then perform fine adjustments in [Manual] mode.

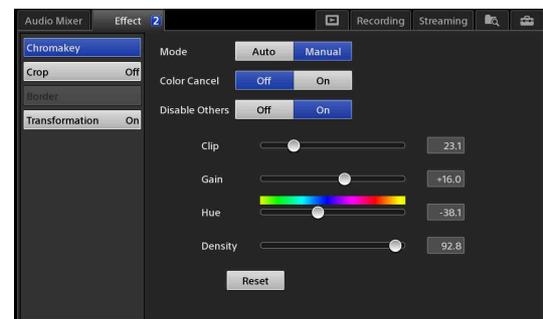
- 1 Tap [Manual] for [Mode].



Tip

When you switch to [Manual] mode after performing automatic adjustment in [Auto] mode, the values for [Clip], [Gain], and [Hue] that were automatically obtained are retained and displayed initially.

- 2 Configure each item.



For details on the [Color Cancel] setting and the [Density] setting, see step 3 (page 63) in the “Adjusting [ChromaKey] in [Auto] mode” section.

[Disable Others]: Selects whether to composite titles and logos during chroma key adjustment.

- **[On]:** Do not composite. Titles and logos are not composited, making it easier to perform manual adjustments.
- **[Off]:** Composite. This is useful when you want to confirm the image's appearance with titles and logos composited.

Drag the slider for each item to perform adjustments. **[Clip]:** Adjust the amount of loss in the background video.

[Gain]: Adjust the sharpness of outlines.

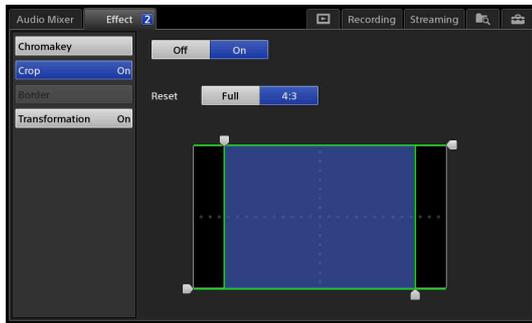
[Hue]: Adjust the hues.

To restore the original values

Tapping [Reset] restores the original value.

Configuring the [Crop] settings

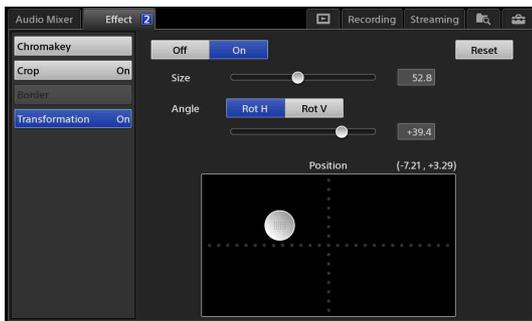
Crop regions in overlay video 1 that you do not want included in the composite.



For details on the [Crop] and [Reset] settings and the adjustment handles, see “Configuring the [Crop] settings” (page 59) in the “Adjusting Overlay Video” section.

Configuring the [Transformation] settings

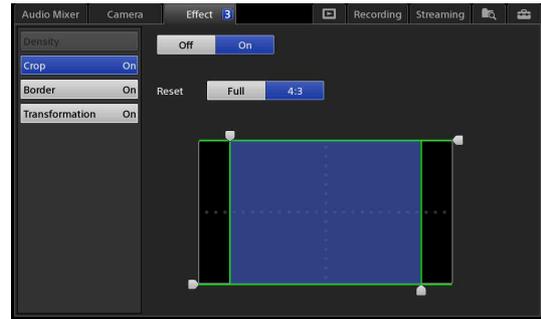
Adjust the size and position of overlay video 1.



For details on setting items, see “Configuring the [Transformation] settings” (page 60) in the “Adjusting Overlay Video” section.

Adjusting Overlay Video 2

- 1 In the [Option] menu, tap [3] (overlay video 2) on the [Effect] button.
- 2 Display the [Effect] list.
- 3 In the sub screen, tap the [Effect] tab to display the [Effect] screen, and select the settings you want to adjust in the menu to the left.

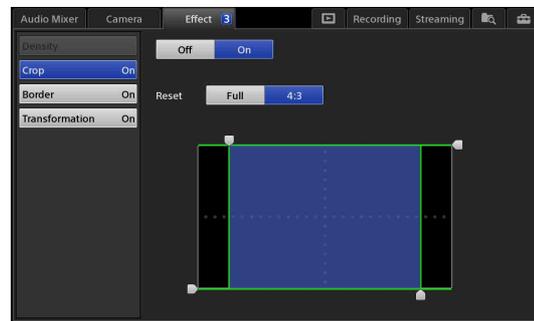


You can configure the following settings for overlay video 2.

- **[Crop]:** Crop regions in overlay video 2 that you do not want included in the composite.
- **[Border]:** Specify whether to add a border to the edges of overlay video 2.
- **[Transformation]:** Adjust the size and position of overlay video 2.

Configuring the [Crop] settings

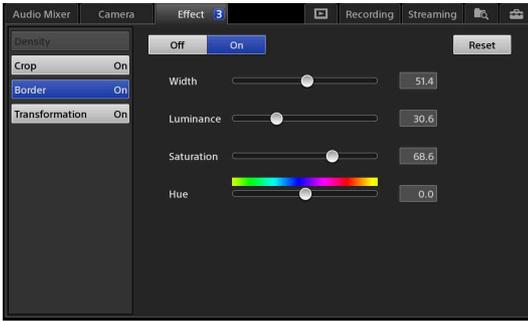
Crop regions in overlay video 2 that you do not want included in the composite.



For details on setting items, see “Configuring the [Crop] settings” (page 59) in the “Adjusting Overlay Video” section.

Configuring the [Border] settings

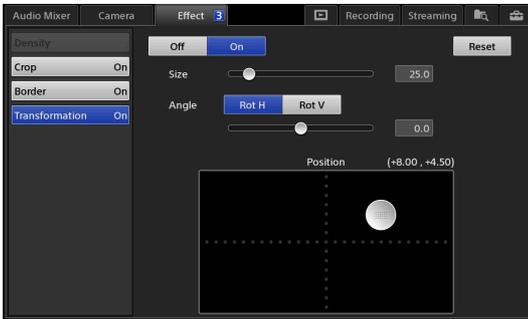
Specify whether to add a border to the edges of overlay video 2.



For details on setting items, see “Configuring the [Border] settings” (page 60) in the “Adjusting Overlay Video” section.

Configuring the [Transformation] settings

Adjust the size and position of overlay video 2.



For details on setting items, see “Configuring the [Transformation] settings” (page 60) in the “Adjusting Overlay Video” section.

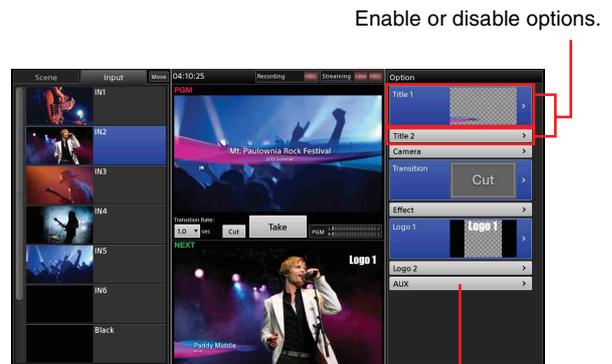
Creating Scenes

You can save the current state of the [Input] list, [Option] menu, and the transition rate to the [Scene] list as a “scene.” (You can save up to 99 scenes.) Stored scenes can be recalled whenever necessary.

For details on recalling scenes, see “Recalling Scenes” (page 67).

Creating New Scenes

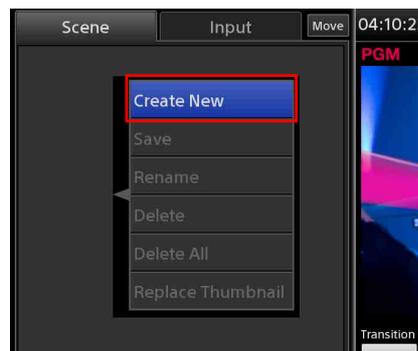
- 1 Operate the [Input] list, [Option] menu, and transition rate to create the conditions you want to save as a scene in the [NEXT] viewer.



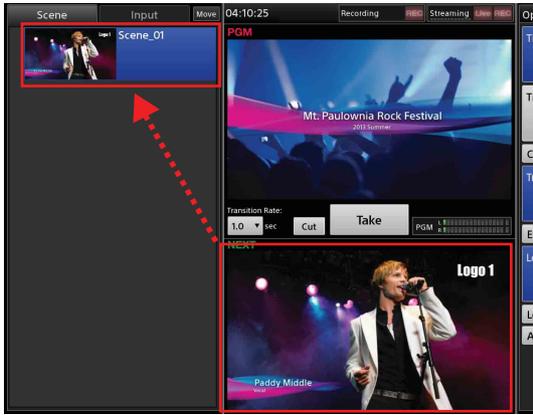
Options for which the buttons are not closed will be included in the scene.

For details on excluding an option from the scene, see “Excluding Options from Scenes” (page 66).

- 2 Display the context menu in the [Scene] list, and select [Create New].



A button is added to the [Scene] list. The image that was currently displayed in the [NEXT] viewer appears as the thumbnail.

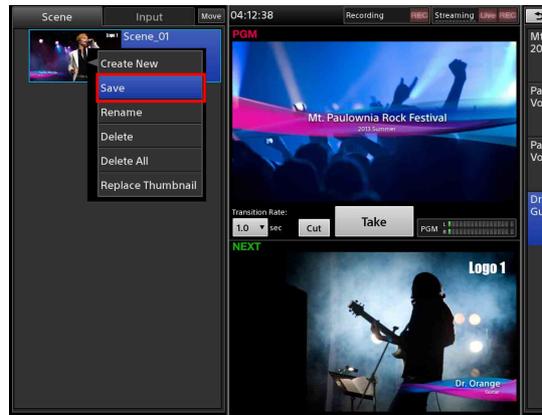


Sequential numbers will be assigned automatically to the names of the created scenes ([Scene_01] to [Scene_99]). If necessary, you can rename them.

Tip

If a scene does not include “effects” and only includes the input signal, that input signal will be displayed as a movie in the thumbnail.

3 In the [Scene] list, display the context menu of the button to which you want to save the edited scene, and select [Save].



The edited scene overwrites the previous scene.

Renaming scenes

Display the context menu of the scene you want to rename, and select [Rename]. When the virtual keyboard appears, you can enter up to 20 alphanumeric characters.

Deleting scenes from the list

Display the context menu of the scene you want to delete, and select [Delete].

Deleting all scenes from the list

Display the context menu of any scene in the list, and select [Delete All]. When the confirmation message appears, tap [Yes].

Editing Scenes

You can edit the video of a previously created scene.

- 1** In the [Scene] list, tap the scene you want to edit to display it in the [NEXT] viewer.
- 2** Edit to create the conditions you want to save to the scene.

For details on excluding an option from the scene, see “Excluding Options from Scenes” (page 66).

Replacing Thumbnails

When you display the context menu of a scene button and select [Replace Thumbnail], the image currently displayed in the [NEXT] viewer replaces the thumbnail image.

Excluding Options from Scenes

- **Close the button in the [Option] menu**
Display the context menu of the option to be excluded from the scene, and select [Remove].



The button closes, and the option will be excluded from the scene.

- **When the option is [Effect] or [Camera]**
You can also exclude an option using the following method.
Select [Off] in the [Effect] list or the [Camera] list.



Recalling Scenes

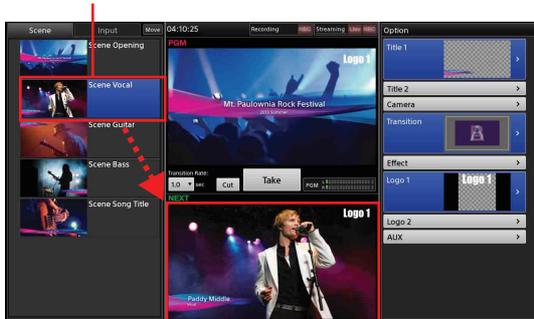
Video conditions that are saved to a scene can be selected as the program video. Previously saved scenes are displayed in the [Scene] list.

For details on saving scenes, see “Creating Scenes” (page 65).

- 1 Select the preset you want to recall in the [Scene] list.

The scene appears in the [NEXT] viewer.

When you select a scene...



...the selected scene appears in the [NEXT] viewer.

- 2 Tap [Take] or [Cut] to switch the video.

When a title or logo is protected

If the  icon appears on a title or logo button in the [Option] menu, the content of the current title or logo is protected.

In such cases, the current title or logo configuration will be unaffected and retained, even if a scene is recalled.

For details, see “ (protect) icon” (page 35).

Tracking Targets (Tracking Function)

Using the tracking function allows you to perform the following controls.

- Tap a person or other target in the [NEXT] viewer to track them (tracking mode).
- Tap a position in the [NEXT] viewer to center the camera on that position (framing mode).

Tracking may not be possible or tracking performance may deteriorate in the following cases.

- Subject
 - The subject moves too quickly.
 - The subject moves out into the distance away from the camera.
 - The size of the subject changes significantly.
 - The appearance of the subject’s clothes varies significantly depending on the angle in which it is viewed.
 - The subject’s posture changes significantly.
 - The subject is too small or too large.
- Environment
 - The camera is shaking significantly.
 - The background includes a variety of colors.
 - There is low contrast between the subject and the background.
 - The subject and the background are similar in color.
 - A portion of the subject becomes obscured by an obstruction.
 - The subject moves past another person.
 - The brightness of the subject changes due to a light (e.g., projector).

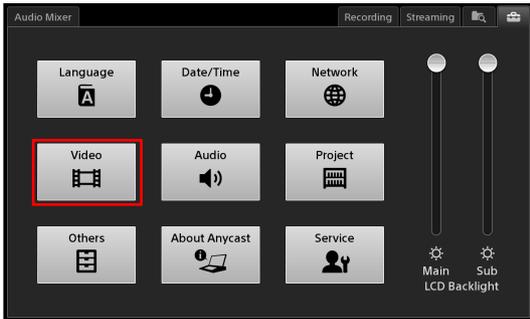
Preparation

Perform the following before using the tracking mode.

- Position the camera so that it faces the subject directly.
- Smooth tracking may not be possible if the camera is positioned too far. Adjust the camera’s position if adjustments to the [Speed] setting are not sufficient.
- Set [Pan Reverse] and [Tilt Reverse] to [On] if the camera’s “IMG-FLIP” function is enabled or set them to [Off] if the camera’s “IMG-FLIP” function is disabled, and then save the setting to [Preset_1].

Enabling the Tracking Function

1 Display the [System Setup] screen, and tap [Video].



The [Video Setup] screen appears.

2 Tap [Input], and select the input connector of the target remote camera for control.

3 Select the target remote camera for control in [Remote Control], and select [On] for [Tracking].

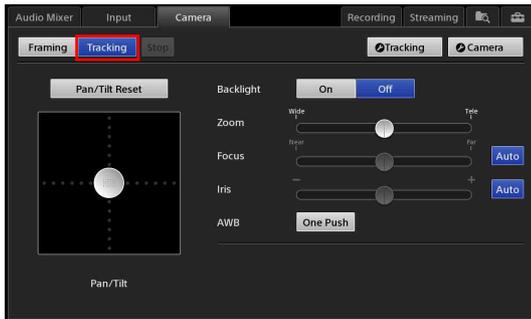


Tip

The tracking function can only be configured for one video input, with the video input that was configured last having priority.

Using Tracking Mode

In the [Camera] screen, tap [Tracking] to enable it.



Tracking mode is enabled.

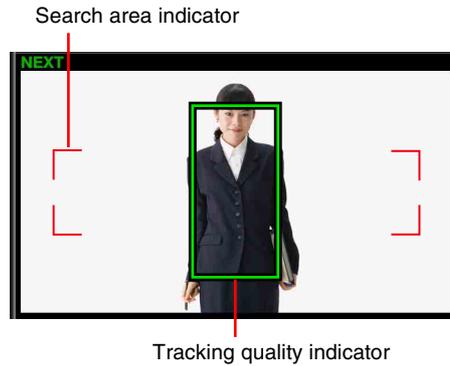
Tip

The mode cannot be changed while the camera is moving. Wait for the camera to stop before tapping [Tracking].

The tracking status appears in the [NEXT] viewer during tracking mode.

Note

The tracking status will not be displayed if an [Effect] is configured. Tracking cannot be started when the tracking status is not displayed.



- Search area indicator:** Indicates the area in which the camera can find a tracking target.
- Tracking quality indicator:** Indicates the tracking quality or whether tracking is in standby by its color. The size of the frame is configured in the [Size] (page 69) of the [Tracking Settings] screen.
 - : Tracking standby
 - : Good
 - : Warning

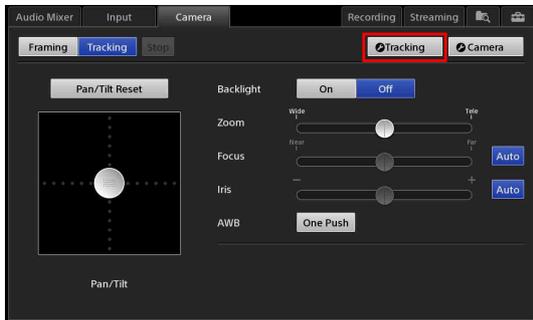
Configuring tracking settings

Configure settings related to the tracking target. First select a preset for the tracking target's movement, and then perform fine adjustments.

1 In the [Input] list, tap the input source for which the tracking function is enabled to display its video in the [NEXT] viewer.

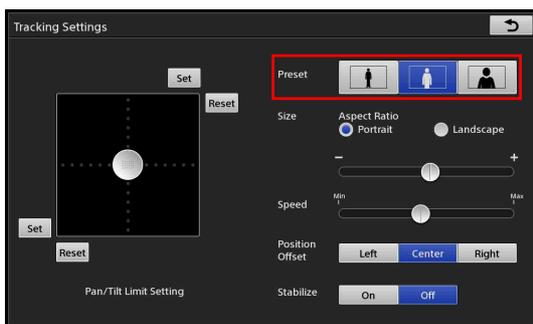
The [Camera] tab appears in the sub screen.

- 2 Tap the [Camera] tab to display the [Camera] screen, and tap .



The [Tracking Settings] screen appears.

- 3 Select a preset in [Preset] based on the size of the tracking target.



Tip

If you change any other setting values after enabling a preset button (highlighted in blue), the button will turn off (no longer highlighted) to indicate that it has been disabled.

- 4 Adjust the width of the tracking target in [Size].

The size specified here is the size of the tracking quality indicator frame that appears in the [NEXT] viewer.

[Aspect Ratio]: Select the aspect ratio.

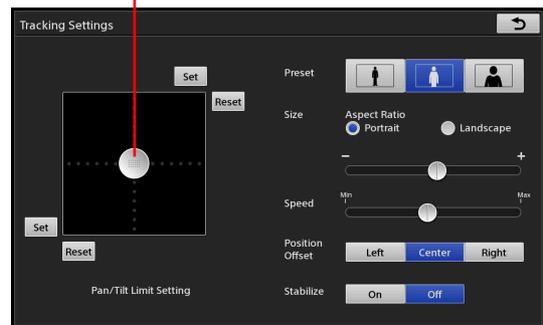
- **[Portrait]:** Use for full-body or half-body shots.
- **[Landscape]:** Use for bust shots.

Slider: Adjust the width of the frame to match the width of the tracking target (shoulder width in the case of a person).

- 5 Specify the movement range (tracking range) for the camera in [Pan/Tilt Limit Setting].

By specifying the movement range, you can prevent the camera from pointing in unintended directions during tracking and make sure that your target does not move out of the camera's view.

Adjustment handle



- ① Use the adjustment handle to control the camera, and position the subject to the center of the screen.
- ② Move the camera up to the position you want to use as the upper limit of movement, and from that position, move the camera right to the position you want to use as the right limit of movement, and then tap [Set] at the upper right. The upper and right limits of the movement range will be set. (The button color will not change.)

Tip

Tapping [Reset] will clear both the upper and right limit settings.

- ③ Use the adjustment handle to control the camera, and position the subject to the center of the screen again.
- ④ Move the camera down to the position you want to use as the lower limit of movement, and from that position, move the camera left to the position you want to use as the left limit of movement, and then tap [Set] at the bottom left. The lower and left limits of the movement range will be set. (The button color will not change.)

Tip

Tapping [Reset] will clear both the lower and left limit settings.

- 6 Save the settings to [Preset_1] in the [Camera] list.

For details on how to save, see “Saving Adjustments as Presets” (page 49).

Tip

If you configure the [Pan/Tilt Limit Setting] settings, be sure to save the settings to [Preset_1]. The unit starts with the settings that are saved to [Preset_1]. If you do not save the settings to [Preset_1], the settings will revert to previous values.

- 7 Select the offset position for the tracking target in [Position Offset].

For example, if you want to use the camera video as a PinP background video, you can select [Left] or [Right] to position the target away from the overlay video.

[Left]: Offset to the left.

[Center]: Do not offset.

[Right]: Offset to the right.

Tip

If [Left] or [Right] is selected and the [Size] setting is too large, tracking may not be possible at the edges of the screen. If the camera does not move as intended, adjust the size of the tracking target.

- 8 Tap  to return to the [Camera] screen.

Starting tracking

Tap the tracking target in the [NEXT] viewer to start tracking.

Tips

- We recommend tapping the tracking target when it is still to start tracking.
- Manual operations from the unit for all remote cameras will be disabled during tracking. Stop tracking before performing manual operations.
- Although you can control remote cameras during tracking from a RM-IP10, avoid doing so.
- The tracking status will not appear and tracking cannot be started if an [Effect] is configured.

Note

Tracking will stop automatically in the following cases.

- When a camera preset is saved, deleted, or recalled

When tracking is lost

Tap the tracking target to start tracking again.

Stopping tracking

Tap [Stop].

Resuming tracking

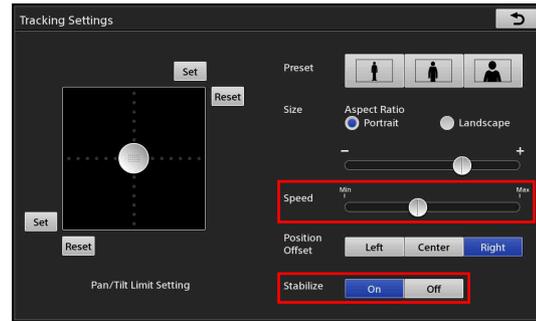
Tap the tracking target in the [NEXT] viewer.

Performing adjustments according to the tracking target

Perform adjustment in the [Tracking Settings] screen.

Tip

Adjustments cannot be performed during tracking. Stop tracking before performing adjustments.



[Speed]: Drag the slider to adjust the tracking speed.

If the camera cannot keep up with the target, increase the tracking speed. Tracking may not be smooth if the speed is too fast.

If the camera moves faster than the target, decrease the tracking speed.

[Stabilize]: Select [On] to stabilize the video in the following situations.

- When shooting a tracking target that continuously makes small movements.
- When the camera shakes slightly due to the tracking function, even when the subject is still.

Tip

If the camera still shakes when [Stabilize] is set to [On], try lowering the [Speed] setting.

Using Framing Mode

Tip

Framing mode will not function if an [Effect] is configured.

