

4K/12G-SDI Compatible Live Switcher



* When NDI I/F Unit AV-UHS5M6G (sold separately) is used

Achieving 4K Video Production with a Compact, Versatile Switcher



This feature-rich, multi-format switcher for 4K and HD productions extends Panasonic's legacy of producing high-quality, reliable switchers.

With its compact, integrated body, this live switcher is equipped with many functions found in high end models and delivers 4K video production with the same operability as HD.

In addition to fixed installations such as university lecture halls and corporate conference rooms, the AV-UHS500 is well suited for remote production. Designed for easy portability and simple set up it should become a favorite tool for staging and other event production.

- **Versatile 12G-SDI/3G-SDI/HDMI interface support**
- **UHD/HD multi-format support**
- **Expanded functions with two optional unit slots**
- **Standard number of inputs/outputs: 8 inputs / 7 outputs, Maximum number of inputs/outputs (with optional units): Maximum 16 inputs / Maximum 15 outputs**
- **Five keys for excellent image effects**
- **Up/down conversion function, HDR/SDR conversion function and ITU-R BT.2020/BT.709 conversion function; Scaler function; Color correction function support**
- **Four AUX buses**
AUX 1 and 2 have MIX transition functions, DSK 1 and 2 can also be assigned
- **Camera control for Panasonic Integrated PTZ Cameras**
- **Animation Wipe**
Combine video memory data with a transition to create animation wipes
- **Supports TSL5.0**
The TSL5.0 protocol can be used to send Tally information, bus transitions, and source name information to external devices connected via a network
- **ROI (Region of Interest) function**
The ROI function creates four crop (cut out) signals (ROI sources) that can be used as input sources from a single input source
- **Audio source selection function**
The AV-UHS500 includes a mode that enables the audio of a selected video input source to be multiplexed with another video signal and output in addition to the audio follow video
- **Audio Input Selection NEW**
Any audio source even embedded in other video inputs can be assigned to video input. In addition, the embedded audio on KEY can be toggled on/off when KEY is activated*
Note: Scheduled from January 2025 with firmware update.
- **NDI® input and output support (with optional unit)**
NDI® resource input and output are supported when an AV-UHS5M6G unit is attached
- **Software Control Panel AV-SF500**
Remote operation is available from and external PC or Mac (Free software)

IP transmission through NDI®

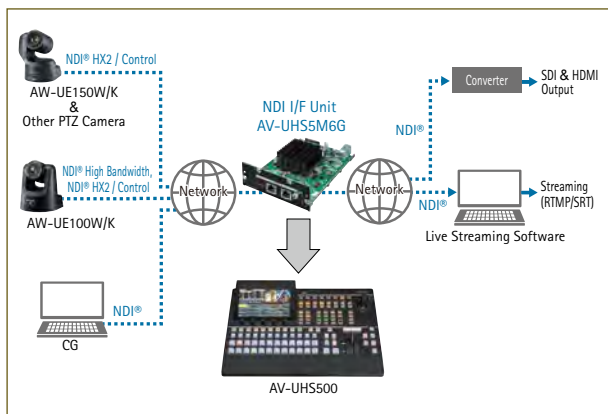


NDI I/F Unit
AV-UHS5M6G

This optional unit provides NDI® support for the AV-UHS500 and is installed into one of the optional unit slots on the main unit. This enables use of IP transmission resources through NDI® High Bandwidth, NDI® HX1 and NDI® HX2 in addition to conventional SDI and HDMI signals, without the need for external converters. NDI® High Bandwidth signal output can also be forwarded to other devices that support NDI® and checked from remote locations. Up to two units can be attached to each AV-UHS500, providing expansion to a maximum of eight NDI® input lines and four NDI® output lines (when in 2K mode).

Remote live production

When used in combination with Panasonic cameras that support NDI® High Bandwidth or NDI® HX1 or NDI® HX2 operations from video transmission to camera control and tally output can be performed with a single LAN cable. Both video transmission and camera control operation can be performed remotely, making remote live video production a reality.



NDI® transmission with up to four inputs and two outputs per unit

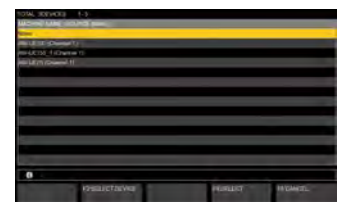
Number of NDI® inputs/outputs (per NDI I/F Unit)

| System Mode | Input | | Output |
|-------------|---------------------|-------------------|---------------------|
| | NDI® High Bandwidth | NDI® HX1/NDI® HX2 | NDI® High Bandwidth |
| 2K | 4 | - | 2 |
| | 3 | 1 | |
| | 2 | 2 | |
| 4K | 1 | - | 1 |

* Use an NDI® signal format that matches the system format.
When the system mode is set to 1080i, 1080p NDI® signals can also be used.

NDI® resource search and selection made easy

NDI® resources on the network can be searched for and selected from a list with ease. No complex network configuration is required.



Simple direct switching from remote locations with touch and mouse control

Software Control Panel

AV-SF500 (Free download, Windows and Mac versions available)

The AV-UHS500 control panel has been developed as a PC application. Video and images can be displayed on the application with built-in MJPEG codec on the AV-UHS500. Resource videos can be viewed while working, providing easy, intuitive control, and can also be used as a sub panel.

Example system construction



* For information on downloading the Software Control Panel, see the Live Switcher AV-UHS500 product page on the Panasonic website (<https://pro-av.panasonic.net/en/>).

Mode selection

- Control Mode
General operations
- Menu Panel
Menu operations
- Video Status
Resource list display
- Macro
Macro recording, playback and editing
- Maintenance
Connections and NTP synchronization

Output window
PGM/PVW video display

Operation panel
Transition operations
KEY status display

Resource window
Resource display

Operation menu
Operation target switching

Menu Panel

Video Status

Macro

Maintenance

Exceptional Support for Mixed 4K and HD Operation

12G-SDI/3G-SDI/HDMI/NDI® Support

12G-SDI that can transmit 4K video with as single coaxial cable is supported as standard, and it provides easy setup and operation with high quality 4K video production. In addition, HDMI support allows direct input of data from a PC for live production such as during seminars and lectures without the need for a separate HDMI converter. The addition of an NDI I/F Unit AV-UHS5M6G (optional) also enables handling of NDI®, which is part of Video over IP. Various video signals can be handled directly, enabling immediate creation of a range of video effects.

UHD/HD Multi-Format Support

Multiple 4K/3G/HD formats are supported, including 2160/59.94p and 1080/59.94p.

UHD/HD function comparison

| | AV-UHS500 | |
|-------|--|-------------------------|
| | 4K(UHD) mode Option (AV-UHS5M5G) | 2K(HD) mode Standard |
| DVE | | |
| Clip | 1ch | 2ch |
| Still | 1ch | 2ch |

Frame Synchronizer for All Inputs

All input channels feature a built-in frame synchronizer. The Genlock function also supports synchronizing systems based on external sync signals (Black burst or Tri-level).

Video Input/Output Support

Input

| Function | Standard input | | | | | | | | | | Optional input | | | | | | | | | | | |
|-----------------------------|-----------------|-----------------|-----------------|-----------------|---|---|---|---|----------------|----------------|--|---|---|---|---|---|---|--------------------------------------|---|---|---|---|
| | SDI input | | | | | | | | HDMI input | | when SDI Input Unit AV-UHS5M1G is used | | | | when HDMI Input Unit AV-UHS5M3G is used | | | when NDI I/F Unit AV-UHS5M6G is used | | | | |
| | 1 ^{*1} | 2 ^{*1} | 3 | 4 | 5 | 6 | 7 | 8 | 1 ¹ | 2 ¹ | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 1 | 2 | 3 | 4 | |
| 4K Up-converter | ✓ ^{*2} | ✓ ^{*2} | ✓ ^{*2} | ✓ ^{*2} | ✓ | ✓ | ✓ | ✓ | - | - | ✓ | ✓ | ✓ | ✓ | - | - | - | - | - | - | - | - |
| HD Down-converter | ✓ ^{*2} | ✓ ^{*1} | ✓ ^{*2} | ✓ ^{*2} | ✓ | ✓ | ✓ | ✓ | - | - | ✓ | ✓ | ✓ | ✓ | - | - | - | - | - | - | - | - |
| Frame synchronizer | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Scaler | - | - | - | - | - | - | - | - | ✓ | ✓ | - | - | - | - | ✓ | ✓ | ✓ | - | - | - | - | - |
| BT.709 ↔ BT.2020 conversion | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | - | - | - | - | - |
| HDR ↔ SDR conversion | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | - | - | - | - | - |
| Color correction | - | - | - | - | ✓ | ✓ | ✓ | ✓ | - | - | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | - | - | - | - | - |

*1: SDI inputs 1 and 2 and HDMI inputs 1 and 2 cannot be used simultaneously because of their exclusive functions. Select from the menu.

*2: Standard SDI inputs 1-4 only support simple conversion.

Output

| Function | Standard output | | | | | | | | Optional output | | | | | | | | | | | | |
|-----------------------------|-----------------|---|---|---|---|-------------|---|---|---|---|---|---|--|---|---|--------------------------------------|---|---|---|---|---|
| | SDI Output | | | | | HDMI Output | | | when SDI Output Unit AV-UHS5M2G is used | | | | when HDMI Output Unit AV-UHS5M4G is used | | | when NDI I/F Unit AV-UHS5M6G is used | | | | | |
| | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 1 | 2 | 3 | 4 | | |
| 4K Simple down-converter | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | - | - | - | - | - | - | - | - | - |
| Scaler | - | - | - | - | - | - | - | - | - | - | - | - | ✓ | ✓ | ✓ | - | - | - | - | - | - |
| BT.709 ↔ BT.2020 conversion | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | - | - | - | - | - | - |
| HDR ↔ SDR conversion | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | - | - | - | - | - | - |

Eight Standard SDI Inputs, Two Standard HDMI Inputs*¹ Five Standard SDI Outputs, Two Standard HDMI Outputs

The number of inputs and outputs during HD operation can be maintained in 4K. The number can also be increased if required through the use of two optional unit slots.

| | | |
|-------------------|------------|--|
| Number of inputs | 12G/3G-SDI | 8 inputs, standard / 16 inputs, maximum ^{*2} |
| | HDMI | 2 inputs, standard ^{*1} / 8 inputs, maximum ^{*2} |
| Number of outputs | 12G/3G-SDI | 5 outputs, standard / 13 outputs, maximum ^{*2} |
| | HDMI | 2 outputs, standard / 8 outputs, maximum ^{*2} |

*1: SDI input is reduced by the number of HDMI input channels used. HDMI input is not compatible with HDCP (input not possible).

*2: When the optional unit is installed. For details, see page 10.

Various Built-in Conversion Functions, Including Up/Down Conversion*¹

Various conversion functions are provided as standard. No external conversion box is required.

- Up/down conversion function
- HDR/SDR conversion function
- ITU-R BT.2020/BT.709 conversion function
- Scaler function
- Color correction function

*1: The NDI I/F Unit AV-UHS5M6G is not supported.

Various Image Effects Achieved with Enhanced Keyer and Memory Functions

Versatile Transitions and Effects

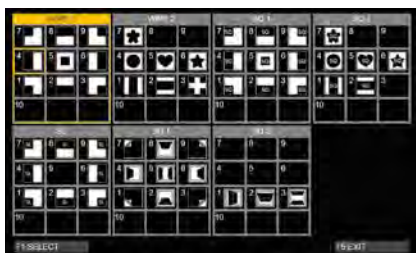
In addition to standard wipe, mix, and cut transitions, a variety of DVE transitions patterns using two channels, such as reduce, slide, squeeze and 3D wipe are available in HD mode. DVE transitions can also be used in 4K by adding a 4K DVE Unit AV-UHS5M5G.



Circle wipe



Page turn



Wipe, squeeze, slide, 3D wipe menu (in HD mode)

Five Keyers

A luminance key, linear key, chroma key, full key and PinP are provided for three channels, plus two channels of downstream key (DSK). Chroma keying employs the Primatte® algorithm, which is widely used as a plug-in for nonlinear editors. The same excellent Primatte® quality that is used worldwide for movies, TV programs, music videos and commercials is achieved by the live switcher's real time processing.

4K mode (standard)

| | Luminance key Linear key | Full key | Mask | Edge | Chroma key | PinP | DVE |
|------|-----------------------------|----------|------|------|------------|------|-----|
| Key1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | — |
| Key2 | ✓ | ✓ | ✓ | ✓ | — | — | — |
| Key3 | ✓ | ✓ | ✓ | — | — | — | — |
| DSK1 | ✓ | ✓ | ✓ | — | ✓ | ✓ | — |
| DSK2 | ✓ | ✓ | ✓ | — | — | — | — |

HD mode/4K mode (when 4K DVE Unit AV-UHS5M5G is used)

| | Luminance key Linear key | Full key | Mask | Edge | Chroma key | PinP | DVE |
|------|-----------------------------|----------|------|------|------------|------|-----|
| Key1 | ✓ | ✓ | ✓ | ✓ | ✓ | — | ✓ |
| Key2 | ✓ | ✓ | ✓ | ✓ | — | ✓ | — |
| Key3 | ✓ | ✓ | ✓ | — | — | — | — |
| DSK1 | ✓ | ✓ | ✓ | — | ✓ | ✓ | — |
| DSK2 | ✓ | ✓ | ✓ | — | — | — | — |

Four AUX Buses, DSK 1 and 2 Can Also Be Assigned

Two PinP buses and four AUX buses are provided. Borders and software effects can be applied to the PinP buses. In addition to cut transitions, the bus transition function (PinP and AUX buses transition effect) also enables mix transitions (AUX bus 1 and 2 only). Flexible support is achieved by combining AUX buses and M/E sections. DSK 1 and 2 can also be assigned to AUX 1 and 2.