- 1 In the [Input] list, tap the input source for which the tracking function is enabled to display its video in the [NEXT] viewer.

The [Camera] tab appears in the sub screen.

- 2 Tap the [Camera] tab to display the [Camera] screen, and tap [Framing] to enable it.



Framing mode is enabled.

Tip

The mode cannot be changed while the camera is moving. Wait for the camera to stop before tapping [Framing].

- 3 Tap the target in the [NEXT] viewer.

The tapped position moves to the center position.

Tip

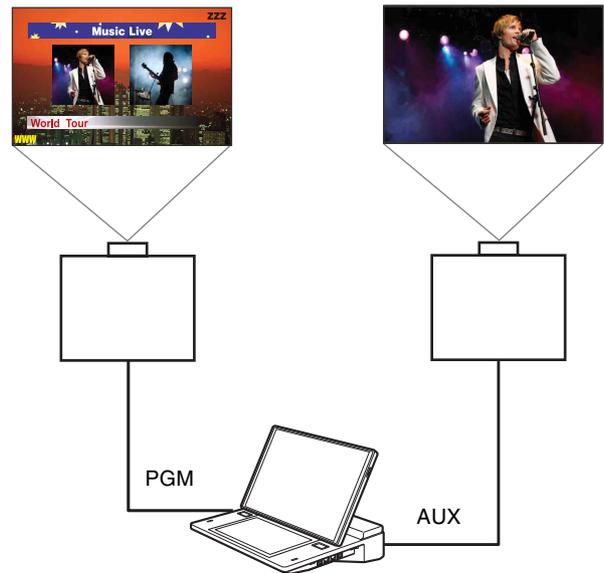
If you tap a target while the camera is moving, the target will be disabled. In such cases, tap the target again after the camera stops.

Switching the Second Output (AUX)

In addition to PGM, another video composite output (AUX) is available on this unit. You can select the AUX output from the input sources and the PGM. In addition, you can select “clean” versions of the PGM output that exclude specific composite images.

You can use this feature when you want to output two different videos using two projectors, or when you want to output a video without titles and logos alongside the PGM output.

Usage example 1: Output separate videos via two connected projectors



Usage example 2: Remove “LIVE” displays for recording

If “LIVE” is displayed as [Logo1], output the video without the “LIVE” display for the purposes of recording.

- PGM



- AUX



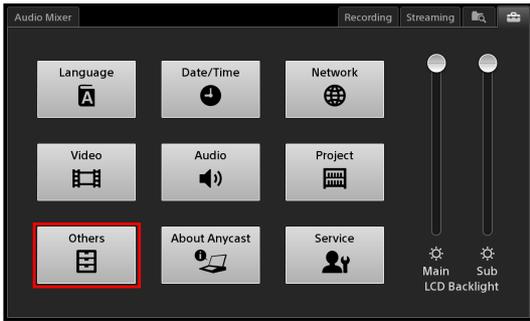
Configuring AUX Settings

Configuring [Clean] settings

To output an AUX signal that consists of the PGM output with titles and logos removed, select [Clean] in the [AUX] list. You can specify which signals to remove from the output under [AUX Clean].

Settings are configured in the [System Setup] screen.

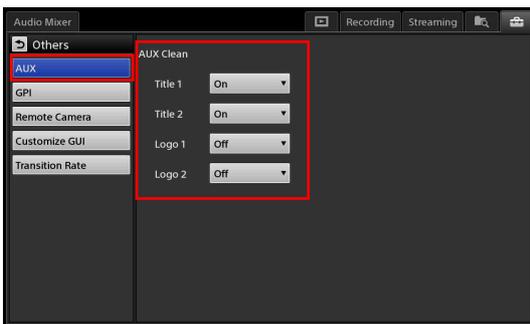
- 1 Display the [System Setup] screen, and tap [Others].



The [Others] screen appears.

- 2 Tap [AUX], and select whether to include [Title 1], [Title 2], [Logo 1], and [Logo 2] in the clean video under [AUX Clean].

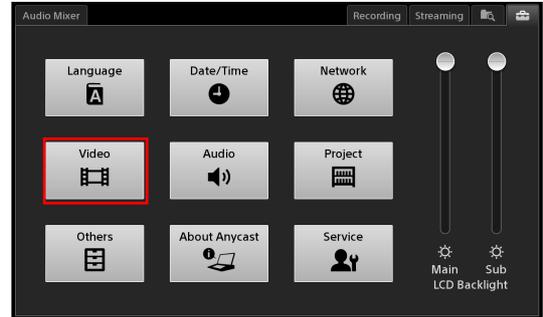
Select [On] to include an item, and select [Off] to exclude it.



Outputting AUX from the PGM/AUX output connectors

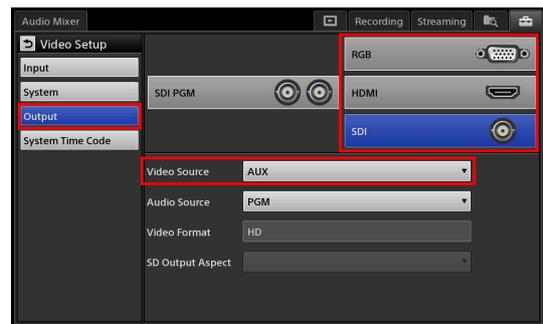
Specify the connectors (RGB output, HDMI output, or SDI output connectors) you want to use for AUX output as [AUX].

- 1 Display the [System Setup] screen, and tap [Video].



The [Video Setup] screen appears.

- 2 Tap [Output] in the menu to the left, select the connector you want to use for AUX output in the screen that appears, and select [AUX] for [Video Source].



Switching the Video

Creating [AUX] lists

Create a list by adding input signals and still images to the [AUX] option list.

For details on creation, see “Creating Lists” (page 39).

Tip

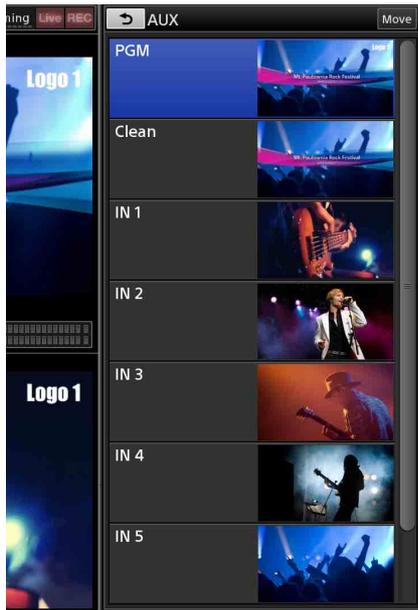
[PGM] and [Clean] cannot be removed from the [AUX] list.

Switching videos

- 1 In the [AUX] list of the [Option] menu, select the material you want to use for the AUX output.

If you select [PGM], the output will be identical to the PGM output.

If you select [Clean], the output specified in the [System Setup] menu > [Others] > [AUX] screen will be used.



2 Tap [Take] or [Cut] to switch the video.

3 Verify the AUX output.

The AUX output will not be displayed in the [PGM] viewer or [NEXT] viewer. Connect a monitor, for example, to the AUX output connector, and verify the output video.

When the AUX selection status is protected

If the  icon appears on the [AUX] button in the [Option] menu, selection operations for the [AUX] list are locked.

Switching of the AUX video is not possible in such cases.

For details, see “ (AUX lock) icon” (page 36) in the “Main Screen” section.

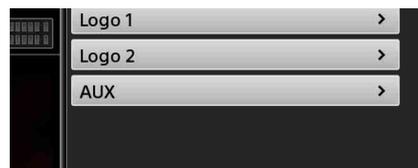
Excluding AUX outputs from scenes

If you save a scene while the AUX button is open, the AUX selection will also be saved. To exclude an AUX selection when recalling a scene, remove the AUX setting.

Display the context menu of the [AUX] button and select [Remove].



The [AUX] button will close, and the AUX selection will be excluded.



Performing Detailed Audio Adjustments

You can adjust the audio quality for each channel individually, adjust the audio embedded in input sources, and perform other detailed audio adjustments.

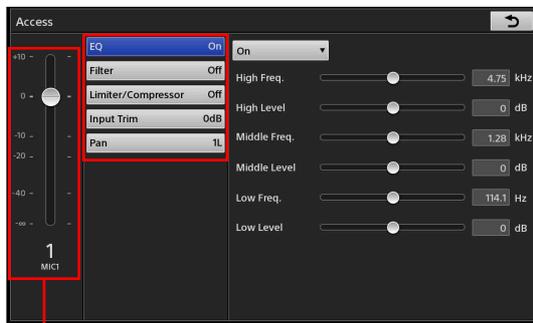
Adjusting the Audio Quality for Each Channel

- 1 In the [Audio Mixer] screen, tap the [Access] button for the channel (1 to 4) to which the audio you want to adjust is assigned.



The [Access] screen for the selected channel appears.

- 2 Tap an item in the menu to the left, and perform adjustments in the screen that appears.



You can also adjust the level of the selected channel here.

You can configure the following settings in the [Access] screen.

- [EQ]:** Adjust the audio quality by using the equalizer function to specify the frequencies and levels of the high, middle, and low audio ranges (page 74).
- [Filter]:** Use the filter function to cut high frequencies and low frequencies (page 75).
- [Limiter/Compressor]:** When inputting audio with significant level differences, configure the limiter and compressor (page 75).

[Input Trim]: Adjust the audio input signal level (page 75).

[Pan]: Adjust the left and right balance of the audio (page 75).

- 3 When you finish configuration, tap .

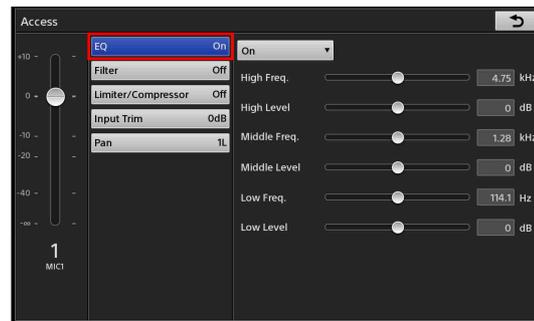
The [Access] screen appears again.

The following sections describe the settings in the [Access] screen in detail.

[EQ]

Adjust the audio quality by using the equalizer function to specify the frequencies of the high, middle, and low audio ranges.

Configure each setting after setting the equalizer function to [On].



Equalizer: The following settings become available when this is set to [On].

[High Freq.]: Adjust the central frequency of the high-frequency band within a range of 1.3 kHz to 17.4 kHz.

[High Level]: Adjust the level of the high-frequency band within a range of -15 dB to +15 dB.

[Middle Freq.]: Adjust the central frequency of the middle-frequency band within a range of 260 Hz to 6.4 kHz.

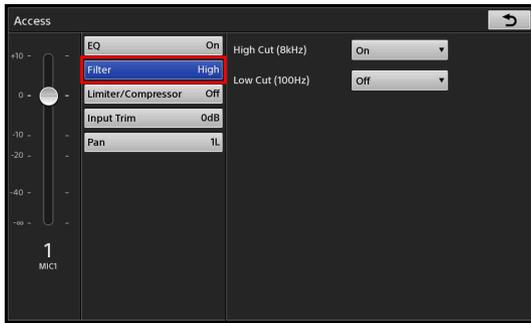
[Middle Level]: Adjust the level of the middle-frequency band within a range of -15 dB to +15 dB.

[Low Freq.]: Adjust the central frequency of the low-frequency band within a range of 31 Hz to 420 Hz.

[Low Level]: Adjust the level of the low-frequency band within a range of -15 dB to +15 dB.

[Filter]

Use the filter function to cut high frequencies and low frequencies. This is useful for minimizing noise.



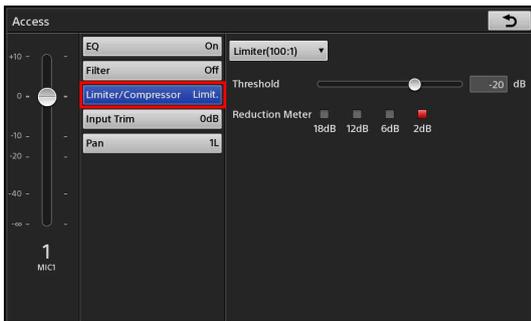
[High Cut (8kHz)]: When [On] is selected, high frequencies (8 kHz) are cut at 12 dB/Oct.

[Low Cut (100Hz)]: When [On] is selected, low frequencies (100 Hz) are cut at 12 dB/Oct.

[Limiter/Compressor]

Use the limiter and compressor when inputting audio with significant level differences.

- The limiter restricts the peak components of an audio signal with significant level differences. It also compresses sound that exceeds a certain threshold volume so that the threshold level is not exceeded, thus preventing excess outputs.
- The compressor gently compresses the level of audio that is at or above the threshold level, thereby smoothing out an audio signal with significant level differences.



Limiter/compressor: Select the audio compression method.

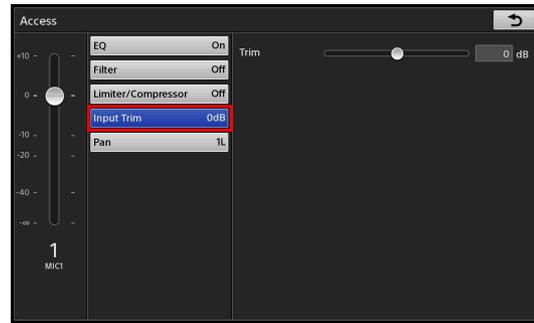
- **[Limiter (100:1)]:** Enable the limiter (100:1).
- **[Compressor (2:1)]:** Enable the compressor (2:1).
- **[Off]:** Disables both.

[Threshold]: Adjust the level (threshold) at which the limiter or compressor takes effect within a range of -60 dB to 0 dB.

[Reduction Meter]: Indicates the amount of dB gain reduction occurring on the input signal (i.e., the current compression effect).

[Input Trim]

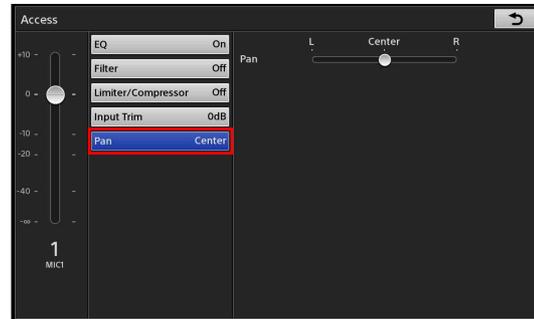
Adjust the input signal level so that the proper input level is obtained when the fader is set to the 0 dB position.



[Trim]: Adjust the input level within a range of -15 dB to +15 dB.

[Pan]

Specify the stereo positioning for microphone inputs that consist predominantly of monaural audio.

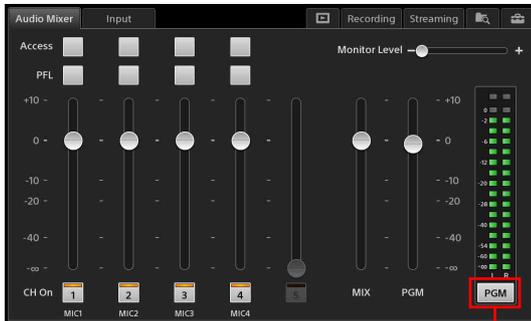


[Pan]: Adjust the left and right audio balance within a range of 15L to Center to 15R.

Switching the Monitored Audio

Audio outputs from the unit (PGM output and MIX output) can be monitored via the HEADPHONES jack or the internal speakers.

Tapping [PGM]/[MIX] in the [Audio Mixer] screen switches between PGM output and MIX output.



Each tap switches between [PGM] and [MIX].

PGM: Audio output from PGM connectors L and R. When [PGM] is displayed, the audio level meter will also be switched to PGM.

MIX: Audio output from MIX connectors L and R. When [MIX] is displayed, the audio level meter will also be switched to MIX.

Adjusting MIX OUT Output Levels

Adjust the L/R output level for MIX OUT within a range of $-\infty$ to +10 dB using the MIX OUT fader in the [Audio Mixer] screen.



Adjusting the Embedded Audio of Input Sources

Embedded audio that is included in the input source selected in the [Input] list is automatically assigned to channel fader 5. If an input source in the [Input] list includes audio, the audio level can be adjusted beforehand.

Tip

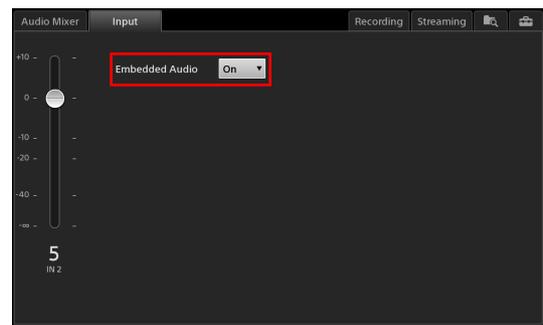
When compositing video using PinP or chroma keying, the [Input] tab will only appear when an input source from the [Input [1]] list is selected. Embedded audio cannot be used for input sources in the [Input [2]] and [Input [3]] lists.

Using embedded audio

- 1 In the [Input] list of the main screen, select an input source that includes embedded audio.

The [Input] tab appears in the sub screen.

- 2 Tap the [Input] tab to display the [Input] screen, and set [Embedded Audio] to [On].



To adjust the audio

If a movie includes embedded audio, drag the slider to adjust the audio level.

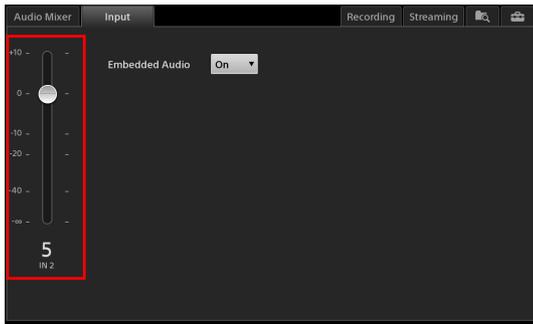
Tips

- Embedded audio will be assigned to channel fader 5 automatically.
- When the [Input] tab is displayed, the unit enters audio preview mode automatically, allowing you to listen to audio via the HEADPHONES jack or the internal speakers. Audio preview does not affect the PGM output or MIX output.

When adjusting audio levels beforehand

Adjust the audio level using the channel fader in the [Input] screen.

The audio level is saved for each input source individually.



When mixing embedded audio after [Take]

Adjust the audio level using channel fader 5 in the [Audio Mixer] screen.

If embedded audio is output due to a [Take] operation, the embedded audio is automatically assigned to channel fader 5.



Tip

If channel fader 5 is being used for both input and the Media Player, the Media Player will have priority.

Recording Outputs from the Unit to the Internal Storage

Program outputs, AUX outputs, and audio outputs (PGM and MIX) can be recorded onto the unit's internal storage in high-quality picture and audio. The recorded files can be edited using various nonlinear editors.

Note

Data compatibility with all nonlinear editing devices is not guaranteed.

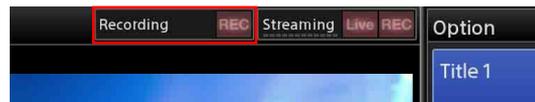
For details on the formats of the files recorded by this unit, see "Recording format" (page 118).

For further details, contact your dealer or local Sony representative.

Configuring Recording Settings

Settings related to recording are configured in the [Recording] screen of the sub screen.

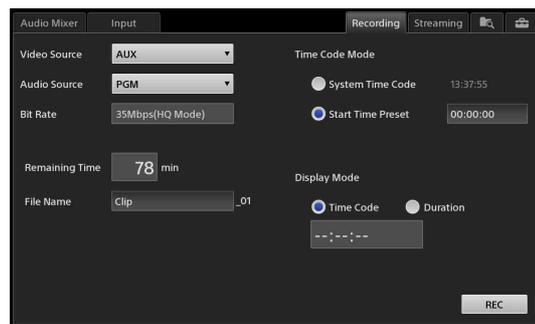
You can display the [Recording] screen by tapping the recording status that appears at the top center of the main screen.



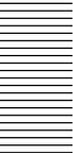
Tip

If [HDCP Handling] (page 104) is set to [On] in the [System] screen, tapping the [Recording] tab in the sub screen or the recording status in the main screen will not display the [Recording] screen.

Configure each setting in the [Recording] screen.



[Video Source]: Select [PGM] or [AUX] as the video you want to record.



[Audio Source]: Select [PGM] or [MIX] as the audio you want to record.

[Bit Rate]: This is fixed at 35 Mbps (HQ Mode).

[Remaining Time]: Displays the remaining recording time in minutes.

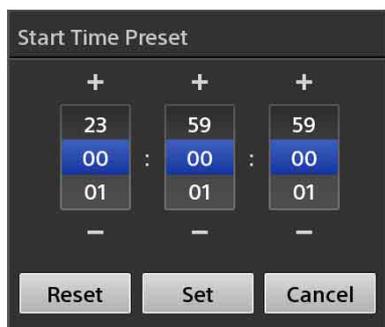
When the remaining time reaches 10 minutes, the time is displayed in red.

[File Name]: Enter the name of the file to be recorded using up to 20 alphanumeric characters.

You cannot overwrite files using the same name.

[Time Code Mode]: Select the timecode to use to start recording.

- **[System Time Code]:** Select this to use the time specified in the [System Setup] menu > [Date/Time].
- **[Start Time Preset]:** Select this to start recording from a specific timecode. When [Start Time Preset] is selected, tap the timecode display field, and specify the timecode in the [Start Time Preset] dialog box.



[Display Mode]: Select whether to display the timecode or the recording time in the time display when recording is in progress.

Select [Time Code] to display the timecode, or select [Duration] to display the recording time.

When recording starts, [REC] changes to [Stop], and the [REC] status displayed at the top of the main screen lights red.

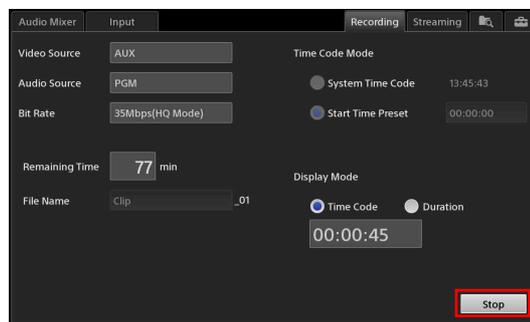


Recording will stop automatically in the following cases.

- When the remaining recording time reaches 0 minutes.
- When the recording time of a single file reaches 6 hours.

Stopping recording

Tap [Stop].

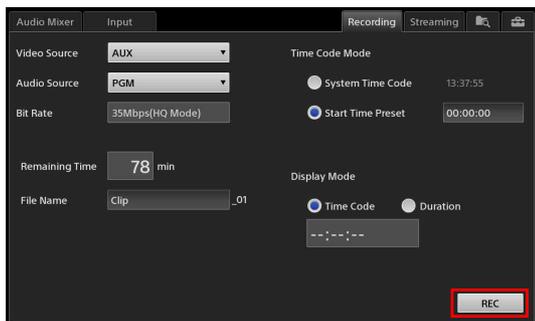


A confirmation message appears. When you tap [Yes], recording stops and the [REC] status turns off. [Stop] changes to [REC], and the [REC] status displayed at the top of the main screen turns off.

Starting and Stopping Recording

Starting recording

Tap [REC] in the [Recording] screen.



Recording starts.

Streaming

Program video can be encoded on the unit and streamed live using an external server or saved to the unit's internal storage. Saved data can be exported to USB storage devices and other external drives as VOD (Video On Demand) files, and then uploaded to video-sharing websites via a computer and played back.

Note

The streaming function used by the unit allows third parties to access streaming data during transmissions. In addition, the recommended destination is a site where anyone can view its contents. If you want to protect confidential data during transmissions, we recommend consulting a specialist.

Streaming Servers

This unit includes an encoding function for streaming data, but it does not include a server function. Therefore, you must connect it to a streaming server.

As of June 2015, connection to the following servers has been verified.

- External servers
 - Ustream
- Standalone server
 - Adobe Media Server 5
 - Wowza Media Server 3.5

Consult the streaming server administrator to acquire URL and login information and information required for connecting to the external server.

For details on acquiring information from Ustream, see “Connecting to Ustream for Streaming” (page 79).

Configuring Network Settings

Configure the unit's network. The unit's network settings must be configured to perform streaming. We recommend connecting the network to the LAN 1 connector.

For details on settings, see “Configuring Network Settings” (page 79).

Connecting to Ustream for Streaming

Preparation

Acquire the connection destination URL and stream key information.

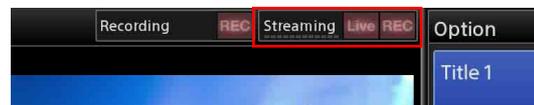
- 1 Connect to the Ustream website using a computer, for example, and create a broadcast.
- 2 Acquire the URL and stream key information.
 - When importing the information to the unit, download the XML file and copy it to a USB storage device, for example, and connect the device to the USB connector on the unit.
 - When entering the information manually, write down the information.

Memo

You can acquire the XML file used for connecting to Ustream by logging into a registered account on the Ustream website, and navigating through [Dashboard] > [Channel] > [Broadcast settings] > [Encoder settings].

Configuring streaming settings

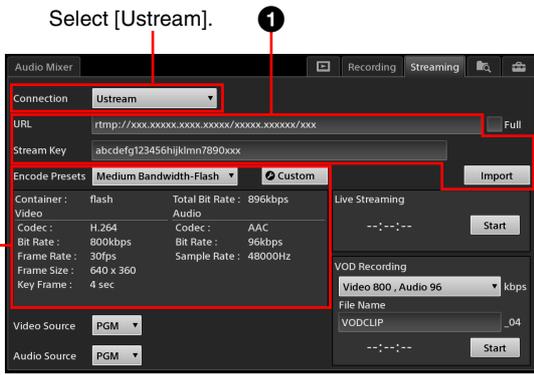
Configure the settings required for connecting to Ustream for streaming in the [Streaming] screen of the sub screen. You can display the [Streaming] screen by tapping the streaming status that appears at the top center of the main screen.



Tip

If [HDCP Handling] (page 104) is set to [On] in the [System] screen, tapping the [Streaming] tab in the sub screen or the streaming status in the main screen will not display the [Streaming] screen.

Select [Ustream] for [Connection] in the [Streaming] screen, and configure each setting. When you select [Ustream] for [Connection], the setting items displayed switch to those for Ustream.



- **[HD Bandwidth-Flash]:** Flash settings for HD.
- **[High Bandwidth-Flash]:** Flash settings for the high bandwidth.
- **[Medium Bandwidth-Flash]:** Flash settings for the middle bandwidth.
- **[Low Bandwidth-Flash]:** Flash settings for the low bandwidth.
- **[Ustream Custom 1]:** Custom settings 1 for [Ustream].
- **[Ustream Custom 2]:** Custom settings 2 for [Ustream].
- **[Ustream Custom 3]:** Custom settings 3 for [Ustream].
- **[Ustream Custom 4]:** Custom settings 4 for [Ustream].

1 [URL] and [Stream Key]

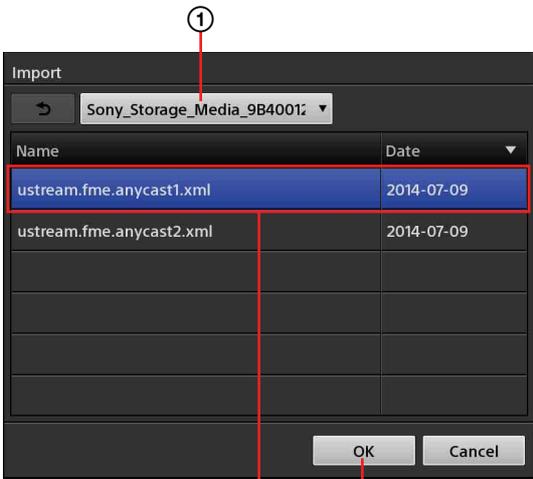
Enter the URL and stream key for the broadcast. When importing an XML file downloaded from Ustream, tap [Import] and import the XML file from the [Import] dialog box that appears.

custom (Custom Settings)

Configure the bit rate, frame rate, and other detailed settings.

The settings can be saved to four presets ([Custom 1] to [Custom 4]) for each destination streaming server.

For details on settings, see “Configuring Custom Settings” (page 81).



- 1 Select the external drive on which the XML file is stored.
- 2 Select the XML file you want to import.
- 3 Tap [OK] to close the dialog box.
The XML file is imported, and the URL and stream key are automatically entered.

Tips

- Use [Full] when entering URL information in a format that includes information such as the stream key. It is not used under normal circumstances.
- This unit supports XML files of the format currently provided by Ustream.

2 [Encode Presets]

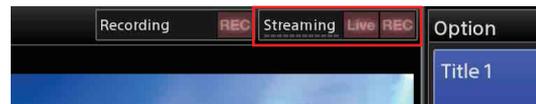
Select a settings preset (encoding preset). When you select an encoding preset, its settings appear in the area below it.

Connecting to a Standalone Server for Streaming

Configuring streaming settings

Configure the settings required for connecting to a standalone server for streaming in the [Streaming] screen of the sub screen.

You can display the [Streaming] screen by tapping the streaming status that appears at the top center of the main screen.

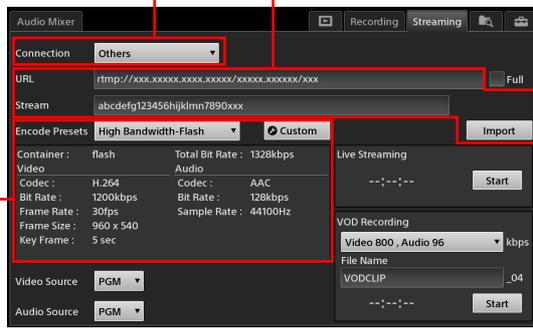


Tip

If [HDCP Handling] (page 104) is set to [On] in the [System] screen, tapping the [Streaming] tab in the sub screen or the streaming status in the main screen will not display the [Streaming] screen.

Select [Others] for [Connection] in the [Streaming] screen, and configure each setting. When you select [Others] for [Connection], the setting items displayed switch to those for servers other than Ustream.

Select [Others].



1 [URL], [Stream]

Enter the URL and stream of the upload destination. When importing a previously downloaded XML file, tap [Import] and import the XML file from the [Import] dialog box that appears.

- 1 Select the external drive on which the XML file is stored.
- 2 Select the XML file you want to import.
- 3 Tap [OK] to close the dialog box.
The XML file is imported, and the URL and stream are automatically entered.

Tips

- Use [Full] when entering URL information in a format that includes information such as the stream. This is not used under normal circumstances.
- XML files that are encoded in UTF-8 and that are of the same format used by the Ustream XML file import function are supported.

2 [Encode Presets]

Select a settings preset (encoding preset). When you select an encoding preset, its settings appear in the area below it.

- **[HD Bandwidth-Flash]:** Flash settings for HD.
- **[High Bandwidth-Flash]:** Flash settings for the high bandwidth.
- **[Medium Bandwidth-Flash]:** Flash settings for the medium bandwidth.
- **[Low Bandwidth-Flash]:** Flash settings for the low bandwidth.
- **[Others Custom 1]:** Custom settings 1 for [Others].
- **[Others Custom 2]:** Custom settings 2 for [Others].
- **[Others Custom 3]:** Custom settings 3 for [Others].
- **[Others Custom 4]:** Custom settings 4 for [Others].

Custom (Custom Settings)

Configure the bit rate, frame rate, and other detailed settings.

The settings can be saved to four presets ([Custom 1] to [Custom 4]) for each streaming server.

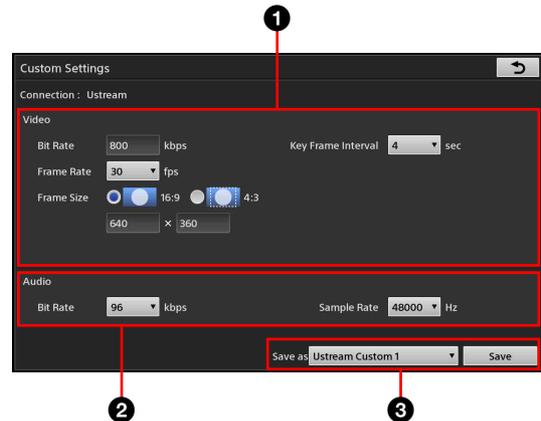
For details on settings, see “Configuring Custom Settings” (page 81).

Configuring Custom Settings

Configure the bit rate, frame rate, and other detailed settings.

The settings can be saved to four presets ([Custom 1] to [Custom 4]) for each streaming server.

- 1 Select the encoding preset you want to use as the base in [Encode Presets] of the [Streaming] screen.
- 2 Tap **Custom**.
The [Custom Settings] screen appears.
The setting values of the preset selected in [Encode Presets] appear in the screen.
- 3 Configure each item.



1 [Video]

Configure video settings.

[Bit Rate]: Enter a value between 200 kbps to 1,500 kbps for the video bit rate (10 Kbps increments).

[Frame Rate]: Select the video frame rate.

[Frame Size]: Select the aspect ratio of the video, and enter the video size.

Specify a value between the following for the video size (2 pixel increments).

For 16:9: 106×60 to 1280×720

For 4:3: 80×60 to 960×720

Tips

- When you enter a vertical or horizontal size, the other dimension will be entered automatically based on the aspect ratio.
- When you change the aspect ratio while values are entered, the horizontal value will change automatically based on the vertical size.

[Key Frame Interval]: Select a value between 1 sec. to 5 sec. for the key frame interval.

2 [Audio]

Configure audio settings.

[Bit Rate]: Select the audio bit rate.

[Sample Rate]: Select the audio sample rate.

3 [Save as]

Save the settings to a preset.

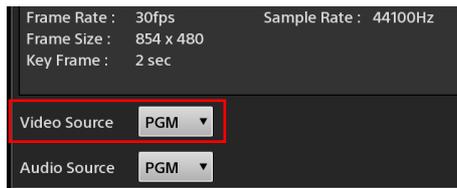
Select the preset name, and tap [Save].

4 Tap  to return to the [Streaming] screen.

Selecting the Source to be Encoded

Selecting the video source

In [Video Source], select [PGM] or [AUX] as the video you want to encode with this unit.



Selecting the audio source

In [Audio Source], select [PGM] or [MIX] as the audio you want to encode with this unit.

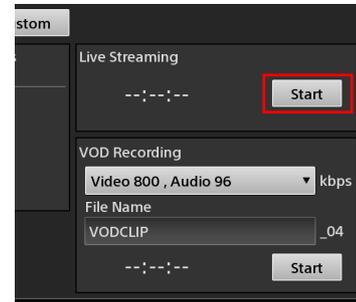


Starting and Stopping Live Streaming Transmissions

Perform controls in the [Live Streaming] area at the bottom right of the [Streaming] screen.

Starting transmission

Tap [Start].



Streaming transmission will start after connection with the streaming server is established.

Tip

If the vertical size for [Frame Size] in the streaming settings is set to 542 or higher, this function cannot be performed at the same time as [VOD Recording]. The function started first will have priority.

During transmission, [Start] changes to [Stop] and the transmission time appears (hh:mm:ss). In addition, the [Live] streaming status at the top of the main screen lights red, and an indicator that displays the current network throughput lights.

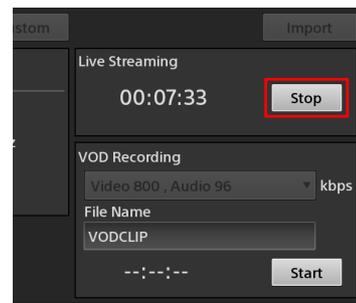


Streaming will stop automatically in the following cases.

- When connection with the streaming server cannot be detected for 10 seconds

Stopping transmission

Tap [Stop].



A confirmation message appears. When you tap [Yes], transmission stops and the [Live] streaming status and throughput indicator turn off.

Recording VOD Files

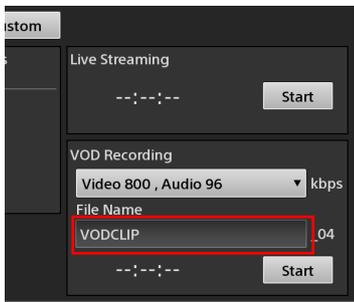
You can record a selected video source and audio source to the unit's internal storage as a VOD file.

For details on file formats, see "VOD recording format" (page 119).

Naming recorded VOD files

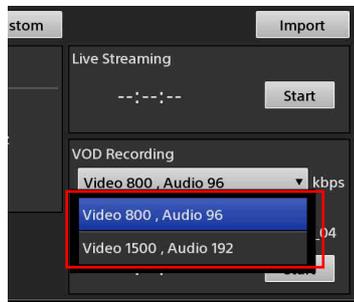
Tap the [File Name] field in the [VOD Recording] area at the bottom right of the [Streaming] screen, and enter up to 20 alphanumeric characters for the file name.

You cannot overwrite files using the same name.



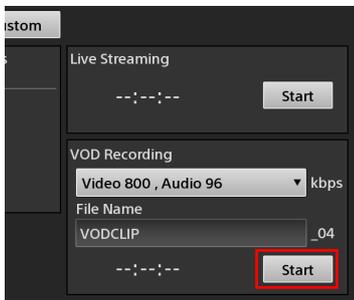
Changing the recording bit rate

Select a bit rate from the drop-down list.



Starting recording

Tap [Start].



Recording starts.

Tip

If the vertical size for [Frame Size] in the streaming settings is set to 542 or higher, this function cannot be

performed at the same time as [Streaming]. The function started first will have priority.

During recording, [Start] changes to [Stop] and the recording time appears (hh:mm:ss). In addition, the [REC] streaming status at the top of the main screen lights red.

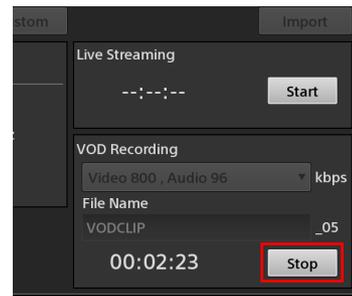


Recording will stop automatically in the following cases.

- When the remaining recording time reaches 0
- When the recording time reaches 6 hours

Stopping recording

Tap [Stop].



A confirmation message appears. When you tap [Yes], recording stops and the [REC] streaming status turns off.

Using External Devices for Video Switching and Other Operations

You can connect external devices, such as keyboards and X-keys, to the unit's USB port and use them to perform certain main screen operations, such as video switching.

Keyboard Operations

You can perform the following operations.

Item	Key	Description
Scene/ Input	Tab	Switch between the [Scene] list and [Input] list.
Take	Space	Perform a take. Takes will not be performed if the Space key is pressed during text entry.
Button 1	F1	Select the first button of the buttons displayed in the [Scene] list or [Input] list.
Button 2	F2	Select the second button of the buttons displayed in the [Scene] list or [Input] list.
Button 3	F3	Select the third button of the buttons displayed in the [Scene] list or [Input] list.
Button 4	F4	Select the fourth button of the buttons displayed in the [Scene] list or [Input] list.
Button 5	F5	Select the fifth button of the buttons displayed in the [Scene] list or [Input] list.
Button 6	F6	Select the sixth button of the buttons displayed in the [Scene] list or [Input] list.
Button 7	F7	Select the seventh button of the buttons displayed in the [Scene] list or [Input] list.
Page Up	Page Up	Display seven buttons of the previous page in the [Scene] list or [Input] list.
Page Down	Page Down	Display seven buttons of the next page in the [Scene] list or [Input] list.
Home	Home	Display seven buttons of the first page of the [Scene] list or [Input] list.
End	End	Display seven buttons of the last page of the [Scene] list or [Input] list.

Item	Key	Description
Go to Option Menu	F8	Display the [Option] menu. When one of the [Option] menu's lists is displayed, pressing this key returns to the [Option] menu.
Title/Logo On/Off ¹⁾	F9	Enables/disables [Title 1].
	F10	Enables/disables [Title 2].
	F11	Enables/disables [Logo 1].
	F12	Enables/disables [Logo 2].

1) When the [Option] menu is displayed, all of keys F9 to F12 are enabled. When any of the lists are displayed, only the corresponding key is enabled.

X-keys Operations

X-keys is a device that allows you to customize assignment of the ASCII codes that are sent when a button is pressed.

You can assign the key operations described in "Keyboard Operations" (page 84) to the keys on X-keys. This section depicts key assignments on a 24-key model as an example.

For details on assigning keys, refer to the X-keys instruction manual.

Example:

Option Menu (F8)		Scene/Input (Tab)	Button 1 (F1)
Title 1 On/Off (F9)		Home	Button 2 (F2)
Title 2 On/Off (F10)		Page Up	Button 3 (F3)
Logo 1 On/Off (F11)		Page Down	Button 4 (F4)
Logo 2 On/Off (F12)		End	Button 5 (F5)
Take (Space)	Button 7 (F7)	Button 6 (F6)	

Creating Titles (Titler)

This unit includes a “Titler” function for creating title materials via simple operations.

Titles created using the Titler can be registered to the material lists and inserted into videos whenever necessary. The text in titles created with the Titler can also be changed easily.

You can also save created titles as user templates.

Still image files that are imported to the unit can also be added as user templates. For details, see “Managing Files (File Manager)” (page 89).

Tip

Operations performed in the Titler are saved automatically. You do not have to save them manually.

Starting and Quitting the Titler

You can start the Titler using one of the following methods.

- Start from the [File Manager] screen (page 85)
- Start from the [Input] list or the [Option] menu > [Title] list in the main screen (page 41)

You can also start the Titler from a previously created title in any list, and edit text. For details, see “Editing Text Created in the Titler (Edit)” (page 42).

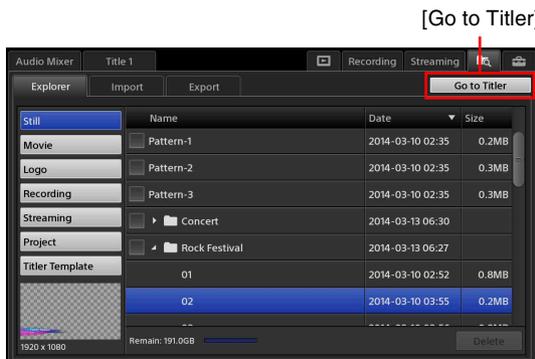
Starting from the [File Manager] screen

Starting the Titler from the File Manager is useful when you want to create multiple titles in advance.

1 Tap  at the top right of the sub screen.

The [File Manager] screen appears.

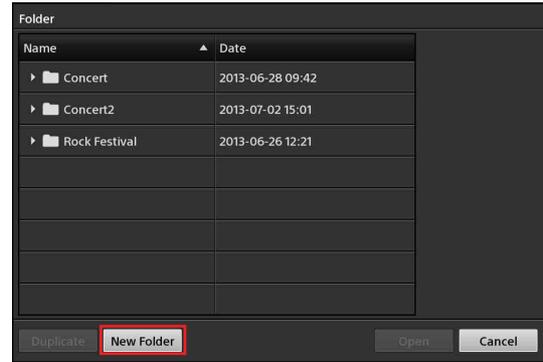
2 Tap [Go to Titler] at the upper right of the screen.



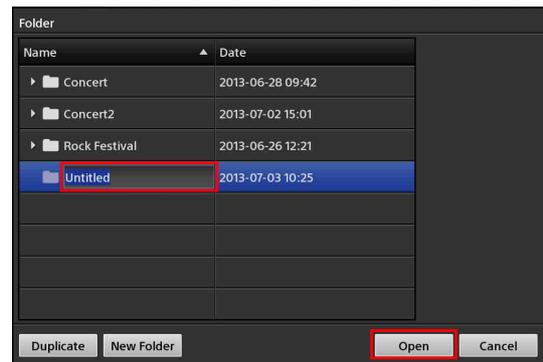
The Titler starts, and the [Folder] dialog box for selecting the folder in which to save the file appears. The virtual keyboard that allows you to enter text appears in the sub screen.

3 To create a new folder, tap [New Folder].

An “Untitled” folder is added to the bottom of the list. To create the title in an existing folder, select the folder and tap [Open]. In this case, the Titler starts without going to temple selection.



4 Rename the new folder, select this folder, and then tap [Open].

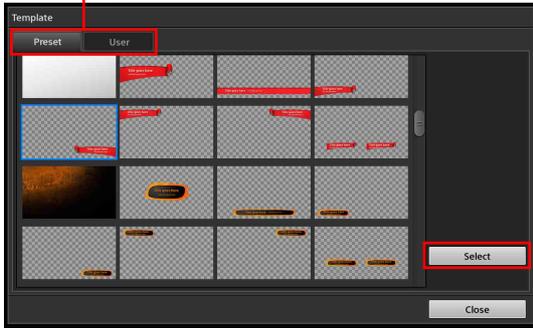


The [Template] dialog box appears.

- 5 Select the template you want to use, and then tap [Select].

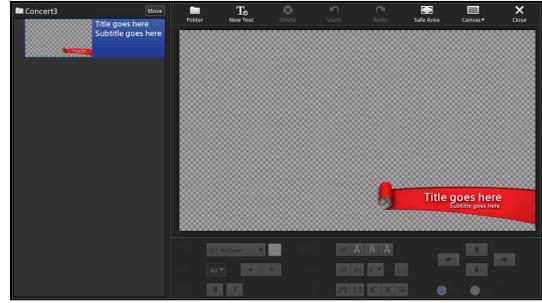
To display a list of presets that are preinstalled on the unit, tap the [Preset] tab. To display a list of user templates, tap the [User] tab.

[Preset] tab and [User] tab



For details on user templates, see “Saving Created Templates as User Templates” (page 88).

The [Titrer] screen appears using the selected template.

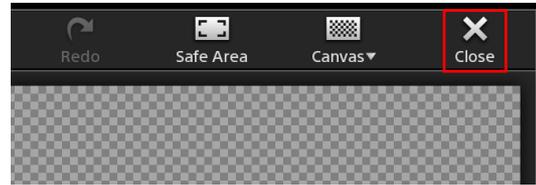


Tip

The graphics of both preset templates and user templates cannot be edited.