Three independent outputs can be controlled



Video Memory

Two inputs in HD and one input in 4K for still (STILL) or video (CLIP) images can be selected as bus footage. Moving images can be recorded and played back with key signals (with the 1080/59.94i format, approximately 120 seconds/3600 frames). Up to 50 still or video images (up to 50 images or 20 GB for CLIP) can be saved to the internal storage (non-volatile SSD memory). Still images are registered to Play List and can be played in order.

Various Memory Functions for Smooth Live Production

■ Shot memory

Up to 100 background transition patterns, PinP sizes, border widths and other video effects can be registered and recalled. Effect dissolve can be set to ensure smooth switching from the current image to the image or operation registered in the shot memory.

■ Event memory

Up to 64 image effects in sequence can be registered and played back on a timeline using the event memory function. This allows highly expressive consecutive effects to be easily and smoothly executed. Up to 100 event memories can be registered.

■ Macro memory

This function allows recording and playback of a series of operations on the Control Panel. It can also record and playback setting information, such as input/output and keyers, allowing video effects involving complicated operations to be executed easily. Macro memory playback is executed by assigning to the crosspoint buttons.


PTZ Camera Control Function

• See page 10 for supported 4K/HD Integrated Cameras.

The PTZ camera control function enables 4K/HD Integrated Cameras to be controlled from the AV-UHS500.

PTZ camera control

- Number of cameras controlled:**
8 cameras, standard / 16 cameras, maximum (with input from optional unit)
- Camera control:**
Pan, tilt, zoom, focus, iris, preset store, recall, scope, preset speed, AWB mode, AWB execution, paint, OSD menu
- Linking with Camera Controllers:**
Bus transitions can be performed automatically on the AV-UHS500 by selecting a camera using the AW-RP150GJ or AW-RP60GJ Camera Controller. This is convenient when you need to switch between source monitors while using an external camera controller.



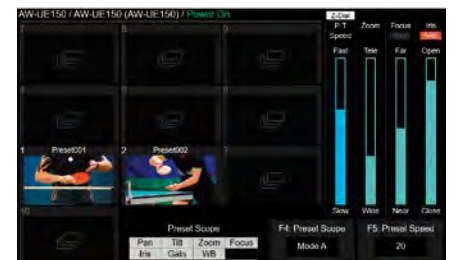
- Preset store/recall
- Speed/zoom control
- Auto/manual iris adjustment
- Auto/manual focus adjustment
- Zoom control
- Zoom out
- Zoom in
- Control camera selection
- CAM bus selection
- Pan/tilt control



4K/HD Integrated Camera control menu screen



4K/HD Integrated Camera control confirmation screen



4K/HD Integrated Camera preset selection screen

Two MultiViewer Functions

Two independent MultiViewer output functions are provided as standard, enabling the display of up to 16 split screens (a total of 10 patterns) on a single screen.

- MultiViewer layout can be selected from a total of 10 patterns, including four split, five split (two patterns), six split (two patterns), nine split, 10 split (two patterns), 12 split*, and 16 split.
- Source names, tallies, audio level meters, clock and safety markers can be displayed.
- The audio level meters can be displayed not only for IN (the source side), but also on the PGM and PVW screen.
- Select between fit mode, in which the video image is the same size as the split frame, and squeeze mode, which places the source name and level meter outside the image.

Split screen configuration examples

| | | | | | |
|----------|----|----------|----|----------|----|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 3 | 4 | 5 | 6 | 7 | 8 |
| 4 split | | 5 split | | 6 split | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| 4 | 5 | 6 | 7 | 8 | 9 |
| 7 | 8 | 9 | 10 | 11 | 12 |
| 9 split | | 10 split | | 12 split | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| 7 | 8 | 9 | 10 | 11 | 12 |
| 13 | 14 | 15 | 16 | 17 | 18 |
| 12 split | | 16 split | | | |

* Does not operate at 720p.

12 split screen configuration



Fit mode



Squeeze mode



* The screen is simulated.

ROI (Region of Interest) function

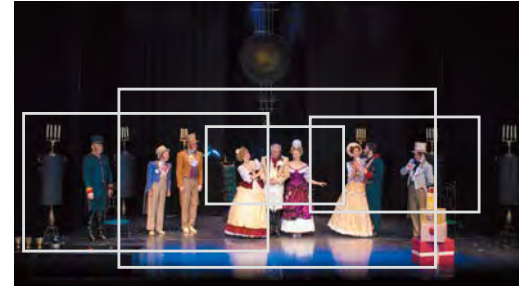
* ROI function may not work with some video format input. Refer Input Signal Support list for the details.

The AV-UHS500 includes a ROI function that creates a maximum of four crop (cut out) signals (ROI sources) that can be used as input sources from a single input source. The ROI function can be used from standard SDI input terminals 5 to 8 and an SDI/HDMI input unit attached to the optional slot.

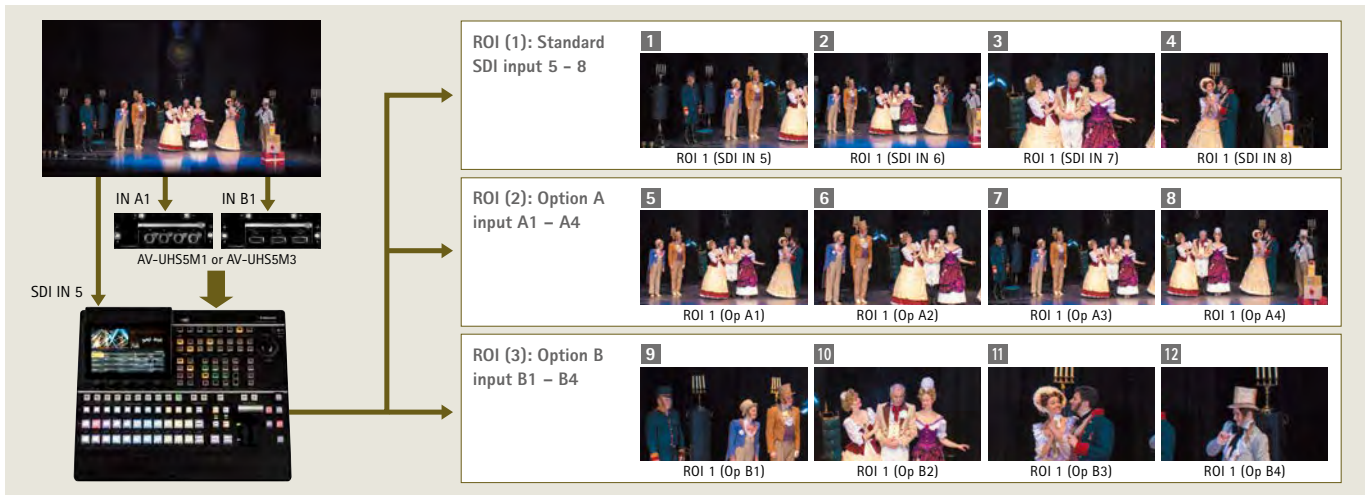
<Main features>

- A maximum of 12* ROI sources (up to four ROI sources per video input) can be used.
- As with pan/tilt/zoom operations, the position and size can be adjusted and recorded for each material (a maximum of 10 can be recorded per ROI).
- As with pan/tilt/zoom operations, smooth movement is possible between the recorded positions.
- Available zoom ratios are 10% (x10) to 100% (x1).