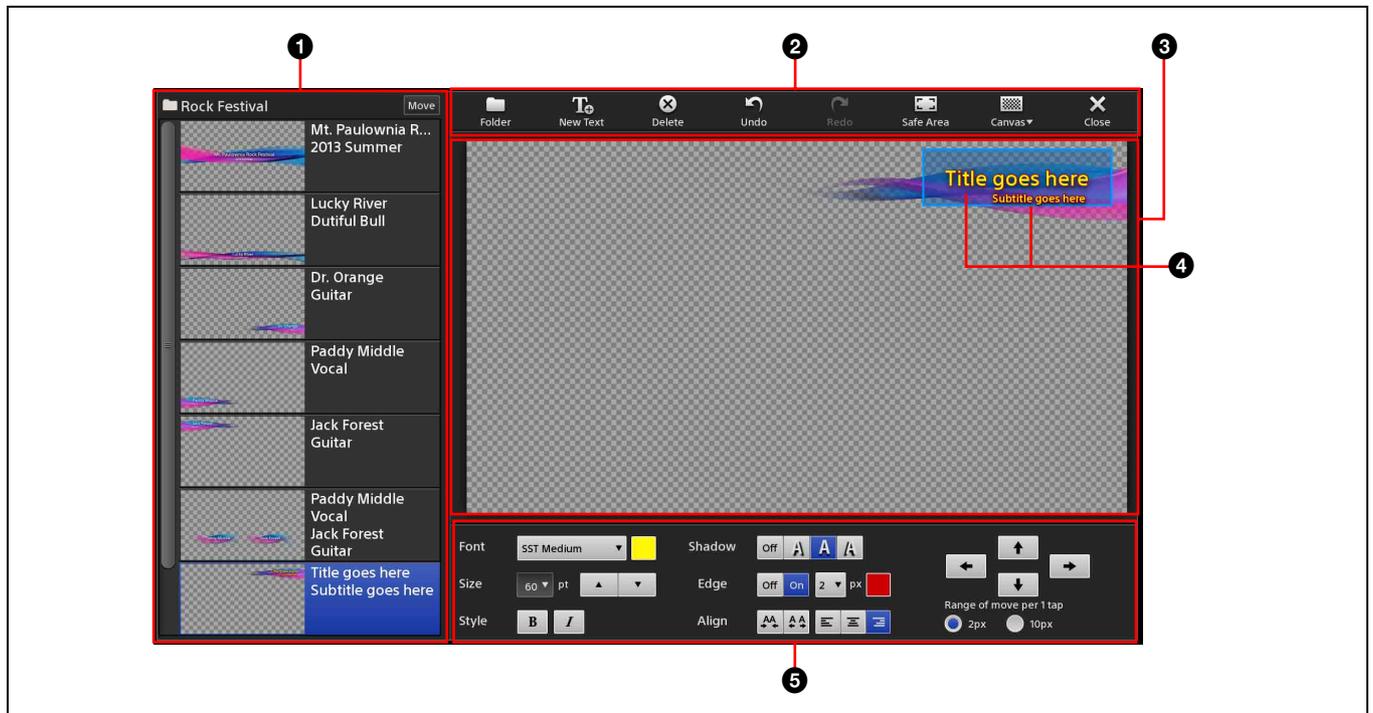
Quitting the Titrer

Tap [Close] at the top right of the [Titrer] screen.



The [Titrer] screen closes, and the main screen appears again.

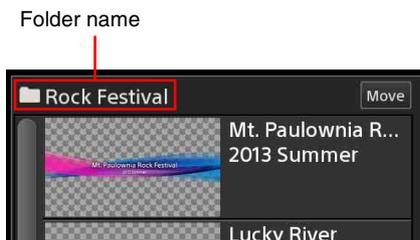
Using the [Titrer] Screen



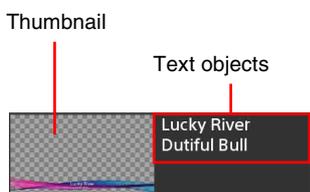
1 File list

Displays a list of titles stored in the currently opened folder.

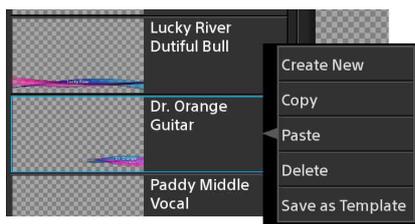
The folder name appears at the top left.



A thumbnail and the text objects included in the file appear on each button.



You can also display the context menu for the button to perform file operations.



[Create New]: Create a new title file (page 88).

[Copy]: Copy the selected file.

[Paste]: Insert a copied file below the selected button.

[Delete]: Delete the selected file.

[Save as Template]: Save the selected file as a user template.

You can change the sort order of the list. For details, see “Changing the Sort Order of the Lists” (page 43).

2 Tool buttons

[Folder]: Display the [Folder] dialog box. Folders can only be selected when the Titler was started via [Go to Titler] from the [File Manager] screen.

[New Text]: Add up to four text objects.

[Delete]: Delete the selected text object.

[Undo]: Undo the previous operation.

[Redo]: Redo an undone operation.

[Safe Area]: Display a 16:9 safe area (90% zone and 80% zone) as a dotted line in the 3 editing area. Each tap of the button toggles its display.

[Canvas]: Select the pattern to display as the background canvas of the editing area (black, white, or checkered).

The pattern selected here will only appear in the

editing area. It will not be used as the background of the title.

[Close]: Quit the Titler.

3 Editing area (page 88)

Edit the title in this area.

4 Text objects

These are the text objects that you entered.

You can create up to four text objects for a single file. You can enter up to 300 characters in a single object and insert line breaks.

5 Text properties area

You can configure text object settings, such as font, size, and color.

[Font]: Select the font type.

Preset fonts and fonts imported using the File Manager appear in the drop-down list.

Text color: Tap the [Font] color box to display the color palette, and select the text color.



[Size]: Select the text size.

You can double-tap the field to enter a value, or tap ▲ or ▼ to change the value.

[Style]: Specify a style for the text.

Each tap of the bold or italic button enables or disables each style.

[Shadow]: Add a shadow effect to the text.

[Edge]: Add edges around the text. You can also specify the thickness and color of the edges.

- The edge thickness can be specified within a range of 1 pixel to 10 pixels.

- Tapping the [Edge] color box displays the color palette.

[Align]: Adjust the space between each character.

Tapping AA narrows the space, and tapping AA widens it.

☰ ☱ ☲ : Select from left-align (☰), centered (☱), and right-align (☲) for the text alignment.

← ↑ → ↓ : Move the text object in the direction of the arrow.

[Range of move per 1 tap]: Specify the amount of movement per tap.

Creating Titles

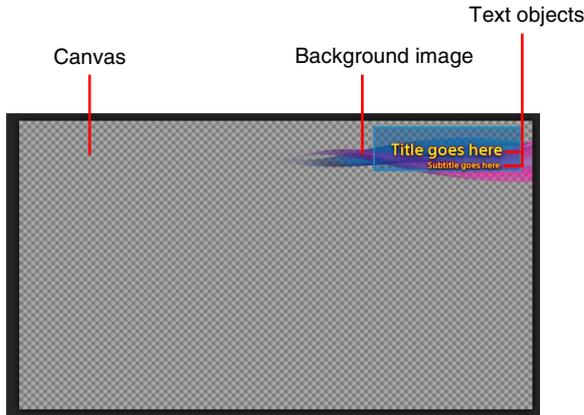
- 1 Display the context menu in the file list, and select [Create New].

The [Template] dialog box appears.

- 2 Tap the template you want to use, and then tap [Select].

The selected template appears in the editing area.

- 3 Edit the text objects.



You can perform the following operations for text objects.

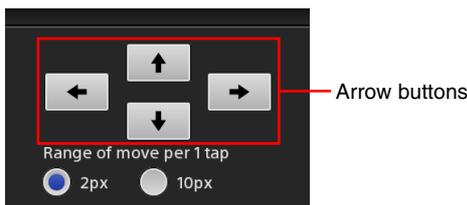
For details on operations in the text properties area, see “Using the [Titler] Screen” (page 86).

- **Move text objects**

When you tap a text object, it enters a selected state and a frame appears around the selected object. Drag the text object, or use the arrow buttons in the text properties area to move the object.



You can drag the object to the desired position, and perform fine adjustments using the arrow buttons.



- **Enter text**

When you tap a text object, text entry mode is enabled and a dotted line appears around the

selected object. A caret appears, allowing you to enter text.



Caret

- **Enter text (select all)**

When you double-tap a text object, text entry mode is enabled in a select all state.



- **Enter text (partial select)**

When you tap and hold on text, text entry mode is enabled in a partial select state. You can drag the handles to adjust the selection range.



Handles

- **Quit text entry**

Tap outside of the text area.

⏪ (Enter) on the virtual keyboard does not confirm entries, but instead inserts a line break.

- **Deselect a text object**

Tap outside of the text area.

Saving Created Templates as User Templates

You can save still images that were created using the Titler as user templates.

Tips

- Still images that belong to the [Titler Template] category in the File Manager will also be displayed in the user template list.
- Up to 999 user template files can be created. (This includes files imported to the [Titler Template] category of the File Manager.)

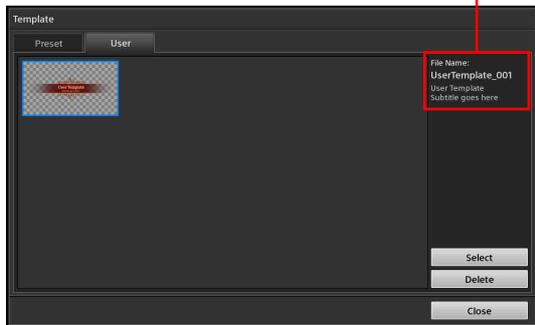
- 1 Display the context menu for the title you want to save as a user template, and select [Save as Template].

The [User] tab of the [Template] dialog box appears.

- 2 Verify that the selected title has been added to the user template list.

The user template will be automatically named “UserTemplate_<number>.”

In the [User] tab, information on the selected template is displayed here.



- 3 Tap [Close].

Deleting user templates

Select the template you want to delete, and then tap [Delete]. When the confirmation message appears, tap [Yes].

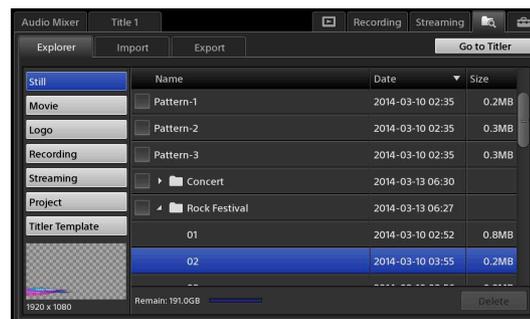
Managing Files (File Manager)

You can manage the following types of files stored on the unit’s internal storage using the File Manager.

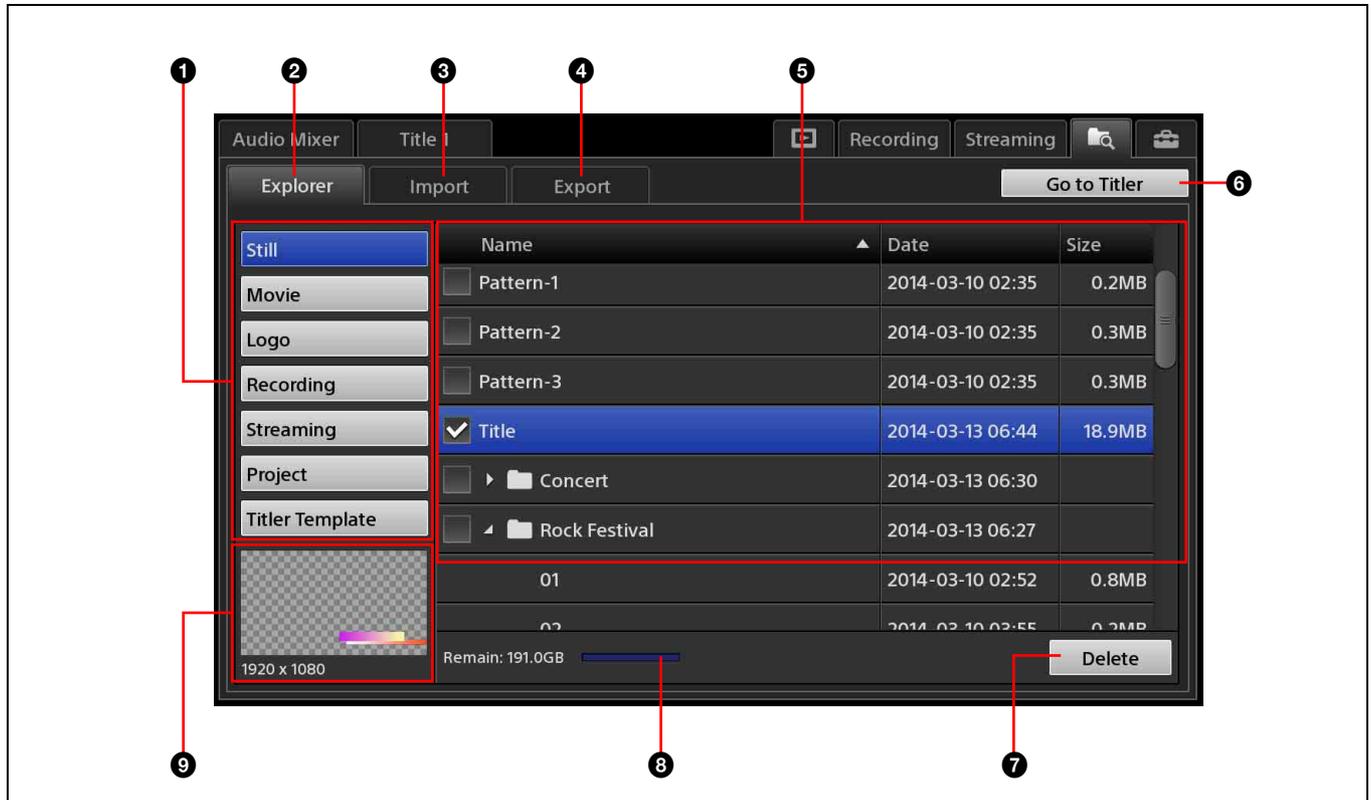
- Still image files imported from external drives
- Files created with the Titler
- Movie files imported from external drives
- Logos
- Files recorded using the [Recording] function or [Streaming] function
- Project files
- Fonts
- User templates created with the Titler

Displaying the [File Manager] Screen

Tap  at the top right of the sub screen to display the [File Manager] screen.



Using the [File Manager] Screen



1 Categories

Files stored on the internal storage are divided into the following categories. When you select a category, a list of files appears in the 5 file list.

- **[Still]:** Includes still image files imported to the internal storage. Materials created using the Titler are also included in this category.
- **[Movie]:** Includes movie files imported to the internal storage.
- **[Logo]:** Includes logo files (still image files) imported to the internal storage. Files included in this category are added to the [Logo] list.
- **[Recording]:** Includes files recorded using the [Recording] function.
- **[Streaming]:** Includes files recorded using the [Streaming] function.
- **[Project]:** Includes project files saved in [Project] of the [System Setup] menu.
- **[Titler Template]:** Includes files imported for use as user templates in the Titler and files saved as user templates using the Titler.

2 [Explorer] tab

Allows you to perform operations, such as displaying file lists, deleting, and renaming.

3 [Import] tab

Allows you to import files stored on USB storage devices and other external drives to the unit's internal storage (page 91).

4 [Export] tab

Allows you to export files stored on the unit's internal storage to external drives (page 93).

5 File list

Displays a list of folders and files that belong to the category selected in the 1 categories area. When you select a folder, the files stored in that folder are displayed.

The names, update dates, and sizes of files are displayed in the list.

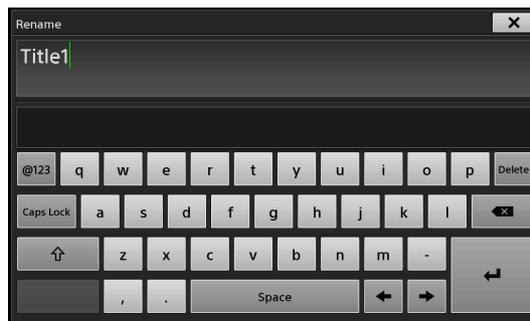
To sort the list, tap the title area ([Name], [Date], or [Size]), and tap ▲ or ▼. The button switches between ascending (▲) and descending (▼) order with each tap.

6 [Go to Titler]

Starts the Titler.

For details on the Titler, see "Creating Titles (Titler)" (page 85).

- 7 **[Delete]**
Deletes the files for which the checkboxes are selected in the list.
- 8 **[Remain] indicator**
Displays the remaining space on the internal storage.
- 9 **File information**
Displays the thumbnail and resolution of the file selected in the list.



The virtual keyboard closes, and the file is renamed.

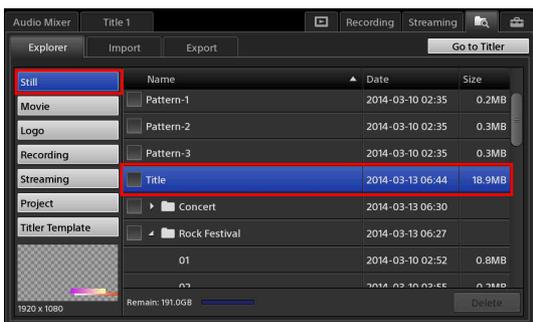
Renaming Files

You can rename files stored on the unit's internal storage.

Tip

You cannot rename files created using the Titler.

- 1 Tap the [Explorer] tab to display the [Explorer] screen.
- 2 Select the row of the file you want to rename.



- 3 Tap the [Name] field of the selected row again.
Editing mode is enabled, and the virtual keyboard appears in the sub screen.
- 4 Enter the new file name, and tap to confirm the entry.

Tip

If you import a file and the original file name includes prohibited characters, for example, a message will appear. In such cases, rename the file with the prohibited characters removed.

Importing Files

You can import still image and movie files to the unit's internal storage for as materials.

You can rename imported files. For details, see "Renaming Files" (page 91).

Preparing files

Prepare the following files with the following specifications based on their intended purpose.

For still images

Recommended size	1920 × 1080
File format	.tiff, .tif, .png, .jpeg, .jpg, .jpe (alpha channels supported)
File name length	64 characters or less (excluding extension)

For movies¹⁾

File format	.mxf (MPEG HD422, LPCM) ²⁾ .mxf (MPEG HD, LPCM) ²⁾ .f4v (H.264, AAC) ³⁾ .mov (MPEG4, AAC) ³⁾ .mov (H.264, AAC) ³⁾ .mp4 (H.264, AAC or LPCM) ³⁾ .m2ts (H.264, AC-3) ³⁾
	2) 50/59.94i 3) Up to 1920 × 1080, up to 30p
File name length	64 characters or less (excluding extension)

1) File formats may be converted in some cases. Verify that movie files can be played on the unit beforehand.

For logos

Recommended size	320 × 320
File format	.tiff, .tif, .png, .jpeg, .jpg, .jpe (alpha channels supported)
File name length	64 characters or less (excluding extension)

For fonts

Extension	.ttf, .pfb, .otf
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For user templates used in the Titler

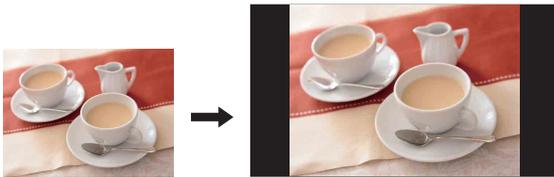
Recommended size	1920 × 1080
File format	.tiff, .tif, .png, .jpeg, .jpg, .jpe (alpha channels supported)
File name length	64 characters or less (excluding extension)

Tip

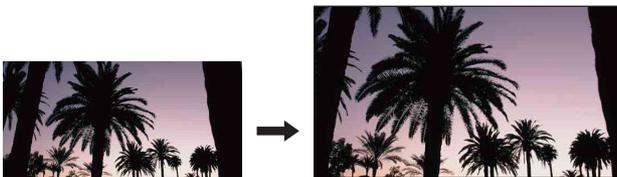
Files can be imported as long as they are 1920 × 1080 or less in size, but they may be resized and repositioned.

• Still images and videos

- Files taller than 16:9: Aspect ratios will be retained with black bars added to the left and right.

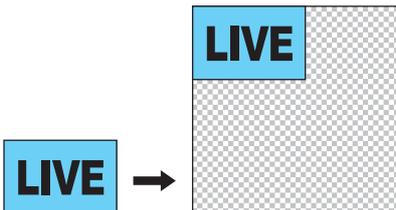


- Files wider than 16:9: Aspect ratios will be retained with the image enlarged vertically and the left and right sides cropped.

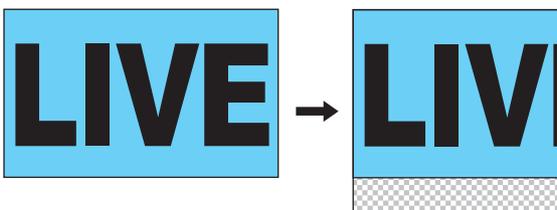


• Logos

- Files smaller than 320 × 320: Images are positioned at the top left with the remaining space transparent.



- Files larger than 320 × 320: Images are positioned within a 320 × 320 space at the top left with the areas that extend beyond 320 cropped.



Importing files

Copy the files you want to import to an external drive beforehand.

- 1 Tap the [Import] tab to display the [Import] screen.
- 2 Select the category of the file you want to import.

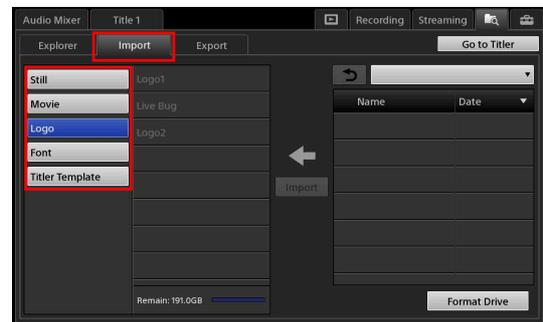
[Still]: Still images used in the [Input] list or [Title] list.

[Movie]: Movies used in the Media Player.

[Logo]: Still images used in the [Logo] list.

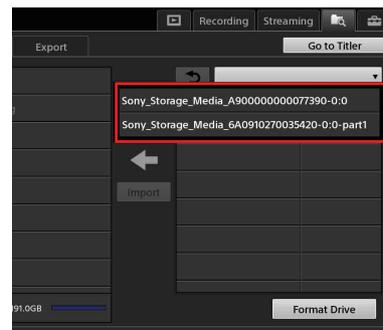
[Font]: Fonts used in the Titler.

[Titler Template]: Still images used for user templates in the Titler.



- 3 Connect the external drive on which the file you want to import is stored to a USB port.

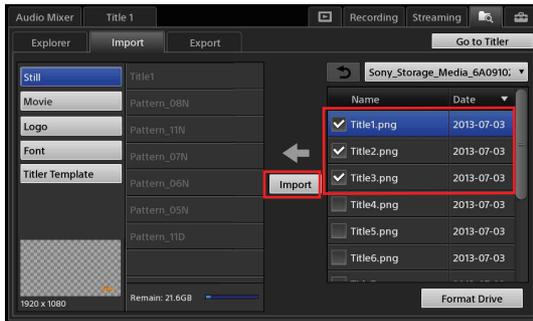
- 4 Tap ▼ in the list to the right, and select the external drive from which to import in the list that appears.



A list of files stored on the external drive appears.

- 5 Select the checkboxes of the files and folders you want to import, and tap [Import].

You can select multiple files.



The files are imported.

Tip

Even if you import a folder, the files within that folder will be imported to this unit without the folder.

Exporting Files

You can copy recorded files and VOD files stored on the unit's internal storage to external drives. If necessary, format the external drives beforehand.

For details on formatting, see "Formatting External Drives" (page 93).

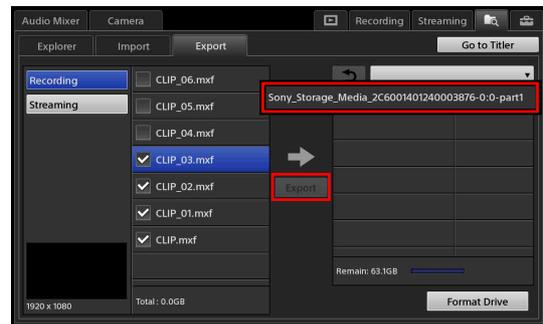
- 1 Tap the [Export] tab to display the [Export] screen.
- 2 Select the category of the file you want to export, and select the checkboxes of the files you want to export.

You can select multiple files.



- 3 Connect the external drive to a USB port.

- 4 Tap ▼ in the list to the right, select the external drive to which to export in the list that appears, and then tap [Export].



The files are exported.

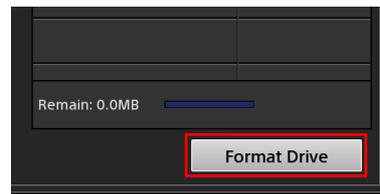
Formatting External Drives

You can format an external drive if necessary.

Tips

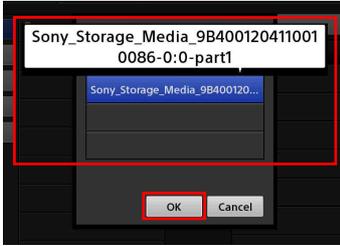
- This unit supports FAT32.
- When exporting files that exceed 4 GB in size, format the drive on a computer using the exFAT file system.
- This unit does not support formatting of external drives that exceed 2 TB in size.
- Connect only one external drive when performing formatting. We do not recommend more than three partitions on an external drive.

- 1 Connect the USB storage device or external drive you want to format to a USB port.
- 2 Tap the [Import] tab or [Export] tab to display the [Import] screen or [Export] screen.
- 3 Tap [Format Drive] at the bottom right of the screen.



The [Format Drive] dialog box appears.

4 Select the target external drive, and tap [OK].



Tip

If the external drive is partitioned, each partition will be displayed as a drive.

- To format a single partition, select a row that includes “part” in its name (e.g., “xxxxxx-part1”).
- To format the entire drive as a single partition, select the row that does not include “part” in its name.

The external drive is formatted.

Saving and Loading Settings

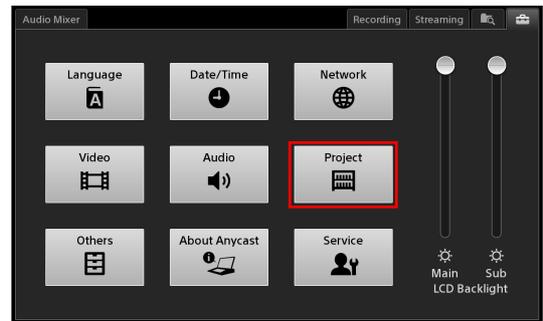
You can save the current setting configurations to the internal storage as files (up to 99). These files are referred to as “projects.”

Tip

Some conditions, such as tab selection states, are not saved.

Saving Settings

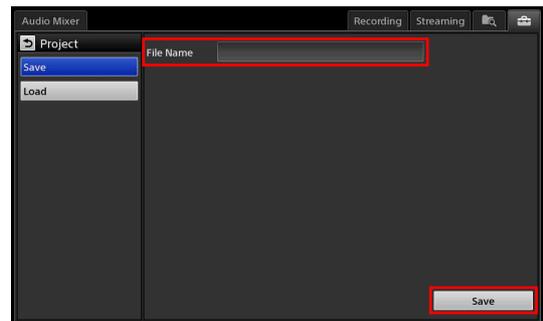
1 Display the [System Setup] screen, and tap [Project].



The [Project] screen appears.

2 Tap [Save] to display the [Save] screen.

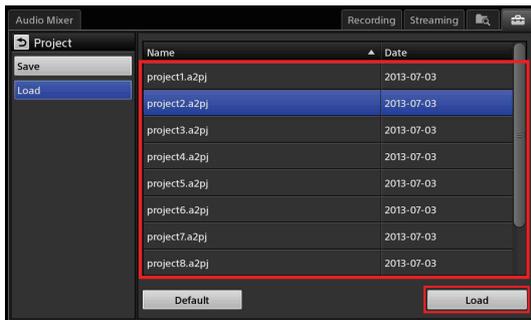
3 Enter up to 20 alphanumeric characters for the file name, and tap [Save].



The project is saved.

Loading Settings

- 1 Select the project file you want to load in the [Load] screen of [Project], and tap [Load].



A confirmation message for restarting the unit appears.

- 2 Tap [OK].
The unit shuts down.
- 3 Press the  switch on the left side of the unit to turn on the unit.
Changes to the project will be applied after the unit restarts.

Restoring Default Settings

To reset list and [System Setup] conditions to their default conditions, load the [Default] project.

- 1 Tap [Default] in the [Load] screen.
A confirmation message for restarting the unit appears.
- 2 Tap [OK].
The unit shuts down.
- 3 Press the  switch on the left side of the unit to turn on the unit.
Changes to the project will be applied after the unit restarts.

Tip

Even if you restore the default settings, files imported to the internal storage, still images created with the Titler, and other files will be retained.

Configuring Network Settings

Configure the network connection settings for the unit that are required for IP control of remote cameras, streaming, etc.

Configure each setting item for [LAN 1], [LAN 2], and [Common] before tapping [Apply] to apply the settings.

Configuring LAN 1 and LAN 2 Settings

This section describes the LAN 1 settings as an example. Some of the settings described may not be available in the LAN 2 settings.

Notes

- Configure an IPv4 network environment to control remote cameras. We recommend using the LAN 2 connector.
- To prevent packet loss and delays, use a different network port for the streaming network and the remote camera control network.

- 1 Use LAN cables to connect the LAN 1 and LAN 2 connectors on the right side of the unit to a network hub, for example.

For details on connections when performing IP control for remote cameras, see “LAN Connections” (page 99).

- 2 Display the [System Setup] screen in the sub screen, and tap [Network].

The [Network] screen appears.

- 3 Tap [LAN 1] to display the [LAN 1] screen.

The [LAN 1] screen appears, and the MAC address of the connector and various settings are displayed.

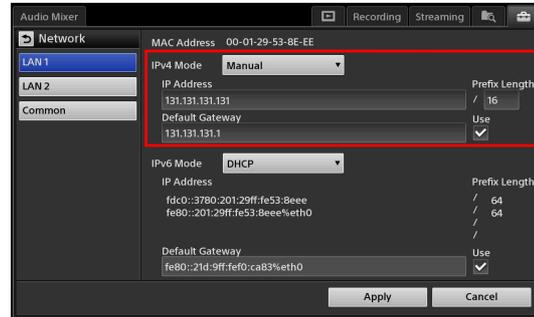
- 4 Configure IPv4 or IPv6 settings based on the network environment you are using.

For details on the setting items, see the following sections.

When you are finished configuring settings in the [LAN 1] and [LAN 2] screens, configure the settings common to LAN 1 and LAN 2 in the [Common] screen (page 97).

When using an IPv4 network environment

Configure the following items.



[IPv4 Mode]: Select the mode for the IP address and other settings. The other setting items will change depending on the setting selected here.

- **[Off]:** Do not use IPv4.
- **[Manual]:** Enter the settings manually. When you select this mode, enter the IP address, prefix length, and default gateway. Enter period (.) separators for the IP address and default gateway. Enter an integer value from 8 to 30 for the prefix length. For example, enter “/24” for “255.255.255.0.”

Tip

The default gateway cannot be configured for LAN 2.

- **[DHCP]:** Automatically configure the settings using the DHCP server information.

Tip

The DHCP cannot be configured for LAN 2.

When a mode other than [Off] is selected and you want to use the default gateway of this connector in IPv4, select the [Use] checkbox.

Tip

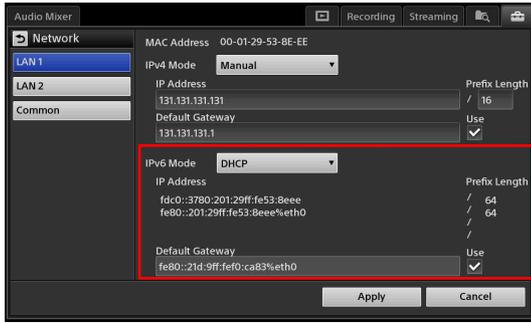
As this setting is linked to the [Default Gateway to be Used] setting in the [Common] screen, the setting configured last will be enabled.

When using an IPv6 network environment

Configure the following items.

Tip

IPv6 settings are only available for LAN 1.



[IPv6 Mode]: Select the mode for the IP address and other settings. The other setting items will change depending on the setting selected here.

- **[Off]:** Do not use IPv6.
 - **[Manual]:** Enter the settings manually. When you select this mode, enter the IP address, prefix length, and default gateway. Enter colon (:) separators for the IP address and default gateway. Enter an integer value from 3 to 126 for the prefix length.
 - **[DHCP]:** Automatically configure the settings using the DHCP server information.
 - **[Auto]:** Configure the settings automatically.
- When a mode other than [Off] is selected and you want to use the default gateway of this connector in IPv6, select the [Use] checkbox.

Tip

As this setting is linked to the [Default Gateway to be Used] setting in the [Common] screen, the setting configured last will be enabled.

[Default Gateway to be Used]: Select which default gateway to use for IPv4 and IPv6.

The available options are identical for [IPv4] and [IPv6].

- **[Off]:** Do not use a default gateway.
- **[LAN 1]:** Use the default gateway of LAN 1.

Tips

- When using the DHCP server, the values obtained from the DHCP server appear after you tap [Apply].
- As this setting is linked to the [Use] configurations of the [Default Gateway] settings in the [LAN 1] screen, the setting configured last will be enabled.

[DNS Mode]: Configure the DNS server setting.

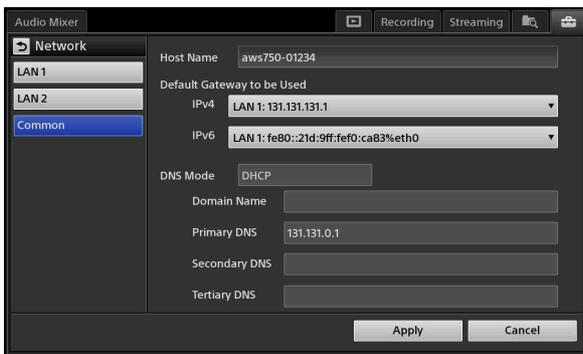
- **[Off]:** Do not use DNS.
- **[Manual]:** Enter the settings manually. When this is selected, enter up to 253 alphanumeric characters for the domain name, and enter the primary DNS and secondary DNS. A tertiary DNS cannot be configured.
- **[DHCP]:** Automatically configure the settings using the DHCP server information.

- 3 After configuring all the settings in the [Network] screen, tap [Apply].

Configuring the Common Network Settings

Configure the host name, DNS server settings, and other settings that are common to LAN 1 and LAN 2.

- 1 Tap [Common] to display the [Common] screen.
- 2 Configure each item.



[Host Name]: Enter up to 63 alphanumeric characters for the host name.

Remote Camera Connections and Settings

This section describes the connections and settings that are required to control VISCA cameras.

Supported models

As of June 2015, the following models have been verified.

Camera / remote controller	Option board	Supported output	Connection interface
BRC-H900	–	Switchable SDI (HD/SD)	Serial RS-422
	BRBK-SA1	SD analog output	
	BRBK-HSD2	Switchable SDI (HD/SD)	
	BRBK-IP10	Switchable SDI (HD/SD)	LAN
BRC-H700	HFBK-HD1	HD-SDI	Serial RS-422
	HFBK-SD1	SD-SDI	
BRC-Z700	–	Composite, S-Video	Serial RS-422
	BRBK-HSD1	Switchable SDI (HD/SD)	
	BRBK-IP7Z	Switchable SDI (HD/SD)	LAN
BRC-Z330	–	Composite, S-Video	Serial RS-422
	BRBK-HSD2	Switchable SDI (HD/SD)	
	BRBK-IP10	Switchable SDI (HD/SD)	LAN
SRG-300H/301H	–	HDMI	Serial RS-422 / LAN ¹⁾
SRG-300SE/301SE	–	SDI	Serial RS-422
SRG-120DH	–	HDMI	LAN
EVI-H100S	–	HD-SDI	Serial RS-422
EVI-H100V	–	HDMI	Serial RS-422
RM-IP10 (IP remote controller)	–	–	LAN

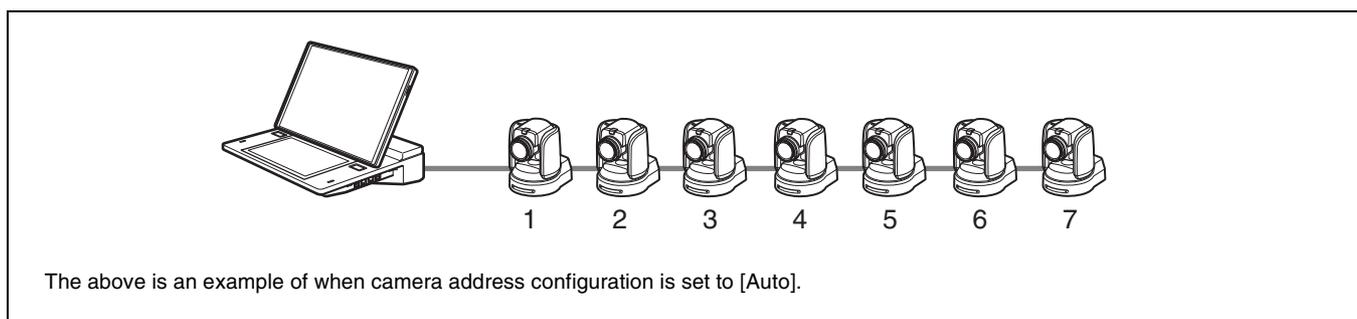
1) Use a serial RS-422 connection or a LAN connection. Simultaneous connection of both is not supported.

Serial Connections

You can connect up to seven VISCA-compatible cameras to the unit via a daisy chain connection and control them. Configure the address number for each camera, and use the address numbers to specify which cameras to control.

For details configuring address numbers, refer to the instruction manual for the remote camera.

Connection example:



The above is an example of when camera address configuration is set to [Auto].

For details on pin assignments and connections for the VISCA connector, see “VISCA connector” in “Connector Pin Assignments” (page 120).

Tip

Images from up to six cameras can be input at the same time.

Specifying the connection method

- 1 Display the [System Setup] screen in the sub screen, and tap [Others].
The [Others] screen appears.
- 2 Tap [Remote Camera] to display the [Remote Camera] screen.
- 3 Select [Serial RS-422] for [Connection], and tap [Apply].

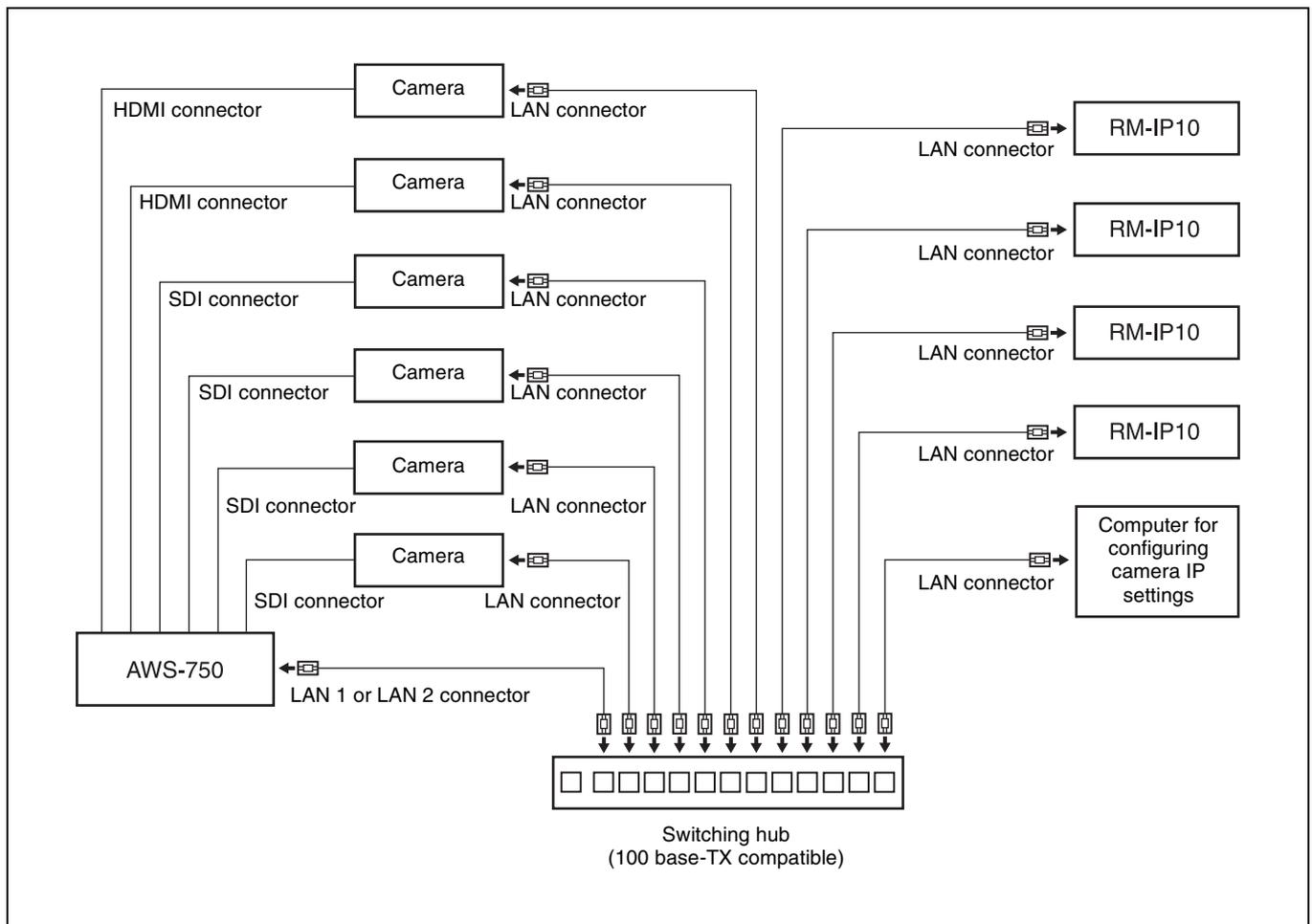


LAN Connections

Configure the network as follows using a switching hub (100 base-TX compatible).

Up to seven remote cameras, up to four IP remote controllers (RM-IP10), and a computer for configuring camera IP settings can be connected within the same network.

Connection example:



IP address settings for remote cameras and IP remote controllers

The IP addresses of the remote cameras and IP remote controllers are configured via the camera configuration tool on the computer used for configuring camera IP settings.

For details, refer to the instruction manual for the camera.

Tip

You cannot configure the IP address of the unit with the camera configuration tool. The unit will not be visible from the camera configuration tool.

IP remote controller tally settings

As the unit controls the camera tallies when an IP remote controller is used with the unit, be sure to set number 5 of DIP switch 2 to “ON.”

Notes

- Use a LAN cable that is Category 5 or higher.
- To prevent packet loss and delays, use a network port that is different from the streaming network.
- Do not use stacks of more than two switching hubs. Doing so will result in increased network delays.
- Remote cameras and IP remote controllers cannot be connected to public lines.
- Connect to either LAN 1 or LAN 2. We recommend connecting to LAN 2.
- Do not connect devices other than the unit, seven remote cameras, four IP remote controllers, and a single computer for configuring settings within the same network.
- Do not configure camera connections in which gateway traversal is required for camera control.

Configuring network settings

Configure the unit’s network settings so that only the unit, the remote cameras, the IP remote controllers, and a computer for configuring camera IP settings exist on the same network.

Settings example for remote camera network:

[IPv4 Mode]: Manual
 [IP Address]: 192.168.0.11
 [Prefix Length]: /24
 [Default Gateway]: blank
 [IPv6 Mode]: Off

For details on settings, see “Configuring Network Settings” (page 96).

Note

Remote camera control is supported only on IPv4 networks.

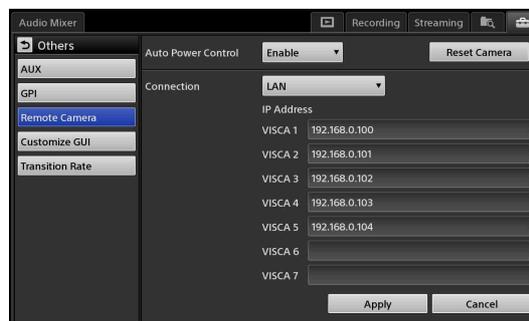
Specifying the connection method

- 1 Display the [System Setup] screen in the sub screen, and tap [Others].

The [Others] screen appears.

- 2 Tap [Remote Camera] to display the [Remote Camera] screen.
- 3 Select [LAN] for [Connection], and enter the IP address for each camera in the remote camera address fields (VISCA 1 to VISCA 7).

Use periods (.) as separators when entering the IP addresses.



Tip

The IP addresses for IP remote controllers do not need to be configured on the unit.

- 4 When you finish configuration, tap [Apply].

The cameras will be initialized.

Assigning Remote Cameras

After making each camera selectable in the [Input] list of the main screen, configure settings to enable remote control of the remote cameras.

Configure the settings while the remote cameras are connected to the unit.

- 1 Connect the remote camera to the unit.
- 2 Select the input source of the camera in the [Input] list of the main screen, and verify the video.
- 3 Display the [System Setup] screen in the sub screen, and tap [Video].

The [Video Setup] screen appears.

- 4 Tap [Input] to display the [Input] screen.
- 5 Configure video input settings for the connected remote camera.

For details on the video input signal settings, see “[Input]” (page 102).

- 6 Select the connected remote camera’s address (VISCA 1 to VISCA 7) for each connector in [Remote Control].



Tip

If the camera model does not appear in the [Remote Control] drop-down list for an input connector to which a camera is assigned, reset the camera to its default settings.

For details on operations, see “Resetting remote cameras” (page 101).



Cameras for which remote control is enabled appear as “address (model name).”

Tip

When a remote camera that is not supported by the unit is connected, its model name will appear as “Unknown.” Some functions will not be available in such cases.

Linking the power control of the unit and remote cameras

You can link the power control of the unit (power on/off) to the power control of the remote cameras.

- 1 Display the [System Setup] screen in the sub screen, and tap [Others].
- 2 Tap [Remote Camera] to display the [Remote Camera] screen.
- 3 To link power control, select [Enable] for [Auto Power Control].



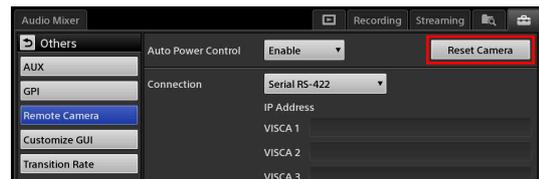
Tip

The SRG-300SE/301SE does not support [Auto Power Control].