* When an SDI or HDMI input unit is attached to optional slot A or B



* The above frames illustrate the cropping screen and are not actually displayed on the screen.



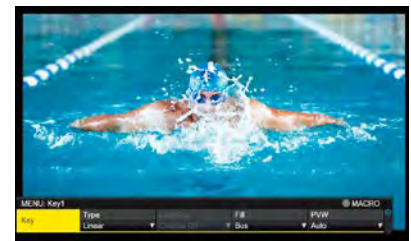
GUI menu screen examples



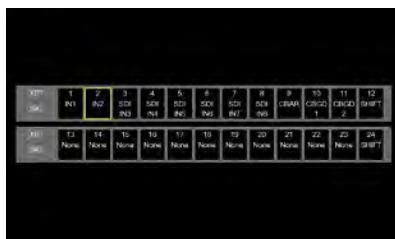
Menu display in matrix type



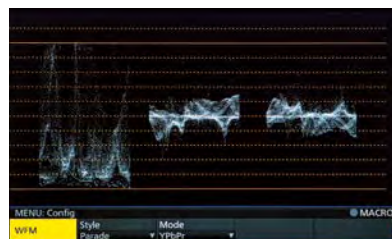
Video display on inset screen



One line of menu display on an image monitor



Assign of crosspoint



WFM display



VECTOR display

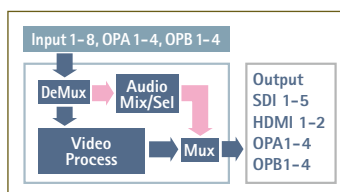
Audio source selection function

The audio source selection function enables the audio of a selected video input source to be multiplexed with another video signal and output in addition to the audio follow video. A separate audio source can be selected for AUX1 to 4, PGM, PWW, CLN, and MV.

<Selectable audio sources>

IN1, IN2, SDI IN3-8,
IN-A1-A4, IN-B1-B4

* Audio is only multiplexed when Ancillary is set to ON.



SDHC/SDXC Memory Card Slot



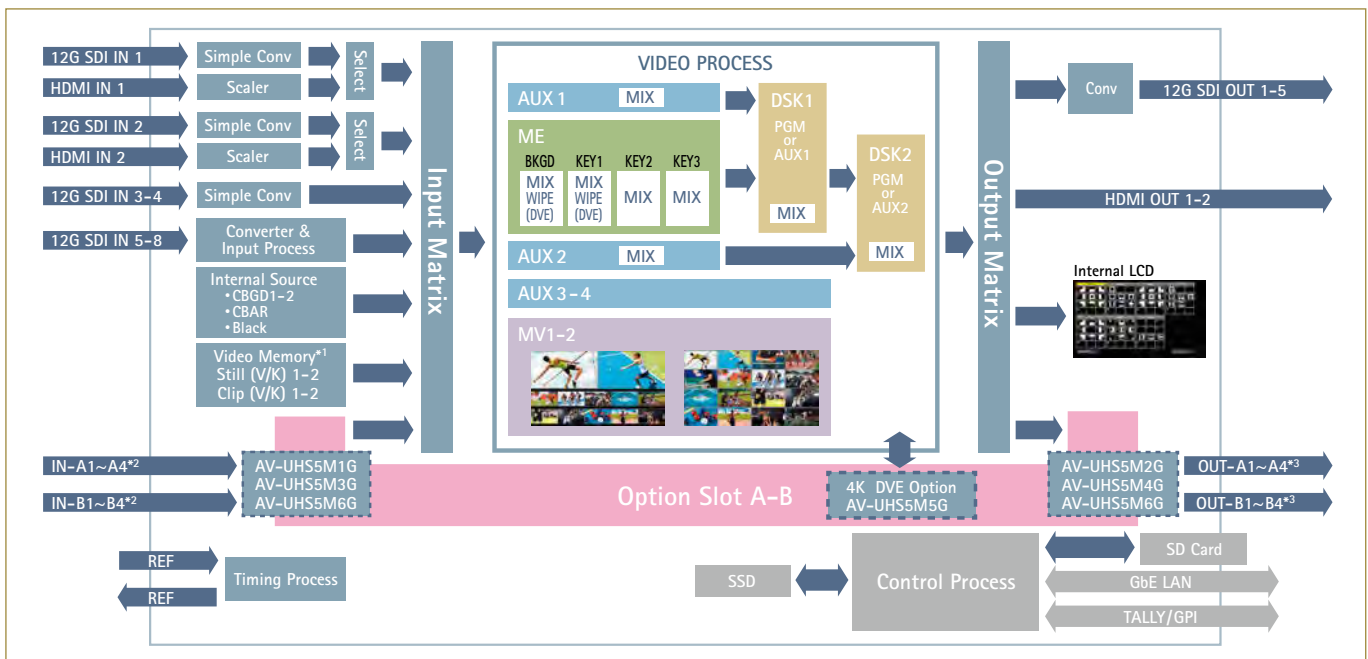
Video memory, shot memory data, event memory data, and setup data can be saved using an SDHC/SDXC memory card.



178 mm (7 inches) LCD Monitor with Excellent Visibility and Easy-to-Use Control Panel



Block Diagram



*1: 1 only for still/clip in 4K mode. *2: A1-A3 and B1-B3 when the AV-UHS5M3G is attached. A1 and B1 when the AV-UHS5M6G is attached and 4K mode is selected. *3: A1-A3 and B1-B3 when the AV-UHS5M4G is attached. A1-A2 and B1-B2 when the AV-UHS5M6G is attached, A1 and B1 when 4K mode is also selected.

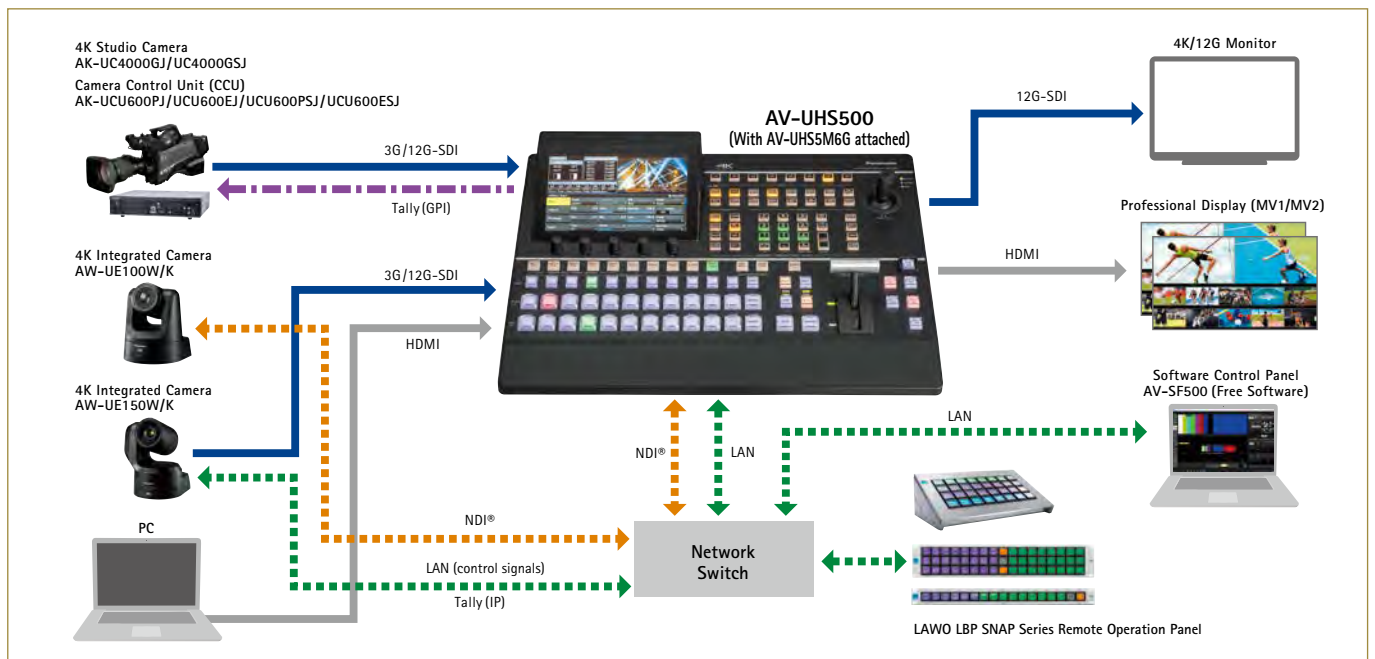
Input Signal Support

● : Without format conversion ○ : With format conversion △ : Only when in ROI mode

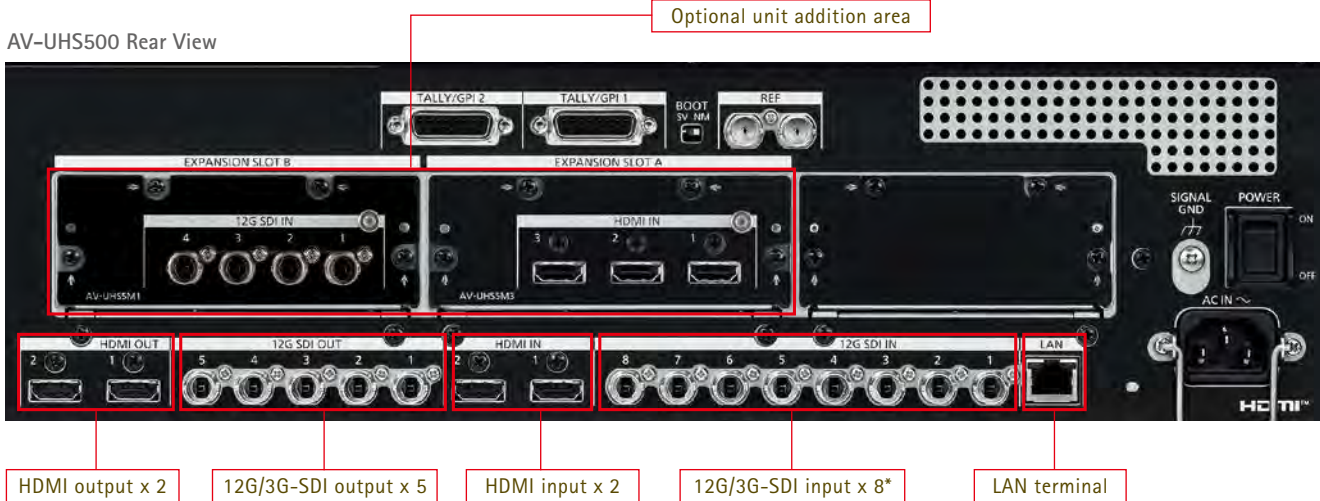
| Input Signal | | System Format | | | | | | | | | | | | | | | | | |
|---------------------|-------------|---------------|----------|------------|----------|----------|------------|------------|----------|------------------------------|------------------------|------------------------|------------------------------|-------------|----------|-----------|---------|-----|---|
| | | 4K | | | | | | 2K | | | | | | | | | | | |
| Resolution | V frequency | 2160/5994p | 2160/50p | 2160/2997p | 2160/25p | 2160/24p | 2160/2398p | 1080/5994p | 1080/50p | 1080/29.97p 1080/29.97PsF | 1080/25p 1080/25PsF | 1080/24p 1080/24PsF | 1080/23.98p 1080/23.98PsF | 1080/59.94i | 1080/50i | 720/5994p | 720/50p | | |
| SDI | 2160p | 59.94Hz | ● | - | - | - | - | - | ○ | - | - | - | - | - | ○ | - | ○ | - | |
| | | 50.00Hz | - | ● | - | - | - | - | - | ○ | - | - | - | - | - | ○ | - | ○ | |
| | | 29.97Hz | - | - | ● | - | - | - | - | - | ○ | - | - | - | - | - | - | - | |
| | | 25.00Hz | - | - | - | ● | - | - | - | - | - | ○ | - | - | - | - | - | - | |
| | | 24.00Hz | - | - | - | - | ● | - | - | - | - | ○ | - | - | - | - | - | - | |
| | 1080p | 59.94Hz*2 | ○ | - | - | - | - | - | ● | - | - | - | - | - | ○ | - | ○ | - | |
| | | 50.00Hz*2 | - | ○ | - | - | - | - | - | ● | - | - | - | - | - | ○ | - | ○ | |
| | | 29.97Hz | - | - | ○ | - | - | - | - | - | ● | - | - | - | - | - | - | - | |
| | | 25.00Hz | - | - | - | ○ | - | - | - | - | - | ● | - | - | - | - | - | - | |
| | | 24.00Hz | - | - | - | - | ○ | - | - | - | - | - | ● | - | - | - | - | - | |
| | 1080PsF | 29.97Hz | ○*1 | - | ○ | - | - | - | ○*1 | - | ● | - | - | - | ○*1 | - | ○*1 | - | |
| | | 25.00Hz | - | ○*1 | - | ○ | - | - | - | ○*1 | - | ● | - | - | - | ○*1 | - | ○*1 | |
| | | 24.00Hz | - | - | - | - | ○ | - | - | - | - | - | ● | - | - | - | - | - | |
| | 1080i | 59.94Hz | ○*1 | - | △ | - | - | - | ○*1 | - | ○ | - | - | - | ●*1 | - | ○*1 | - | |
| | | 50.00Hz | - | ○*1 | - | △ | - | - | - | ○*1 | - | ○ | - | - | - | ●*1 | - | ○*1 | |
| | 720p | 59.94Hz | ○ | - | - | - | - | - | ○ | - | - | - | - | - | ○ | - | ● | - | |
| | | 50.00Hz | - | ○ | - | - | - | - | - | ○ | - | - | - | - | ○ | - | ○ | ● | |
| | HDMI | 2160p | 59.94Hz | ● | - | - | - | - | - | ○ | - | - | - | - | - | ○ | - | ○ | - |
| | | | 50.00Hz | - | ● | - | - | - | - | - | - | ○ | - | - | - | - | ○ | - | ○ |
| | | | 29.97Hz | - | - | ● | - | - | - | - | - | - | ○ | - | - | - | - | - | - |
| 25.00Hz | | | - | - | - | ● | - | - | - | - | - | - | ○ | - | - | - | - | - | |
| 24.00Hz | | | - | - | - | - | ● | - | - | - | - | - | ○ | - | - | - | - | - | |
| 1080p | | 59.94Hz | ○ | - | - | - | - | - | ● | - | - | - | - | - | ○ | - | ○ | - | |
| | | 50.00Hz | - | ○ | - | - | - | - | - | ● | - | - | - | - | - | ○ | - | ○ | |
| | | 29.97Hz | - | - | ○ | - | - | - | - | - | ● | - | - | - | - | - | - | - | |
| | | 25.00Hz | - | - | - | ○ | - | - | - | - | - | ● | - | - | - | - | - | - | |
| | | 24.00Hz | - | - | - | - | ○ | - | - | - | - | - | ● | - | - | - | - | - | |
| 1080i | | 59.94Hz | ○*1 | - | - | - | - | - | ○*1 | - | ○*1 | - | - | - | ●*1 | - | ○*1 | - | |
| | | 50.00Hz | - | ○*1 | - | - | - | - | - | ○*1 | - | ○*1 | - | - | - | ●*1 | - | ○*1 | |
| 720p | | 59.94Hz | ○ | - | - | - | - | - | ○ | - | - | - | - | - | ○ | - | ● | - | |
| | | 50.00Hz | - | ○ | - | - | - | - | - | ○ | - | - | - | - | ○ | - | ○ | ● | |
| 3840 x 2160 (4K) | | 60.00Hz | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | |
| 2560 x 1440 (WQHD) | | 60.00Hz | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | |
| 1920 x 1200 (WUXGA) | 60.00Hz | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | | |
| 1600 x 1200 (UXGA) | 60.00Hz | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | | |
| 1680 x 1050 (SXGA+) | 60.00Hz | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | | |
| 1280 x 1024 (SXGA) | 60.00Hz | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | | |
| 1280 x 768 (WXGA) | 60.00Hz | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | | |
| 1024 x 768 (XGA) | 60.00Hz | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | | |