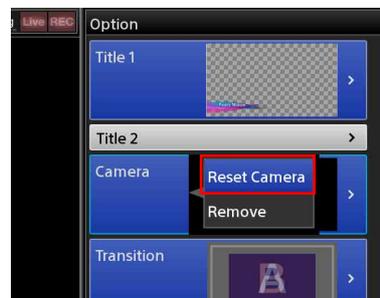
Resetting remote cameras

Reset the remote cameras to default settings using the following methods when you want to reconnect remote cameras.

- Tap [Reset Camera] in the [Remote Camera] screen



- Display the [Camera] context menu in the [Option] menu, and select [Reset Camera]



When the reset the cameras, connection will be reestablished for all cameras connected for remote control. Depending on the camera model, the pan and tilt may return to their default positions.

Configuring System Settings ([System Setup] menu)

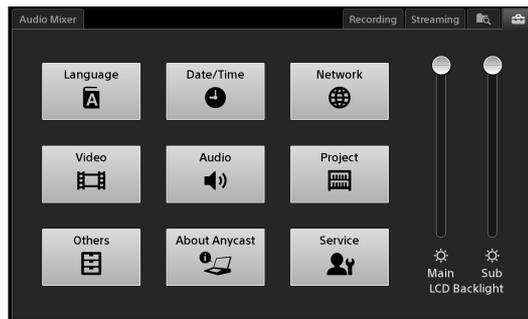
You can configure the following system settings in the [System Setup] menu.

Screen	Description	Reference
Language	Specify the language displayed on the various screens and used for text entry.	page 102
Date/Time	Configure the unit's internal clock.	page 26
Network	Configure the unit's network settings.	page 96
Video Setup	Configure video input and output settings and video signal settings.	page 102
Audio Setup	Configure audio input and output settings and adjust settings.	page 105
Project	Save the current settings to the internal storage as a file. Returning of the unit's project to the default condition is also performed here.	page 94
Others	Configure settings such as those for AUX, remote cameras, [PGM] and [NEXT] viewer positions, and transition rates.	page 106
About Anycast	View the unit's version information and perform software updates. The settings necessary for managing the unit with SNMP are also configured here.	page 107
Service Log	Export service logs.	page 107

The following sections provide a screen-by-screen explanation of the settings in the [System Setup] menu.

Displaying the [System Setup] Screen

Tap the  tab at the top right of the sub screen to display the [System Setup] menu.



When you tap a button, the respective settings screen appears.

[Language] Screen

Specify the language displayed on the various screens and used for text entry.



[System Language]: Select the language used for screen displays.

[Input Language]: Select the language used for text entry in the Titler.

[Video Setup] Screen

Configure video input and output settings and video signal settings.

The following items are available in the [Video Setup] settings.

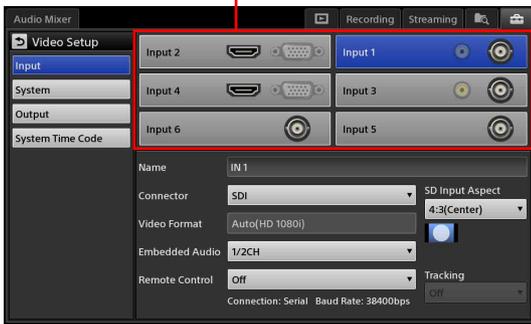
Item	Description	Reference
Input	Configure settings related to video inputs.	page 102
System	Configure settings related to video signals for the system as a whole.	page 26 page 103
Output	Configure settings related to video outputs.	page 104
System Time Code	Configure the system timecode.	page 105

[Input]

Configure settings related to video inputs.

Configure each setting after selecting a video input connector.

Video input connectors



[Input 1] to [Input 6]: Select the video input.

[Name]: Enter up to 20 alphanumeric characters for the video input name.

The name configured here will appear in the various lists in the main screen.

[Connector]: For [Input 1] to [Input 4], select the video input connector to assign to each video input number.

- For [Input 1] and [Input 3]: Select [SDI] or [Composite].
- For [Input 2] and [Input 4]: Select [RGB] or [HDMI].

Tip

[Input 5] and [Input 6] are fixed at SDI.

[SD Input Aspect]: Select the aspect ratio for SD input signals.

- **[4:3 (Center)]:** Center the 4:3 aspect ratio (i.e., fitted to the top and bottom of the display with black bars on the left and right).



- **[16:9 (Wide Zoom)]:** Stretch the aspect ratio to 16:9 (i.e., fitted to the left and right of the display).



Tip

The aspect ratio cannot be changed if a camera that is currently tracking in tracking mode exists.

[Video Format]: Select the signal format that will be input to each video input connector.

Tip

When [Auto] is selected for RGB or HDMI, the optimal signal is determined between the unit and input source device, and the video will be displayed at that resolution.

[Embedded Audio]: Specify the input channels of the embedded audio to be used.

- **[1/2Ch]:** Use channel 1 and 2 of the embedded audio.
- **[3/4Ch]:** Use channel 3 and 4 of the embedded audio.

Tip

Depending on the video input connector, some options may not be available.

- For HDMI, the setting is fixed at [1/2Ch].
- For composite and RGB, this setting is disabled due to the lack of embedded audio.

[Remote Control]: Configure control settings for remote cameras.

- **[Off]:** Disable remote control.
- **[VISCA 1] to [VISCA 7]:** Select the address of the remote camera to be controlled.

For details on remote camera settings, see “Remote Camera Connections and Settings” (page 98).

Tip

When a remote camera that is not supported by the unit is connected, its model name will appear as “Unknown.” Some functions will not be available in such cases.

[Tracking]: Select whether to enable the tracking function on a remote camera. The tracking function will only be enabled on the last camera on which it is configured.

- **[On]:** Enable the tracking function.
- **[Off]:** Disable the tracking function.

For details on tracking, see “Tracking Targets (Tracking Function)” (page 67).

[System]

Configure settings related to video signals for the system as a whole.



[System Format]: Select the video signal format handled by the unit (i.e., system format). The unit will shut down if the system format is changed.

Tips

- The [60i] setting is actually equivalent to “59.94i.”
- Changes to the system format will be applied after the unit restarts.

[HDCP Handling]: Specify how to handle HDMI input sources that are protected with HDCP. This setting only applies to Input 4.

- **[Off]:** Sources protected with HDCP are not handled. HDMI input sources that are protected with HDCP will be treated as black signals without audio.
- **[On]:** Sources protected with HDCP will be handled with their protection intact.

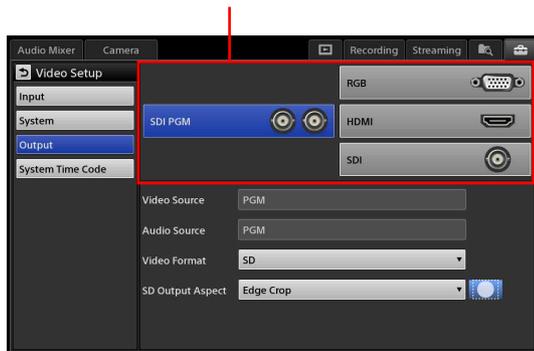
Notes

- The following limitations apply when this is set to [On].
 - Output of signals other than HDMI is not possible. A gray monochrome screen appears instead.
 - The [Recording] and [Streaming] functions cannot be used. In addition, the [HDCP Handling] setting cannot be configured while recording or streaming is in progress.
- Sources that are protected with HDCP and input to Input 2 will be treated as black signals without audio, regardless of this setting.
- For details on whether your AWS-750 unit supports the [HDCP Handling] setting, see “*HDCP Handling*” (page 117) for “HDMI (HDMI input) connectors 2 and 4” under “Specifications.”

[Output]

Configure settings related to video outputs. Configure each setting after selecting a video output connector.

Video output connectors



Note

When [HDCP Handling] is set to [On] in [System], output of signals other than HDMI is not possible.

Video output connector: Select the video output connector you want to configure. When you select a video output connector, the current values are displayed for each setting item.

[Video Source]: Select [PGM] or [AUX] for the video output of the selected video output connector. The selectable video signals may differ depending on the output connector.

- **For [SDI PGM]:** The setting is fixed at [PGM].
- **For [RGB], [SDI] and [HDMI]:** Select [PGM] or [AUX].

[Audio Source]: Select [PGM] or [MIX] for the embedded audio signal output of the selected video output connector. The selectable embedded audio signals may differ depending on the output connector.

- **For [SDI PGM]:** The setting is fixed at [PGM].
- **For [HDMI] and [SDI]:** Select [PGM] or [MIX].

[Video Format]: Select the signal format that will be output to each video output connector.

Tips

- When [Auto] is selected for RGB or HDMI, the unit and output destination device are linked and the optimal signal is output, and the video will be displayed at the resolution of that signal.
- The video format for the HD SDI output connector (PGM/AUX) cannot be switched to 720p.

[SD Output Aspect]: Select the aspect ratio for SD output signals from the SDI PGM connector.

- **[Letter Box]:** Output with black bars on the top and bottom of the display.



- **[Squeeze]:** Output with the aspect ratio squeezed to 4:3.



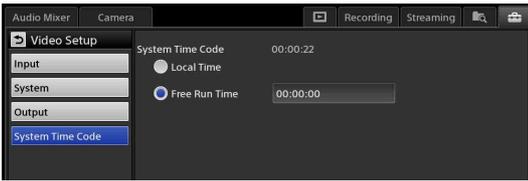
- **[Edge Crop]:** Output with the left and right sides cropped.



[System Time Code]

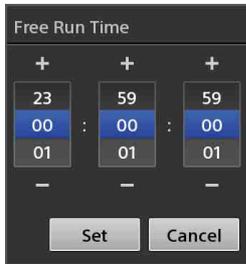
Configure the system timecode.

The system timecode configured here is only embedded in the HD-SDI output (PGM only and PGM/AUX). It can also be used for the recording times of the [Recording] function.



[System Time Code]: Select the time to be used as the system timecode.

- **[Local Time]:** Select this to use the time specified in the [System Setup] menu > [Date/Time] as the system timecode.
- **[Free Run Time]:** Preset a time that differs from that of the [Local Time]. When this is selected, tap the setting value to display the [Free Run Time] dialog box, and then preset the time.



[Audio Setup] Screen

Configure audio input and output settings and adjust settings.

The following items are available in the [Audio Setup] settings.

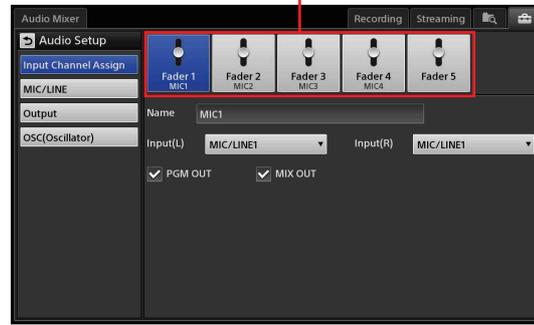
Item	Description	Reference
Input Channel Assign	Assign audio signals to the channel faders.	page 105
MIC/LINE	Configure the mic/line levels.	page 105
Output	Adjust the PGM OUT and MIX OUT delays.	page 106
OSC (Oscillator)	Configure oscillator settings.	page 106

[Input Channel Assign]

Assign audio signals to the channel faders.

Configure each setting after selecting a channel.

Channels



[Name]: Rename channels 1 to 4.

Enter up to 6 alphanumeric characters for the channel name.

[Input (L)] and [Input (R)]: Select the input signals to assign to the L and R of the channel.

- **[MIC/LINE 1] to [MIC/LINE 4]:** Assign the signals from MIC/LINE IN connectors 1 to 4
- **[LINE 5] and [LINE 6]:** Assign the signals from LINE IN connectors 5 and 6.
- **[HDMI 2] and [HDMI 4]:** Assign the signals from HDMI connectors 2 and 4.
- **[SDI 1], [SDI 3], [SDI 5], and [SDI 6]:** Assign the signals from SDI connectors 1, 3, 5, and 6.

Tips

- This setting is disabled when [RGB] is used for HDMI connector 2 and 4 and [Composite] is used for SDI connectors 1 and 3 in the [Video Setup] screen > [Input] settings.
- For HDMI and SDI embedded audio sources, when audio is selected for either the L channel or the R channel, the audio for the other channel in the pair will be selected automatically.

[PGM OUT]: Select this checkbox when you want to output the audio of channel faders 1 to 5 to PGM OUT.

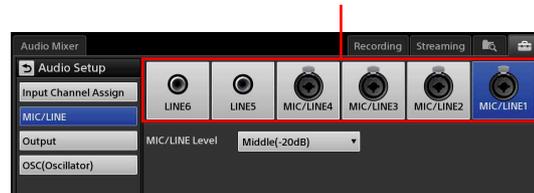
[MIX OUT]: Select this checkbox when you want to output the audio of channel faders 1 to 5 to MIX OUT.

[MIC/LINE]

Adjust the mic/line levels when the input audio signal is too large or too small.

Configure the mic/line levels after selecting an audio input connector.

Audio input connectors



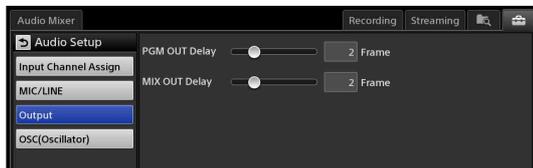
[MIC/LINE Level]: Select [High (+4dB)], [Middle (-20dB)], or [Low (-44dB)] while using the base level

of the input device as a reference.

The mic/line levels can only be configured for [MIC/LINE 1] to [MIC/LINE 4].

[Output]

Adjust the PGM OUT and MIX OUT delays so that the video and audio matches.



[PGM Delay]: Adjust the delay time for PGM OUT.

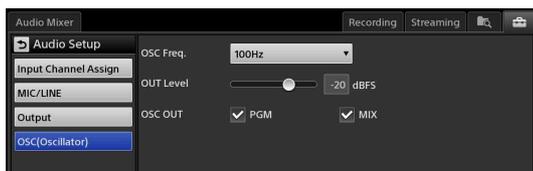
Drag the slider, and adjust the delay time within a range of 0 to 7.5 frames (0.25 increments).

[MIX Delay]: Adjust the delay time for MIX OUT.

Drag the slider, and adjust the delay time within a range of 0 to 7.5 frames (0.25 increments).

[OSC (Oscillator)]

Configure settings for outputting oscillator signals that will be used for adjustments.



[OSC Freq.]: Select the oscillator frequency.

Select [Off] (disable oscillator), [100Hz], [1kHz], or [10kHz].

[OUT Level]: Adjust the output level of the oscillator signal.

Drag the slider to adjust within a range of $-\infty$ to 0 dBFS.

[OSC OUT]: Select the checkbox of the output destination for the oscillator signal.

[Others] Screen

Configure settings such as those for AUX, remote cameras, [PGM] and [NEXT] viewer positions, and transition rates.

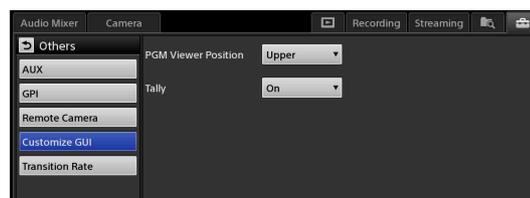
The following items are available in the [Others] settings.

Item	Description	Reference
AUX	Configure this if necessary when outputting AUX.	page 71
GPI	Configure settings for using GPI output to light the tally lamps on the cameras being used as the PGM output and NEXT selection sources.	page 51

Item	Description	Reference
Remote Camera	Configure this to perform remote controls for VISCA-compatible cameras.	page 98
Customize GUI	Switch the display positions of the [PGM] viewer and the [NEXT] viewer, and specify whether to display tallies in the [Input] list.	page 106
Transition Rate	Configure the selectable options for the transition rate in the main screen.	page 106

[Customize GUI]

Switch the display positions of the [PGM] viewer and the [NEXT] viewer, and specify whether to display tallies in the [Input] list.



[PGM Viewer Position]: Select whether to display the [PGM] viewer in the upper or lower position.

- **[Upper]:** Display the [PGM] viewer in the upper position.
- **[Lower]:** Display the [PGM] viewer in the lower position.

[Tally]: Specify whether to display tallies for the sources in the [Input] list.

- **[Off]:** Disable display.
- **[On]:** Enable display.

For details on tallies, see “Using the GUI Tally Function” (page 51).

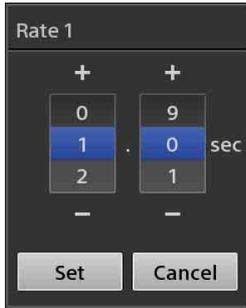
[Transition Rate]

Configure the selectable options for the transition rate in the main screen.



[Rate 1] to [Rate 3]: Configure the three selectable options that will appear in the drop-down list.

Tap each setting value to display a dialog box, configure the transition rate within a range of 0.0 to 4.9 seconds, and then tap [Set].



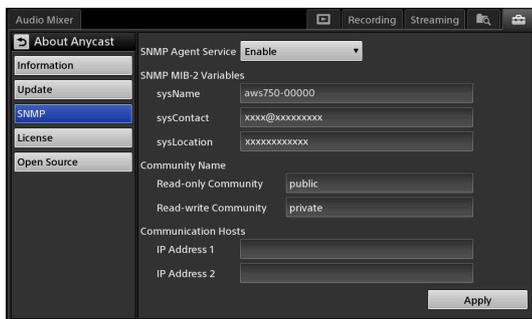
[About Anycast] Screen

View the unit's version information, perform software updates, and configure the settings necessary for managing the unit with SNMP. The following items are available in the [About Anycast] settings.

Item	Description	Reference page
Information	View the unit's system version, serial number, and unique device ID.	page 108
Update	Update the unit's software.	page 108
SNMP	Configure the settings necessary for managing the unit with SNMP.	page 107
License	Display the end-user license agreement (EULA) for the software.	-
Open Source	Display the open-source software (OSS) license list.	-

[SNMP]

Configure the necessary settings for managing the unit with SNMP. Tap [Apply] after configuring each setting.



[SNMP Agent Service]: Specify whether to enable the SNMP agent service.

- **[Disable]:** Disable the SNMP agent service.
- **[Enable]:** Enable the SNMP agent service. When this is selected, configure the items as well.

[SNMP MIB-2 Variables]: Enter the MIB-2 information.

- **[sysName]:** Displays the host name. To edit the [sysName], edit the host name in the [Common] screen of [Network].
- **[sysContact]:** Enter the administrator name.
- **[sysLocation]:** Enter the unit's installation location.

[Community Names]: Specify the community names.

- **[Read-only Community]:** Enter the read-only community name.
- **[Read-write Community]:** Enter the read-write community name.

[Communication Hosts]: Specify the IP address of the SNMP manager. You can specify up to two.

- **[IP Address 1] and [IP Address 2]:** Enter the IP address or network address. Use periods (.) as separators when entering the settings.

[Apply]: Apply the settings.

Tip

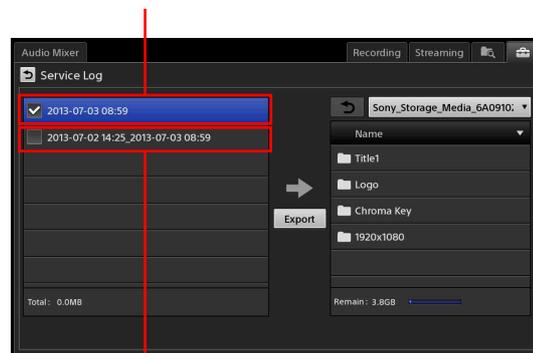
If further information is required, contact your local Sony representative.

[Service Log] Screen

Export service logs.

A list of log files appears in the area to the left. The start dates and times of acquisition are displayed for the file names of logs that are currently being acquired, and the start and end dates and times of acquisition are displayed for the file names of past logs.

Log currently being acquired.



Past log.

The export procedure is identical to that in the File Manager. For details, see "Exporting Files" (page 93).

Tip

Logs are deleted after a specified period of time passes or a specified capacity is exceeded. As log deletion occurs during startup, the startup process may take longer in some cases.

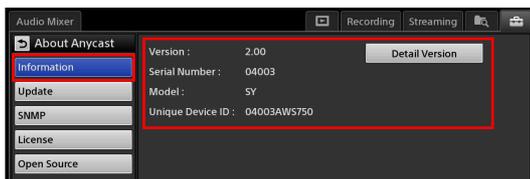
Software Updates

View the unit's version information and perform software updates.

Viewing Version Information

You can view the unit's system version, serial number, and unique ID in the [System Setup] menu > [About Anycast] > [Information].

You can view detailed version information by tapping [Detail Version].



Updating the Software

You can find information on version updates at the web portal of each dealer.

You can also access the information from the following URL.

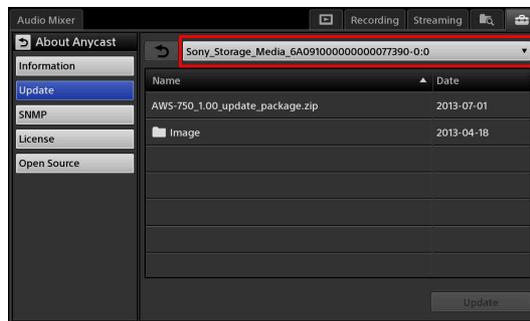
<http://www.sony.net/>

Notes

- The updating procedure cannot be canceled once started.
- When update is complete, the unit shuts down automatically. Perform updates when shutdown is not a concern.

- 1 Save the update package to an external drive, and connect the drive to a USB port on the right side of the unit.
- 2 Display the [About Anycast] screen of the [System Setup] menu, and tap [Update] in the menu to the left. The [Update] screen appears.

- 3 Select the external drive on which the update package is stored.

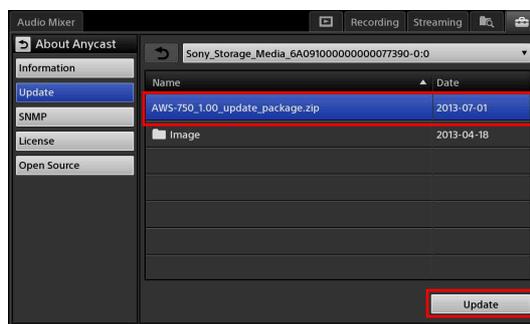


When you select the external drive, the files stored on the drive are displayed.

Tip

If you changed the name of the update package, it will not appear in the list.

- 4 Select the file, and tap [Update].



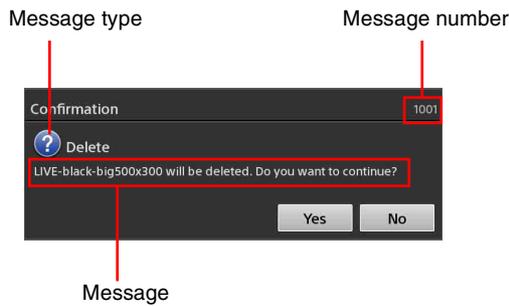
The currently installed version and the version of the update package are displayed.

- 5 Check the versions, and tap [Yes] when you are ready to install. Installation starts. When installation is complete, a message appears.
- 6 Tap [OK]. The unit shuts down.
- 7 Remove the external drive.

Troubleshooting

Messages

During operation of the unit, messages will appear when problems occur. Read the messages, and follow their instructions. If the problem persists, write down the message number that is displayed, and contact your local Sony representative.



The following types of message exist.