*1: ROI mode is not supported. *2: 3G-SDI Level-B input signals are not supported when in ROI mode.
 * The NDI I/F Unit AV-UHS5M6G does not provide convertor functions. Use an NDI® signal format that matches the system format. When the system mode is set to 1080i, 1080p NDI® signals can also be used.

System Configuration



Expandable with a Variety of Functions as Required Using Six Optional Units



* SDI input is reduced by the number of HDMI input channels used.

Optional Units



SDI Input Unit

AV-UHS5M1G

12G/3G-SDI x 4 inputs
Frame synchronizer, up-conversion, color correction, SDR/HDR conversion and ITU-R BT.709/BT.2020 conversion compatible



SDI Output Unit

AV-UHS5M2G

12G/3G-SDI x 4 outputs
Down-conversion, HDR/SDR conversion and ITU-R BT.2020/BT.709 conversion compatible



HDMI Input Unit

AV-UHS5M3G

HDMI 2.0 x 3 inputs
Scaler for each channel



HDMI Output Unit

AV-UHS5M4G

HDMI 2.0 x 3 outputs
Scaler for each channel



4K DVE Unit

AV-UHS5M5G

DVE function in 4K mode
(background transition x 1, key transition x 1)



NDI I/F Unit

AV-UHS5M6G

LAN terminal (1 Gb) x 2
NDI® support with up to 4 inputs and 2 outputs

Related Equipment

As of January, 2025



4K/HD Integrated Camera

Panasonic camera systems that can be controlled and linked via AV-UHS500

| | |
|-------------|-------------|
| AW-UE160W/K | AW-UE50W/K |
| AW-UE150A* | AW-UE40W/K |
| AW-UE150W/K | AW-UE30W/K* |
| AW-UE100W/K | AW-UE20W/K |
| AW-UE80W/K | AW-UR100 |

Software

IP address is configurable
Media Production Suite*

*Scheduled from end January 2025.

For details, see the Panasonic website (<https://pro-av.panasonic.net/en/>).

Operation-verified 3rd party devices

As of April, 2022

Lawo LBP SNAP Series
Remote Operation Panel



Contact

LAWO AG

TEL : +49 7222 1002 0
WEB : www.lawo.com
E-Mail : sales@lawo.com

Specifications

As of January, 2025

Live Switcher AV-UHS500

General

| | |
|-------------------------------|---|
| Power Supply | AC 100 V to 240 V, 50 Hz/60 Hz |
| Current Consumption | 1.5 A |
| Ambient Operating Temperature | 0°C to 40°C (32°F to 104°F) |
| Ambient Operating Humidity | 10% to 90% (no condensation) |
| Storage Temperature | 0°C to 40°C (32°F to 104°F) |
| Storage Humidity | 10% to 90% (no condensation) |
| Weight | Approx. 7 kg (Approx.15.4 lb) |
| Dimensions (W x H x D) | 440 mm x 170 mm x 360 mm (17-5/16 inches x 6-11/16 inches x 14-3/16 inches) (excluding protrusions) |

Video Terminal

| | |
|------------------------------------|--|
| SDI IN 1 to SDI IN 8 Terminals | 8 lines (plus another maximum of 8 lines when using the OPTION unit) <ul style="list-style-type: none"> Connectors: BNC x 8 Color space conversion function Frame synchronizer function Connectors <SDI IN 1> to <SDI IN 4> equipped with simple format converters. Connectors <SDI IN 5> to <SDI IN 8> equipped with up-converters. Connectors <SDI IN 5> to <SDI IN 8> equipped with color correctors. * SDI IN 1/2 excludes HDMI IN 1/2. |
| | 12G-SDI 12G-SDI, SMPTE ST 2082-10 standard complied with |
| | 3G-SDI 3G-SDI, SMPTE292 standard complied with (Compatible with Level-A/Level-B) |
| | HD-SDI HD-SDI, SMPTE292M standard complied with |
| HDMI IN 1 to HDMI IN 2 Terminals | 2 lines (plus another maximum of 6 lines when using the OPTION unit) Video format inputs: 720p/59.94 Hz, 720p/50 Hz, 1080i/59.94 Hz, 1080i/50 Hz, 1080p/59.94 Hz, 1080p/50 Hz, 1080p/29.97 Hz, 1080p/25 Hz, 1080p/24 Hz, 1080p/23.98 Hz, 2160p/59.94 Hz, 2160p/50 Hz, 2160p/29.97 Hz, 2160p/25 Hz, 2160p/24 Hz, 2160p/23.98 Hz PC format inputs: 4K (3840 x 2160, 60 Hz), WQHD (2560 x 1440, 60 Hz), WUXGA (1920 x 1200, 60 Hz), UXGA (1600 x 1200, 60 Hz), WSXGA+ (1680 x 1050, 60 Hz), SXGA (1280 x 1024, 60 Hz), WXGA (1280 x 768, 60 Hz), XGA (1024 x 768, 60 Hz) Mode: Full/Fit-H/Fit-V <ul style="list-style-type: none"> Scaler, Frame synchronizer and Color space conversion function Connectors: HDMI x 2 This connector does not support the HDCP technologies. * HDMI IN 1/2 excludes SDI IN 1/2. |
| SDI OUT 1 to SDI OUT 5 Terminals | 5 lines (plus another maximum of 8 lines when using the OPTION unit) <ul style="list-style-type: none"> Connectors: BNC x 5 Down-converter to 1080p, Color space conversion function PGM, PVW, CLN, ME PGM, MV1 to MV2, AUX1 to AUX4, Key Out can be assigned. |
| | 12G-SDI 12G-SDI, SMPTE ST 2082-10 standard complied with |
| | 3G-SDI 3G-SDI, SMPTE292 standard complied with (Compatible with Level-A) |
| | HD-SDI HD-SDI, SMPTE292M standard complied with |
| HDMI OUT 1 to HDMI OUT 2 Terminals | 2 lines (plus another maximum of 6 lines when using the OPTION unit) <ul style="list-style-type: none"> Connectors: HDMI x 2 Down-converter to 1080p Color space conversion function PGM, PVW, CLN, ME PGM, MV1 to MV2, AUX1 to AUX4, Key Out can be assigned. |
| Signal Formats | 2160/59.94p, 50p, 29.97p, 25p, 24p, 23.98p, 1080/59.94p, 50p, 29.97p, 29.97PsF, 25p, 25PsF, 24p, 24PsF, 23.98p, 23.98PsF, 59.94i, 50i 720/59.94p, 50p |
| Signal Processing | R: G: B 4: 4: 4 8 bit / 4: 2: 2 10 bit (Only for HDMI) Y: Cb: Cr 4: 2: 2 10 bit |
| ME Number | 1ME |

Synchronous Terminal

| | |
|--|--|
| REF Terminal Reference Input/ BB Outputs | In Genlock mode: Black burst or Tri-level Sync input signals (with loop-through) <ul style="list-style-type: none"> Loop-through output is performed in external sync mode. If loop-through output is not going to be used, provide a 75 Ω termination. Connectors : BNC x 2 Same field frequencies as those of the system formats supported. With the 24.00p format, Black Burst input signal is not supported. With the 1080/23.98PsF format, black burst with 10 Field ID (SMPTE318M standard met) or Trilevel Sync signals supported. BB signals are output from two connectors in the internal sync mode. |
| Video Delay Time | 1 line (H) When the frame synchronizer setting is [Off] and neither the up-converter nor the down-converter is operating 1 frame (F) When the frame synchronizer setting is [On] and the up-converter and downconverter are operating <ul style="list-style-type: none"> When the signals have passed through PinP, DVE, multi view, down-converter or HDMI IN, a maximum delay of 1 frame is applied in each case. |

Control Terminal

| | |
|--------------------|---|
| LAN Terminal | Compatible with 1000BASE-TX and AUTO-MDIX (For IP control) <ul style="list-style-type: none"> Connecting cable: LAN cable (CAT5E), max. 100 m (328 ft), STP (Shielded Twisted Pair) cable recommended Connectors : RJ-45 |
| TALLY GPI Terminal | INPUT: 8 inputs general-purpose, photocoupler sensing OUTPUT: 19 outputs; selected from R/G/Y tally, general-purpose ALARM: 1 output, open collector output (negative logic) |

OPTION Unit

| | AV-UHS5M1G | AV-UHS5M2G | AV-UHS5M3G | AV-UHS5M4G | AV-UHS5M5G | AV-UHS5M6G |
|-------------------------------|---|------------|--|------------|-----------------------------------|------------|
| Power Supply | DC 12 V Supplied by AV-UHS500 | | | | | |
| Power Consumption | 15 W 1.2 A | | 16 W 1.3 A | | 14 W 1.1 A | |
| Ambient Operating Temperature | 0°C to 40°C (32°F to 104°F) | | | | | |
| Ambient Operating Humidity | 10% to 90% (no condensation) | | | | | |
| Storage Temperature | 0°C to 40°C (32°F to 104°F) | | | | | |
| Storage Humidity | 10% to 90% (no condensation) | | | | | |
| Weight | Approx. 371 g (Approx. 0.82 lbs.) | | Approx. 353 g (Approx. 0.78 lbs.) | | Approx. 345 g (Approx. 0.76 lbs.) | |
| Dimensions (W x H x D) | 112 mm x 42 mm x 167 mm (4-13/32 inches x 1-21/32 inches x 6-9/16 inches) (excluding protrusions) | | 112 mm x 42 mm x 166 mm (4-13/32 inches x 1-21/32 inches x 6-17/32 inches) (excluding protrusions) | | | |

SDI Input Unit AV-UHS5M1G

| | |
|--------------------------------|---|
| SDI IN 1 to SDI IN 4 Terminals | 4 lines <ul style="list-style-type: none"> Connectors: BNC x 4 Frame synchronizer function Up-converter fitted. Color space conversion function Color corrector fitted. |
| 12G-SDI | 12G Serial digital, SMPTE ST 2082-10 standard complied with <ul style="list-style-type: none"> 0.8 V [p-p] ± 10% (75 Ω) Automatic equalizer 80 m (when the cable is used) |
| 3G-SDI | 3G Serial digital, SMPTE292 standard complied with (Level-A/Level-B) <ul style="list-style-type: none"> 0.8 V [p-p] ± 10% (75 Ω) Automatic equalizer 100 m (when the cable is used) |
| HD-SDI | HD Serial digital, SMPTE292M standard complied with <ul style="list-style-type: none"> 0.8 V [p-p] ± 10% (75 Ω) Automatic equalizer 100 m (when the cable is used) |

SDI Output Unit AV-UHS5M2G

| | |
|----------------------------------|--|
| SDI OUT 1 to SDI OUT 4 Terminals | 4 lines <ul style="list-style-type: none"> Connectors: BNC x 4 Down-converter Color space conversion function PGM, PVW, CLN, ME PGM, MV1 to MV2, AUX1 to AUX4, Key Out can be assigned. |
| 12G-SDI | 12G Serial digital, SMPTE ST 2082-10 standard complied with 0.8 V [p-p] ± 10% (75 Ω) |
| 3G-SDI | 3G Serial digital, SMPTE292 standard complied with (Level-A) 0.8 V [p-p] ± 10% (75 Ω) |
| HD-SDI | HD Serial digital, SMPTE292M standard complied with 0.8 V [p-p] ± 10% (75 Ω) |