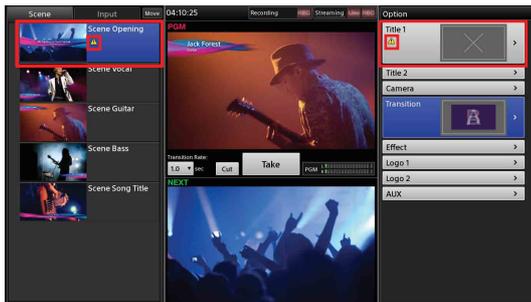
-  **(Information):** Notifications
-  **(Verification):** Messages that request verification
-  **(Warning):** Warnings that indicate that continuing an operation may result in error
-  **(Error):** Warnings that indicate severe errors, such as inability to continue operations and malfunctions

Warning Icon Displays in Lists

This warning mark appears if a problem exists with materials in the [Scene] list or [Option] menu. Check the status in the [Option] menu, and perform the appropriate operation.

Tip

The “File Not Found” buttons in each list will be deleted from the lists the next time the unit is started.



Problems and Solutions

Check the following before requesting repairs. If the problem persists, contact your local Sony representative.

Symptom	Possible cause	Solution
The unit does not turn on or start up properly.	An overcurrent is being supplied to a USB-connected device.	Disconnect the USB-connected device. In addition, disconnect the AC power cord of the AC adapter from the power outlet temporarily. <i>For details, see “USB ports” (page 14).</i>



Symptom	Possible cause	Solution
Videos do not appear in the lists.	The connected device is not turned on.	Restart the device.
	The cables are not connected properly.	Connect the cables properly.
	The video input signals are not assigned properly.	Assign the video input signals properly. <i>For details, see “[Input]” (page 102).</i>
The tab you want to operate does not appear in the sub screen.	The appropriate list is not open.	Display the list for the desired option from the [Option] menu. <i>For details, see “Sub Screen” (page 37).</i>
	The [Option] menu is open.	
Titles are not inserted properly.	The image file that includes the alpha channel was not created properly.	Create the image file with the alpha channel again, and make sure to do so properly.
	Adjustments have not been performed properly.	Perform adjustments in the [Title 1] or [Title 2] screen in the sub screen. <i>For details, see “To adjust the appearance of composites” (page 45).</i>
Audio is not output from the headphones or speakers. (The audio level meter does not move.)	The connected device is not turned on.	Turn on the device.
	The cables are not connected properly.	Connect the cables properly.
	The audio input signals are not assigned properly.	Assign the audio input signals properly. <i>For details, see “[Input Channel Assign]” (page 105).</i>
	The [CH On] button is turned off.	Enable (i.e., light) the [CH On] button. <i>For details, see “Step 5: Audio Mixing” (page 31).</i>
	The channel fader is lowered.	Raise the channel fader. <i>For details, see “Step 5: Audio Mixing” (page 31).</i>
	The PGM OUT fader is lowered.	Raise the PGM OUT fader. <i>For details, see “Step 5: Audio Mixing” (page 31).</i>
The audio is not as expected. The PGM (or MIX) audio cannot be heard.	The target for monitoring is incorrect.	Tap [PGM] (or [MIX]) at the bottom of the audio level meter to switch to the audio you want to monitor. <i>For details, see “Switching the Monitored Audio” (page 75).</i>
	The output settings are incorrect.	Select the [PGM OUT] and [MIX OUT] checkboxes in [System Setup] > [Audio Setup] > [Input Channel Assign]. <i>For details, see “[Input Channel Assign]” (on page 105).</i>
Audio is not output from the headphones or speakers. (The audio level meter does move.)	The monitor output level is low.	Raise the level via [Monitor Level] adjustment. <i>For details, see “Adjusting the audio level for monitoring” (on page 32).</i>
Audio is not output from the internal speakers.	A device is connected to the monitor output connector.	When the HEADPHONES jack is in use, audio output from the internal speakers is disabled. Disconnect the device.

Symptom	Possible cause	Solution
Cameras cannot be controlled.	Remote control registration has not been performed.	Configure the settings that enable remote control. <i>For details, see “Remote Camera Connections and Settings” (page 98).</i>
	The connection cable is faulty.	Check that cables that were properly connected are being used. <i>For details, see “Connector Pin Assignments” (page 120).</i>
	The baud rate of the connected camera is incorrect.	Set the baud rate of the connected camera to 38,400 bps. <i>For details, refer to the instruction manual for the camera.</i>
	The camera IP address registered on the unit does not match the camera’s actual IP address, or the unit’s network settings and the camera’s network segment do not match.	Check the network settings. <i>For details, see “Configuring Network Settings” (page 96).</i> <i>For details, see “LAN Connections” (page 99) in the “Remote Camera Connections and Settings” section.</i>
The control buttons in the [Camera] tab cannot be enabled.	Tracking is in progress in tracking mode.	Stop tracking. <i>For details, see “Stopping tracking” (page 70) in the “Using Tracking Mode” section.</i>
A camera that is operating in tracking mode suddenly points up or down during tracking.	The [Pan/Tilt Limit] settings have not been configured for the camera.	Configure the [Pan/Tilt Limit] settings. You can prevent the target from moving out of view during tracking by doing so. <i>For details, see “Configuring tracking settings” (page 68).</i>
The movement range of the camera is narrow during camera control (pan/tilt).	The [Pan/Tilt Limit] settings have been configured for the camera.	Reset the [Pan/Tilt Limit Setting] in the [Tracking Settings] screen, or use the camera’s remote controller to turn off the [Pan/Tilt Limit] settings. <i>For details on the [Tracking Settings] screen, see “Configuring tracking settings” (page 68).</i>
Camera images are displayed upside down.	The settings on the camera are upside down.	Check the vertical image flip setting on the camera. <i>For details, refer to the instruction manual for the camera.</i>
The up, down, left, and right directions are reversed during camera control.	The [Pan Reverse] and [Tilt Reverse] settings in the [Camera Settings] screen are not configured correctly.	Configure the [Pan Reverse] and [Tilt Reverse] settings in the [Camera Settings] screen. <i>For details, see “Configuring camera settings” (page 49).</i>
I want to restore the factory default conditions.	-	Contact your local Sony representative.
Configured date and time settings change when the unit is restarted.	Incorrect date and time displays may indicate that the internal battery is low.	Contact your local Sony representative.
The touchscreens do not respond to taps.	You are touching a screen that is not related to the current operation.	Do not touch the screen that is not related to the current operation.
The following message appears, and connection to the streaming server is not possible. ID-3002 Streaming cannot start. Connection to the streaming server failed.	The server is not receiving the stream from the unit. Possible causes: • The server is down. • The server has been removed from the network.	Contact the server’s administrator.

Symptom	Possible cause	Solution
<p>The following message appears, and connection to the streaming server is not possible.</p> <p>ID-3003 Streaming cannot start. The streaming server is not responding.</p>	<p>The server has been located, but it is not receiving the stream from the unit.</p> <p>Possible causes:</p> <ul style="list-style-type: none"> • The server's streaming service has been stopped. • The service is starting up. 	<p>Contact the server's administrator.</p>
<p>The following message appears, and connection to the streaming server is not possible.</p> <p>ID-3004 Streaming cannot start. Cannot resolve the hostname of streaming server. If the setting is correct, try restarting the unit.</p>	<p>The network settings (the DNS server settings in particular) are incorrect.</p>	<p>Check the network settings. If the settings are correct, restarting the unit and related network devices may allow connection. Connection to the server may not be possible from networks on which packet filtering is performed or from networks that require proxy server configurations. Contact an institution that specializes in networks.</p>
<p>Streaming stops and the following message appears repeatedly, even when [Start] is tapped, and streaming does not restart.</p> <p>ID-0020 The connection to Streaming Server has been lost. Streaming will be stopped.</p>	<p>The previous connection to the streaming server could not be terminated due to unstable network conditions, and the transmission cannot be restarted until after the previous connection terminates.</p>	<p>Wait at least 30 seconds after the message first appears before attempting to restart transmission. If the problem persists, try restarting the unit to enable connection.</p>



Maintenance

Remove dust from the ventilation holes once per month or whenever necessary.

Specifications

Main Unit

General

Power requirements

19.5 V DC, 9.2 A

AC adapter Operating Voltage: 100-240 V AC,
2.5A, 50-60 Hz

Power consumption

160 W

Operating temperature

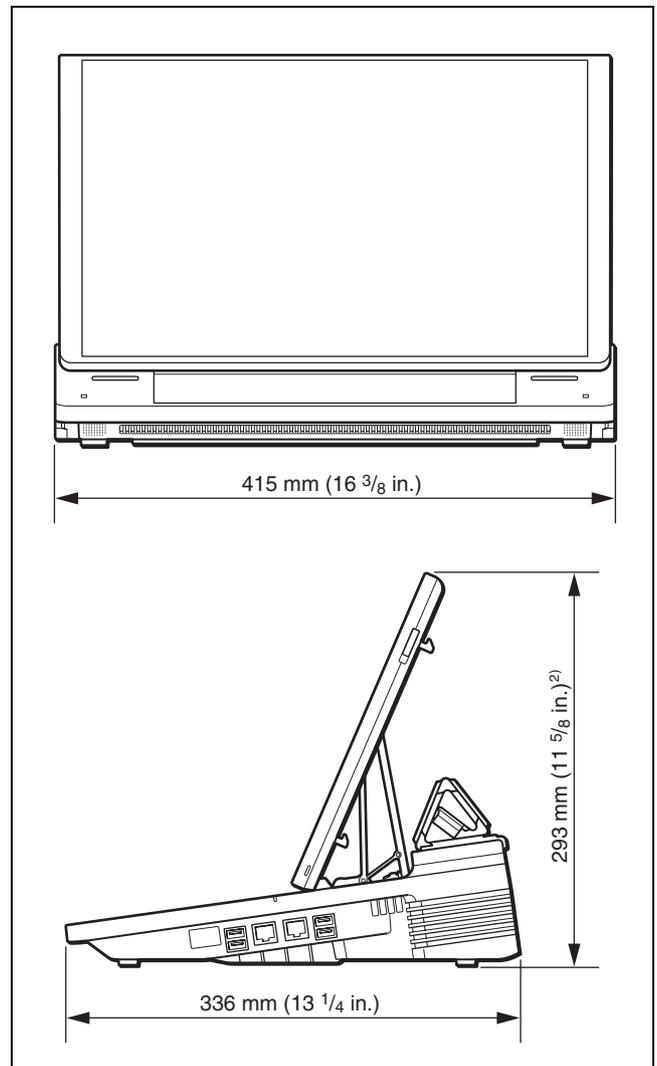
5 °C to 35 °C (42 °F to 95 °F)

Dimensions 415 mm × 99 mm¹⁾ × 336 mm
(16 3/8 in. × 4 in. × 13 1/4 in.) (W × H
× D)

Mass Approx. 6.5 kg (14 lb 5.3 oz.)

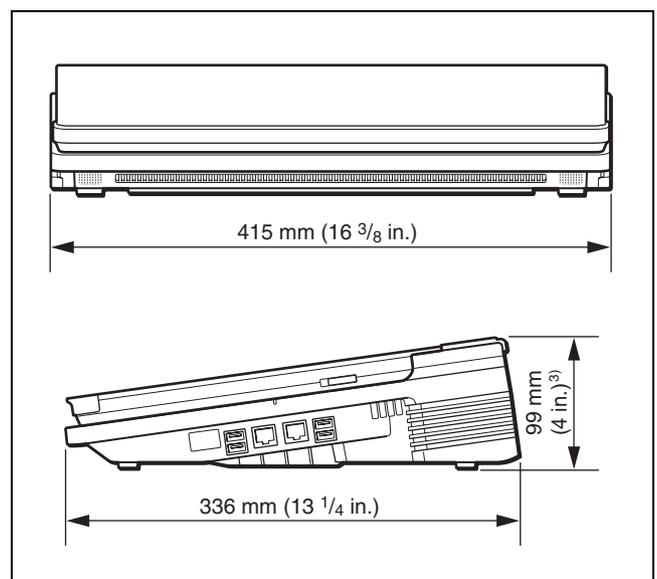
1) 97 mm (3 7/8 in.): Serial numbers 10001 to 11139

Main display open



2) 291 mm (11 1/2 in.): Serial numbers 10001 to 11139

Main display closed



3) 97 mm (3 7/8 in.): Serial numbers 10001 to 11139

Video signals

VIDEO INPUTS

HD/SD SDI	BNC type (4) SMPTE-292M, SMPTE-259M-C
Composite	Phono jack (2)
RGB	D-Sub 15pin Type (2) (Female)
HDMI	HDMI (Type A) (2)

VIDEO OUTPUTS

HD/SD SDI	BNC type (2) SMPTE-292M, SMPTE-259M-C
HD SDI	BNC type (1) SMPTE-292M
RGB	D-Sub 15pin Type (1) (Female)
HDMI	HDMI (Type A) (1)
REF OUT	BNC Type (1) Analog black burst signal NTSC: 0.286 Vp-p, 75 Ω, negative sync PAL: 0.3 Vp-p, 75 Ω, negative sync

Audio signals

AUDIO INPUTS

Analog inputs 1-4	XLR/TRS Combo Type (4) Ref. Level: +4 dBu, -20 dBu, -44 dBu Input impedance: 3.3 kΩ or more Mic. Power: +48 V On/Off
Analog inputs 5-6	Phono jack (2) Reference input level: -10 dBu Input impedance: 10 kΩ or more

AUDIO OUTPUTS

PGM OUT	TRS phone (2) Reference level: +4 dBu (10 kΩ load) Max. output level: +24 dBu Output impedance: 150 Ω
MIX OUT	Phono jack (2) Reference level: -10 dBu (10 kΩ load) Max. output level: +10 dBu Output impedance: 470 Ω
HEADPHONES	1/4" Stereo Phone Jack Type (1) Max. power: 35 mW × 2 Impedance: 47 Ω
Speaker	Built-In Speaker 1W (2) Size: 20 mm (¹³ / ₁₆ in.) in diameter

Other Interfaces

LAN	RJ45 Type (2) 100 base-TX, 1000 base-T
USB	USB A Type (4) SuperSpeed USB (USB3.0) Max current output capability up to 1200 mA (total for four ports)

GPI	9-pin inline connector Input (4): TTL Level (VIH = 2.4 V, VIL = 0.8 V) GPI inputs are not supported on this version. Output (4): Open collector Ic = 5 mA (typ.), VCEO = 45 V (max.)
VISCA	5 pin in-line connector (1) RS-422 equiv. Sony VISCA camera commands are supported. Baud Rate: 38400 bps
LCD	Main display: 15.6" High Brightness LCD 1920 × 1080 60 Hz, capacitance sensor Sub display: 10.6" High Brightness LCD 1280 × 768 60 Hz, capacitance sensor

Supplied accessories

Before Using This Unit (1)	
AC adapter (1)	VGP-AC19V56
Anti-glare film (1)	373 mm × 238 mm (14 ³ / ₄ in. × 9 ³ / ₈ in.)
	266 mm × 156 mm (10 ¹ / ₂ in. × 6 ¹ / ₄ in.)
Detachable panel cover (1)	
Connector	Phoenix Contact 5 pin (1) (Male) Phoenix Contact 9 pin (1) (Male)

Optional accessories

AC power cord (for USA and Canada)	125 V, 10 A, 2.4 m (7 ft. 10 ¹ / ₂ in.) Part number: 1-551-812-31
AC power cord (for Europe)	250 V, 10 A, 2.5 m (8 ft. 2 ¹ / ₂ in.) Part number: 1-782-929-12
AC power cord (for China)	250 V, 10 A, 1.83 m (6 ft. ¹ / ₂ in.) Part number: 1-830-860-11

Design and specifications are subject to change without notice.

For the customers in Europe

ATTENTION

The electromagnetic field at the specific frequencies may influence the picture and sound of this unit.

Notes

- Always make a test recording, and verify that it was recorded successfully. SONY WILL NOT BE LIABLE FOR DAMAGES OF ANY KIND INCLUDING, BUT NOT LIMITED TO, COMPENSATION OR REIMBURSEMENT ON ACCOUNT OF FAILURE OF THIS UNIT OR ITS RECORDING MEDIA, EXTERNAL STORAGE SYSTEMS OR ANY OTHER MEDIA OR STORAGE SYSTEMS TO RECORD CONTENT OF ANY TYPE.
- Always verify that the unit is operating properly before use. SONY WILL NOT BE LIABLE FOR DAMAGES OF ANY KIND INCLUDING, BUT NOT LIMITED TO, COMPENSATION OR REIMBURSEMENT ON ACCOUNT OF THE LOSS OF PRESENT OR PROSPECTIVE PROFITS DUE TO FAILURE OF THIS UNIT, EITHER DURING THE WARRANTY PERIOD OR AFTER EXPIRATION OF THE WARRANTY, OR FOR ANY OTHER REASON WHATSOEVER.

Performance

Video signal performance

Video process	10 bit, 422, 1920 × 1080 59.94/50i
REF OUT subcarrier frequency	Less than 50 ppm

Audio signal performance

Sampling frequency	48 kHz
Quantization	24 bit (A/D, D/A) 40 bit (DSP)
Frequency response (MIC/LINE)	20 Hz to 20 kHz, +0.5 dB to -2 dB
THD (MIC/LINE -20 dBu 1 kHz)	0.25% or less
Dynamic range	94 dB or more

Functions

Video switcher

Configuration	Input: 6 Primary Video inputs + Internal Content1 M/E + 4 Keyer (2 × PinP, 2 × Title) + 2 Logo Output: PGM OUTPUT, PGM/AUX OUTPUT
Video effect	Transition: Mix, Wipe (4 patterns) PinP: Single (2 patterns), Double (9 patterns) Chromakey: Standard, Chromakey + PinP
Key source	Title: Input Signals or Internal Still Picture (up to 1920 × 1080) Logo: Internal Still Picture (320 × 320)
Key type	Title: Luminance Key / Alfa Channel Logo: Alfa Channel
Internal content	Black, Color Bars (Non standard 7 bars type), Imported files
External controller	USB keyboard (US 101, 104 keys type)

Audio mixer

Configuration	Input: 6 Monaural / 6 Stereo Embedded Audio inputs Mixing: 5 Stereo Mixing Output: PGM (Stereo) / MIX (Stereo)
Input control	Input Trim: -15 dB to +15 dB Filter: High Cut 8 kHz, Low Cut 100 Hz (12 dB/Oct) EQ: 3 Band Equalizer Limiter: 100:1 Compressor: 2:1 Pan: 31 position
Oscillator	100 Hz, 1 kHz, 10 kHz
Embedded audio	Input from SDI and HDMI: 2 channels Output to SDI and HDMI: 2 channels Linear PCM

Camera control

Control protocol	VISCA
Connection interface	Serial RS-422, LAN
Recommended camera / remote controller	Camera: BRC-Z330, BRC-Z700, BRC-H700, BRC-H900, SRG-300H/301H, SRG-300SE/301SE, SRG-120DH, EVI-H100S, EVI-H100V IP remote controller: RM-IP10 <i>For details on option board pairings, see "Supported models" (page 98).</i>

Max. controllable cameras	6 cameras
Preset memory	Memory: 16 (6 for the EVI-H100S and EVI-H100V) Items: Pan / Tilt / Zoom / Focus / Iris

Titler

Preinstalled fonts	17 fonts including SST Medium, DFHei-W5-A, SST Japanese Pro Regular, and YD Gothic 100 Pro
Preinstalled templates	100 patterns and more
Import font format	Vector Fonts (.ttf, pfb, otf)
Input language	10 languages English, Chinese (Simplified), Chinese (Traditional), Japanese, Korean, German, Spanish, Italian, Portuguese, French
Input method editor	Pin Yin (Chinese simplified) Changjie (Chinese traditional) Roman input (Japanese) Jamo input (Korean)

Media Player

Playable files	One still image file or one movie file
Application data capacity	192 GB

Supported Input Formats

Tip

You can select from the following two output methods for SD input signals, based on the [System Setup] > [Video Setup] > [Input] > [SD Input Aspect] setting.

4:3 (Center)



16:9 (Wide Zoom)



HD/SD SDI (SDI input) connectors 1, 3, 5, and 6

Video

HD/SD	Resolution	Frequency / ip
HD	When the system format is 1080 50i	
	1920 × 1080	50i
	1280 × 720	50p
	When the system format is 1080 60i	
SD	1920 × 1080	59.94i
	1280 × 720	59.94p
	When the system format is 1080 50i	
	720 × 576 (D1 625)	50i
SD	When the system format is 1080 60i	
	720 × 480 (D1 525)	59.94i

Audio

HD SDI 24-bit, SD SDI 20-bit, 48 kHz, 2 ch (select from 1/2 ch or 3/4 ch), L-PCM

COMPOSITE (composite video input) connectors 1 and 3

Resolution	Frequency / ip
When the system format is 1080 50i	
720 × 576 (PAL)	50i
When the system format is 1080 60i	
720 × 480 (NTSC)	59.94i

RGB (RGB input) connectors 2 and 4

Resolution	Frequency / ip
640 × 480 (VGA)	60p
1024 × 768 (XGA)	60p 75p
1600 × 1200 (UXGA)	60p
1280 × 1024 (SXGA)	60p
1280 × 768 (WXGA)	60p
1600 × 900	60p
1920 × 1080 (HD)	60p

HDMI (HDMI input) connectors 2 and 4

Video

Resolution	Frequency / ip
640 × 480 (VGA)	59.94p 60p
1024 × 768 (XGA)	60p 75p
1600 × 1200 (UXGA)	60p

Resolution	Frequency / ip
1280 × 1024 (SXGA)	60p
1280 × 768 (WXGA)	60p
1600 × 900	60p
When the system format is 1080 50i	
720 × 576 (SD)	50p
1920 × 1080 (HD)	50i
1920 × 1080 (HD)	50p
1920 × 1080 (HD)	60p
When the system format is 1080 60i	
720 × 480 (SD)	60p
720 × 480 (SD)	59.94p
1920 × 1080 (HD)	59.94i
1920 × 1080 (HD)	60i
1920 × 1080 (HD)	59.94p
1920 × 1080 (HD)	60p

24-bit / pixel
 RGB 444, YCbCr 422, YCbCr 444 (auto select)

Audio

32 kHz, 44.1 kHz, 48 kHz (auto select)
 16-bit, 20-bit, 24-bit (auto select)
 L-PCM, 2 ch

HDCP Handling

HDMI connector 2: Not supported
 HDMI connector 4: Supported only on AWS-750 units that support HDCP (i.e., units with the following serial numbers).
 Serial number: 11001 or later

Supported Output Formats

Tip

You can select from the following three output methods for SD output signals, based on the [System Setup] > [Video Setup] > [Output] > [SD Output Aspect] setting.

Letter Box



Squeeze



Edge Crop



HD/SD SDI (SDI output) connectors (PGM only)

Video

HD/SD	Resolution	Frequency / ip
HD	When the system format is 1080 50i	
	1920 × 1080	50i
	1280 × 720	50p
	When the system format is 1080 60i	
	1920 × 1080	59.94i
	1280 × 720	59.94p
SD	When the system format is 1080 50i	
	720 × 576 (D1 625)	50i
	When the system format is 1080 60i	
	720 × 480 (D1 525)	59.94i

Audio

HD SDI 24-bit, SD SDI 20-bit, 48 kHz, 4 ch (3/4 ch and 1/2 ch are same), L-PCM

Time Code

The [System Time Code] is embedded in the ancillary data.