HDMI Input Unit AV-UHS5M3G

| | |
|----------------------------------|--|
| HDMI IN 1 to HDMI IN 3 Terminals | 3 lines Video format inputs: 720p/59.94 Hz, 720p/50 Hz, 1080i/59.94 Hz, 1080i/50 Hz, 1080p/59.94 Hz, 1080p/50 Hz, 1080p/29.97 Hz, 1080p/25 Hz, 1080p/24 Hz, 1080p/23.98 Hz, 2160p/59.94 Hz, 2160p/50 Hz, 2160p/29.97 Hz, 2160p/25 Hz, 2160p/24 Hz, 2160p/23.98 Hz PC format inputs: 4K (3840 x 2160, 60 Hz), WQHD (2560 x 1440, 60 Hz), WUXGA (1920 x 1200, 60 Hz), UXGA (1600 x 1200, 60 Hz), WSXGA+ (1680 x 1050, 60 Hz), SXGA (1280 x 1024, 60 Hz), WXGA (1280 x 768, 60 Hz), XGA (1024 x 768, 60 Hz) Mode: Full/Fit-H/Fit-V <ul style="list-style-type: none"> Connectors: HDMI x 3 Frame synchronizer function Color corrector fitted. Scaler and Color space conversion function This connector does not support the HDCP technologies. |
|----------------------------------|--|

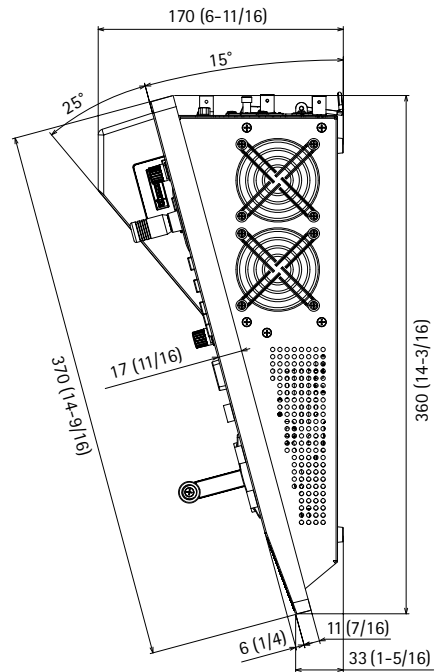
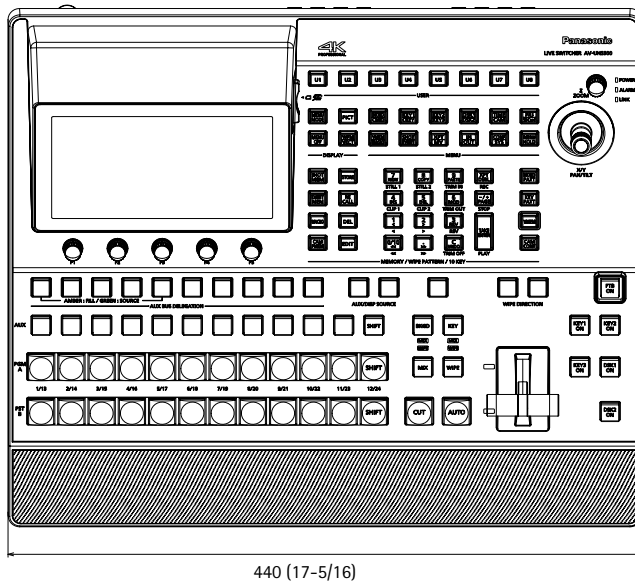
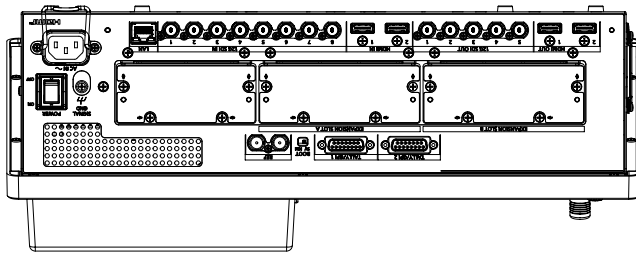
HDMI Output Unit AV-UHS5M4G

| | |
|------------------------------------|---|
| HDMI OUT 1 to HDMI OUT 3 Terminals | 3 lines Mode: Fit-V, Fit-H, Full, Full-90%, Full-80% Size: Auto, WQHD (2560 x 1440, 60 Hz), WUXGA (1920 x 1200, 60 Hz), UXGA (1600 x 1200, 60 Hz), WSXGA+ (1680 x 1050, 60 Hz), SXGA (1280 x 1024, 60 Hz), WXGA (1280 x 768, 60 Hz), XGA (1024 x 768, 60 Hz), Native Color: Auto, RGB, YUV444, YUV422 <ul style="list-style-type: none"> Connectors: HDMI x 3 PGM, PVW, CLN, ME PGM, MV1 to MV2, AUX1 to AUX4, Key Out can be assigned. Scaler and Color space conversion function |
|------------------------------------|---|

NDI I/F Unit AV-UHS5M6G

| | |
|---------------------------|---|
| LAN 1 and LAN 2 Terminals | Supported formats NDI® High Bandwidth/NDI® HX1/NDI® HX2 |
| Input | Maximum 4 lines Possible input formats <ul style="list-style-type: none"> When system format is 4K NDI® High Bandwidth: 2160/59.94p, 2160/50p, 2160/29.97p, 2160/25p, 2160/24p, 2160/23.98p When system format is 2K*1*2*3*4 NDI® High Bandwidth: 1080/59.94p, 1080/50p, 1080/29.97p, 1080/25p, 1080/24p, 1080/23.98p, 720/59.94p, 720/50p NDI® HX1/NDI® HX2: 1920/1080p, 1280/720p*5 |
| Output | Maximum 2 lines Possible output formats <ul style="list-style-type: none"> When system format is 4K NDI® High Bandwidth: 2160/59.94p, 2160/50p, 2160/29.97p, 2160/25p, 2160/24p, 2160/23.98p When system format is 2K*1*4 NDI® High Bandwidth: 1080/59.94p, 1080/50p, 1080/29.97p, 1080/25p, 1080/24p, 1080/23.98p, 720/59.94p, 720/50p PGM, PVW, CLN, ME PGM, AUX1 to 4, MV1 and 2, and Key Out can be allocated to the output. |

*1: Support for NDI® HX1/NDI® HX2 is input only. Only NDI® High Bandwidth is supported for output. *2: When the system format is 2K, mixed input of NDI® High Bandwidth and NDI® HX1/NDI® HX2 is possible. *3: P/I conversion is possible for input when the system format is 2K. *4: Not available when the system format is PsF. *5: The frame rate for NDI® HX1/NDI® HX2 depends on the system format.



* NDI® is a video connectivity technology and is registered as a trademark by Vizrt NDI AB in the United States and other countries.
 * The terms HDMI and HDMI High-Definition Multimedia Interface, and the HDMI Logo are trademarks or registered trademarks of HDMI Licensing Administrator, Inc. in the United States and other countries.
 * SDHC and SDXC Logos are trademarks of SD-3C,LLC.
 * Primatte® is the registered trademark of Photron Limited.
 * Photron Limited is the holder of the intellectual rights to Primatte®.
 * Photron Limited is the holder of the patent for Primatte®.

*Specifications are subject to change without notice.

Panasonic®

Panasonic Entertainment & Communication Co., Ltd.
 Imaging Solution Business Division
 2-15 Matsuba-cho, Kadoma, Osaka 571-8503 Japan



For more information, please visit Panasonic web site
<https://pro-av.panasonic.net/en/qr/>



Broadcast and Professional AV Website



Contact Information



Facebook



Mobile App