When the system format is 1080 60i, the added timecode is a drop frame timecode.

LTC and VITC will be embedded on the HD SDI video signal output from the SDI PGM connector.

The line numbers in which the timecodes are embedded are as follows.

		System format	Line number
HD SDI	VITC	60i	Line 9 and line 571 (1080i)
		50i	Line 9 and line 571 (1080i)
	LTC	60i	Line 10
		50i	Line 10

HD SDI (SDI output) connector (PGM/AUX)

Video

Resolution	Frequency / ip
When the system format is 1080 50i	
1920 × 1080	50i
When the system format is 1080 60i	
1920 × 1080	59.94i

Audio

24-bit, 48 kHz, 4 ch (3/4 ch and 1/2 ch are same), L-PCM

Time Code

The [System Time Code] is embedded in the ancillary data.

When the system format is 1080 60i, the added timecode is a drop frame timecode.

The line numbers in which the timecodes are embedded are as follows.

	System format	Line number
VITC	60i	Line 9 and line 571
	50i	Line 9 and line 571
LTC	60i	Line 10
	50i	Line 10

RGB (RGB output) connector (PGM/AUX)

Resolution	Frequency / ip
640 × 480 (VGA)	60p
1024 × 768 (XGA)	60p 75p
1280 × 1024 (SXGA)	60p
1280 × 768 (WXGA)	60p
1920 × 1080	60p

HDMI (output) connector

Video

Resolution	Frequency / ip
640 × 480 (VGA)	60p
1024 × 768 (XGA)	60p 75p
1280 × 1024 (SXGA)	60p
1280 × 768 (WXGA)	60p
When the system format is 1080 50i	
1920 × 1080 (HD)	50i
1920 × 1080 (HD)	50p
When the system format is 1080 60i	
1920 × 1080 (HD)	59.94i
1920 × 1080 (HD)	59.94p

24-bit / pixel

RGB 444, YC_BCr 422 (auto select)

Audio

24-bit, 48 kHz, 2 ch, L-PCM

File Formats

Importable still images and movies

Still image file format	.tiff, .tif, .png, .jpeg, .jpg, .jpe
Movie file format ¹⁾	.mxf (MPEG HD422, LPCM) ²⁾ .mxf (MPEG HD, LPCM) ²⁾ .f4v (H.264, AAC) ³⁾ .mov (MPEG4, AAC) ³⁾ .mov (H.264, AAC) ³⁾ .mp4 (H.264, AAC or LPCM) ³⁾ .m2ts (H.264, AC-3) ³⁾ 2) 50/59.94i 3) Up to 1920 × 1080, up to 30p
Application data capacity	192 GB

1) File formats may be converted in some cases. Verify that movie files can be played on the unit beforehand.

Recording function

Recorded video format

Determined by the [System Setup] > [Video Setup] > [System] > [System Format] setting (page 104).

Recording format

Format	MPEG HD (.mxf) * Can be simultaneously recorded with VOD file.
Container format	MXF
Extension	.mxf
Video codec	MPEG-2 (Main Profile & High Level), HD Long 1920 × 1080 420, 8 bit, 35 Mbps
Audio codec	LPCM 2CH (all 4CH), 48 kHz, 16 bit
Recording source	Video: PGM or AUX Audio: PGM or MIX
Application data capacity	192 GB
Maximum recording time	About 600 min. Up to 360 min. per file

Streaming function

Format	Flash
Protocol	RTMP
Video codec	H.264
Audio codec	AAC

Encoder presets

• For [Ustream]

Item	Resolution (W x H)	Video + audio bit rate	Frame rate	Sample rate	Key frame interval
HD Bandwidth -Flash	1280 x 720	1,500 kbps + 96 kbps	30 fps or 25 fps ¹⁾	48,000 Hz	4 sec.
High Bandwidth -Flash	960 x 540	1,000 kbps + 96 kbps	30 fps or 25 fps ¹⁾	48,000 Hz	4 sec.
Medium Bandwidth -Flash	640 x 360	800 kbps + 96 kbps	30 fps or 25 fps ¹⁾	48,000 Hz	4 sec.
Low Bandwidth -Flash	480 x 270	400 kbps + 64 kbps	30 fps or 25 fps ¹⁾	48,000 Hz	4 sec.

• For [Others]

Item	Resolution (W x H)	Video + audio bit rate	Frame rate	Sample rate	Key frame interval
HD Bandwidth -Flash	1280 x 720	1,500 kbps + 128 kbps	30 fps or 25 fps ¹⁾	44,100 Hz	5 sec.
High Bandwidth -Flash	960 x 540	1,200 kbps + 128 kbps	30 fps or 25 fps ¹⁾	44,100 Hz	5 sec.
Medium Bandwidth -Flash	640 x 360	800 kbps + 128 kbps	30 fps or 25 fps ¹⁾	44,100 Hz	5 sec.
Low Bandwidth -Flash	426 x 240	500 kbps + 128 kbps	30 fps or 25 fps ¹⁾	44,100 Hz	5 sec.

1) Depending on the [System Setup] > [Video Setup] > [System] > [System Format] setting (page 104), the frame rate will be as follows.

Setting	Frame rate
1080 50i	25 fps
1080 60i	30 fps

VOD recording format

Extension	.f4v
Video codec	H.264 Frame size: 960 x 540 Frame rate: 30/25 fps based on system settings Bit rate: 800/1500 kbps Key frame interval: 2 sec.
Audio codec	AAC Sample rate: 48,000 Hz Bit rate: 96/192 kbps
Recording source	Video: PGM or AUX Audio: PGM or MIX
Maximum recording time	360 minutes per file

Supported external drive file systems

NTFS, HFS+, FAT, FAT32, exFAT

Tip

When exporting files that exceed 4 GB in size, format the external drive on a computer using the exFAT file system beforehand.

File system that can be formatted on the unit

FAT32 only

Tip

This unit does not support formatting of external drives that exceed 2 TB in size.

Data Saved to Projects

Main screen

Item		Can be saved
Location	Setting	
[Input] / [Scene]	Tab selections	Yes
[Input] list	Material list	Yes
[Scene] list	Material list	Yes
[Option] menu	List display	Yes
[Camera] list	Preset list	Yes
[Title 1] / [Title 2] list	Material list	Yes
[Effect] list	Effect list	Yes
[Logo 1] / [Logo 2] list	Material list	Yes
[AUX] list	Material list	Yes
	Material selection	Yes
[Transition] list	Material list	Yes
	Material selection	Yes
Transition rate	Time selection	No
[PGM] viewer	Video display	No
[NEXT] viewer	Video display	No
	Selection of adjustment handles overlaid in the [NEXT] viewer	No
Titler	Various settings	No

Sub screen

Item		Can be saved
Location	Setting	
Tabs	Tab selection	No
[Audio Mixer] screen	Fader levels [Ch On] for each fader [Monitor Level] Monitor target	No (the level for fader 5 is remembered for each material)
[Access] screen ([Audio Mixer])	[EQ] [Filter] [Limiter/Compressor] [Input Trim] [Pan]	Yes
[Input] screen	[Embedded Audio] [Audio Level]	No (remembered for each material)
[Camera] screen	Controls	No (remembered for each material)
	Various settings for the tracking function	No
[Camera Settings] screen	Various settings	No (remembered for each material)
[Tracking Settings] screen	Various settings	No
[Title 1] / [Title 2] screen	Various settings	No (remembered for each material)
[Effect] screen	Various settings	Yes
[Logo 1] / [Logo 2] screen	Various settings	Yes
[Media Player] screen	Screen displays	No
[Recording] screen	Various settings	Yes
	[Custom Settings]	No
[File Manager] screen	Screen displays	No
	Various materials	No
[System Setup] menu	[Language]	Yes
	[Date/Time]	No
	[Network]	Yes
	[Video Setup]	Yes
	[Audio Setup]	Yes
	[Others]	Yes
	[LCD Backlight]	Yes
	[Project]	No
	[About Anycast]	No
	[Service Log]	No

Item		Can be saved
Location	Setting	
Virtual keyboard	Page selection Mode selection Shift Caps Lock	No

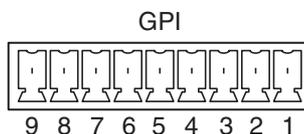
External Keyboards

- 101-key and 104-key English external keyboards are supported.
- The Ctrl key and other control keys may be disabled in some cases.

Connector Pin Assignments

GPI connector

9-pin

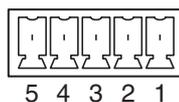


Pin No.	Description
1	(Reserved)
2	(Reserved)
3	(Reserved)
4	(Reserved)
5	GPI OUT 1 On: Short, Off: Open
6	GPI OUT 2 On: Short, Off: Open
7	GPI OUT 3 On: Short, Off: Open
8	GPI OUT 4 On: Short, Off: Open
9	GND

VISCA connector

RS-422, 5-pin

VISCA RS-422

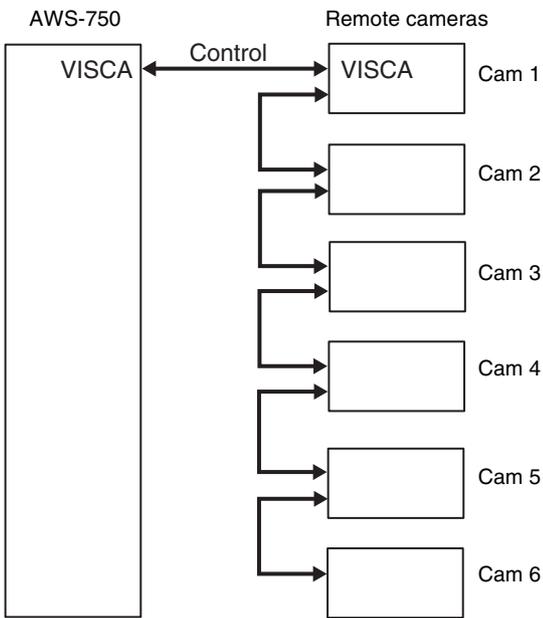


Model number Phoenix Contact: MC 1,5 / 5-ST-3,5

Note

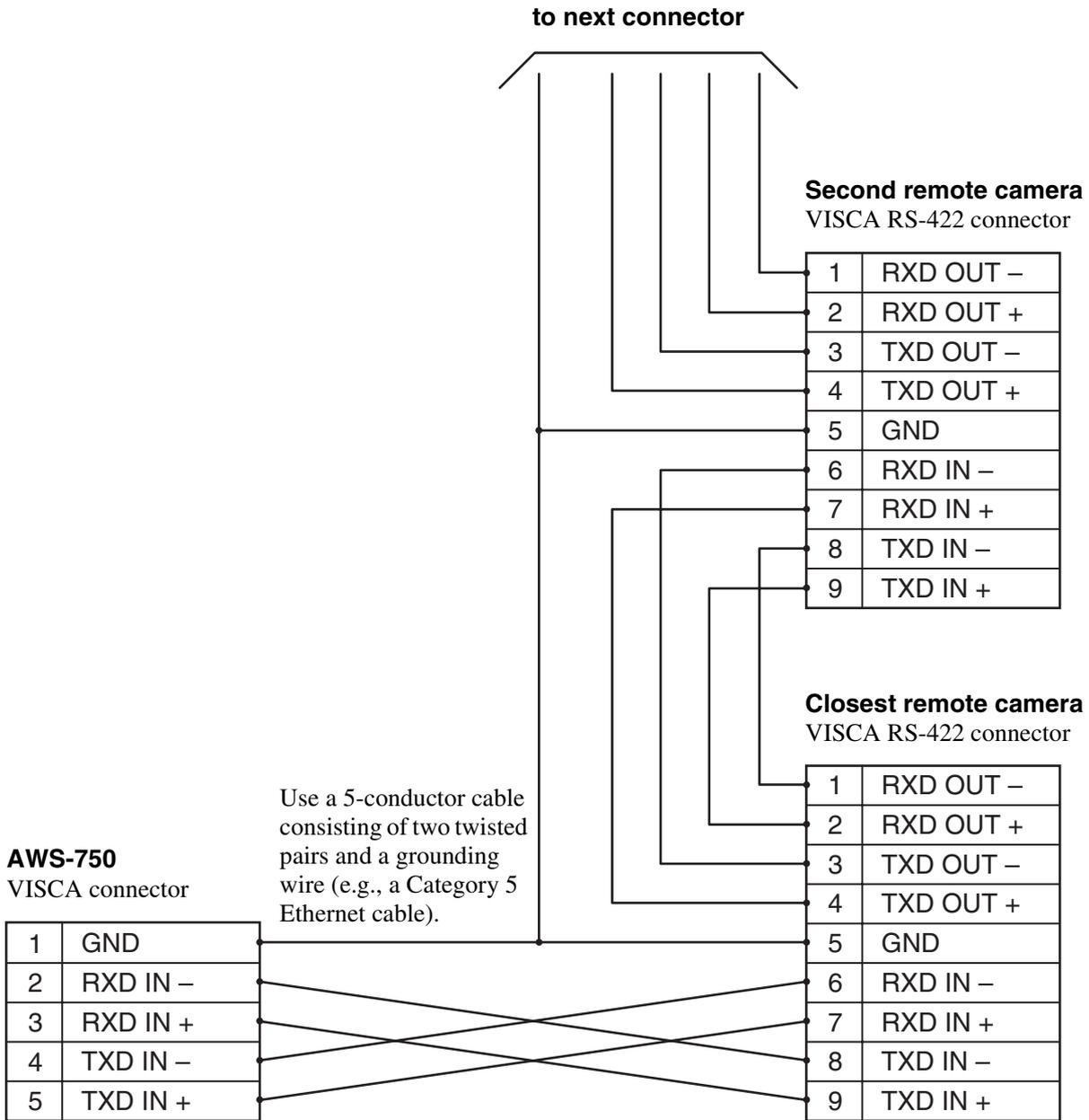
As the baud rate is fixed at 38400 bps, configure the setting on the remote camera side.

Connection example:

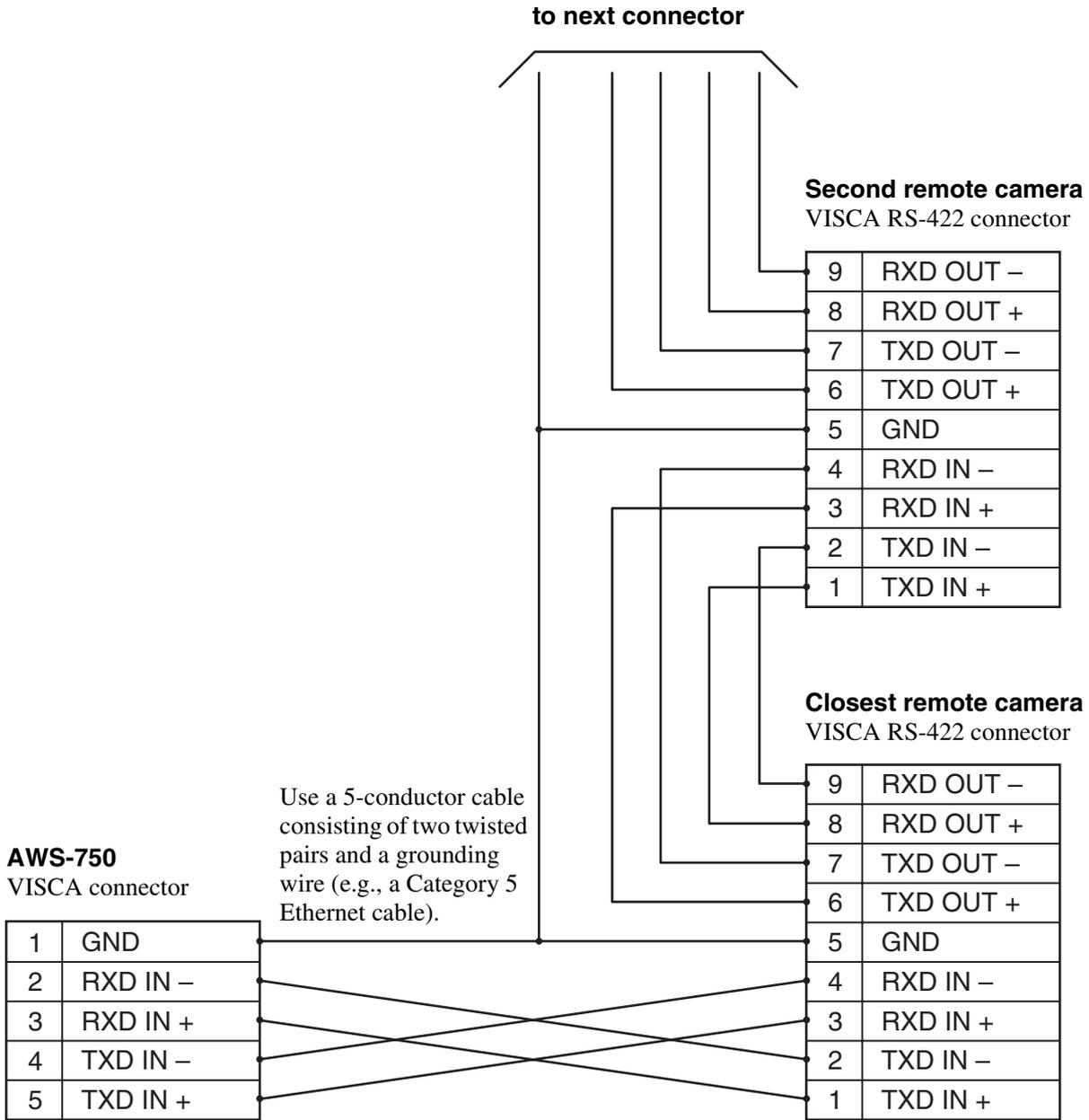


VISCA RS-422 connection diagram

- For the BRC-H700, BRC-H900, BRC-Z330, or BRC-Z700



- For the SRG-300H/301H, SRG-300SE/301SE, EVI-H100S, EVI-H100V



General Limitation on Transitions

In the following types of composites, videos may cut to each other despite transitions being configured or composites may not be displayed during transitions.

In addition, if even one of the following conditions is met, the other transitions may also be affected.

Condition 1

A transition is executed within the same title.

Example: Title 1 (ABC) → Title 1 (XYZ)

Condition 2

Both of the background videos in the [Input] list are still image files.

Example: Input [1] (123) → Input [1] (789)

Condition 3

A transition is executed with two effect patterns.

Example 1: Pattern_03 → Pattern_04

Example 2: Pattern_03 (adjustment A) → Pattern_03 (adjustment B)



Glossary

Black burst signal

A reference signal used to achieve external synchronization (GenLock). This is a black composite signal.

Chroma key

A method of creating a composite picture by deleting components that contain a specified color (chroma). Typically, a subject is captured in front of a blue background, commonly referred to as a “blue screen,” and the blue background is removed, leaving only to subject for compositing.

Color bars

A test signal which displays vertical colored stripes on a monitor. Used to adjust the hue and saturation of colors on video cameras and monitors.

Compressor

A function which smoothly limits audio signals exceeding a certain threshold. Used to prevent distortion in high-level audio signals.

Default gateway

A router or computer on a network which serves as an entrance to an outside network. Other computers in the network access the outside network via the default gateway.

Delay

A function which delays audio to bring it into synchronization with video, used when video is input later than the corresponding audio.

DHCP (Dynamic Host Configuration Protocol)

A protocol for automatically assigning IP addresses to devices when they connect to a network, and recovering the addresses when they disconnect.

DNS (Domain Name System)

A system which allows Internet domain names to be translated into IP addresses.

Embedded audio

Audio that is included in a video signal.

Encoding

Data rate conversion that uses compression technology and is performed based on the transmission bandwidth and the capacity of the recording media.

Equalizer (EQ)

A function that controls levels for selected audio frequencies in the high, mid, and low regions. Used to strengthen or suppress specific frequencies in order to improve the audio.

Filter

A function that removes signals that are within a specified frequency region. Used to remove cable noise and other kinds of noise.

GPI (General Purpose Interface)

A general-purpose interface that controls connected devices by switching the logic of that port on or off.

HDCP (High-bandwidth Digital Content Protection)

A form of copyright protection that encrypts digital signals as they travel across connections and prevents unauthorized copying of content.

HDMI

A transmission interface standard for transferring video and audio as a digital signal.

Host name

A name assigned to a computer on a network to make it easier to identify. Usually consisting of alphanumeric characters, although conventions differ according to the system.

Key frames

When video data is compressed, frames that store enough data to compose the complete image and frames that store only the small changes between frames exist. Key frames refer to the former and exist as I pictures in MPEG and IDR frames in H.264.

The interval between key frames is configured during compression by the number of frames or by seconds. You can configure this with the [Key Frame Interval] setting in the stream encoding settings.

Limiter

A function which prevents audio levels from exceeding a specified threshold. Used to suppress peaks in audio with large differences in amplitude.

Logo

A permanently visible mark that is shown on videos and used to indicate copyrighted material, for example.

Mix

A new picture is mixed into an old picture, eventually replacing the old picture.

Mixdown

Combining audio inputs from multiple channels into one channel.

Monitor

To listen to audio and view video. Or a device for viewing and listening.

Oscillator

A transmitter that oscillates at a fixed frequency, such as a sine wave. This unit is equipped with an internal audio oscillator.

Pan

In audio, to adjust the left/right audio balance. In video, to move the camera to the left and right.

PFL (Pre-Fader Listen)

Monitoring audio before level adjustments with the audio channel faders. Used to check the input audio. On this system, pan and level control are not applied to PFL audio, even if trim, filter, EQ, pan, and level control settings have been made.

Picture-in-Picture (PinP)

An effect achieved by embedding a video within another video.

Prefix length

IP addresses, which act as labels for devices in a network, consist of a network portion that represents the subnet¹, and a host portion that

represents each device. A prefix length is the length of the network portion represented as the number of bits from its beginning, and is written as “/ <numerical value>.”

- 1) A subnet is part of a larger network that is divided into smaller subnetworks.

Preset

A function which allows a set of electrical settings to be saved and reproduced as a single set of data. This system has a camera preset function.

Program (PGM)

The final video and audio signals output from this system, after the application of effects. The video seen by viewers.

RGB

An output signal format which displays pictures by using the three primary colors: Red, Green, and Blue.

Serial digital interface (SDI)

A standard for transmitting uncompressed digital video signals and embedded audio over a single coaxial cable.

SNMP (Simple Network Management Protocol)

A protocol that allows you to monitor and control connected devices via a network. Using SNMP provides benefits, such as being able to quickly determine faulty devices when network errors occur.

Streaming

A method of transferring audio and data over a network for real-time playback.

Threshold

The level at which a limiter or compressor is activated.

Thumbnail

An image which has been reduced in size for the purpose of displaying a list of many images.

Tilt

To move a camera up and down.

Transition

To switch the video and audio within a specified duration.

Trim

To adjust the input level of audio signals. These adjustments are performed at the input stage, before level adjustments with the audio channel faders.

TRS

A jack with three contacts; the tip, ring, and sleeve.

VISCA

A protocol developed by Sony which allows video equipment to be connected to computers.

VOD (Video On Demand)

A system that allows video content to be placed on a network, which viewers can access freely.

Wipe

The next picture moves in to replace the current picture, as if wiping the old picture away.

XLR

A 3-pin connector, often called a Cannon connector. A locking mechanism keeps the connector securely connected even when the cable is pulled. Very stable despite its simple structure, and often used on microphones to suppress handling noise.



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