All-in-one IP live switcher with all the functions needed for live productions
The AV-HLC100 combines a live switcher, remote camera controller and audio mixer in one unit. Live audio production for small live musical performances, lectures and presentations can now be done easily by one operator, instead of the multiple operators that are usually required. It is also compliant with the NDI and NDI|HX standards, enabling connection and control of the remote camera to be performed through the same LAN cable with power provided[^1] for smooth remote shooting. RTMP (Real-Time Messaging Protocol) is also supported. Footage can be directly uploaded to various streaming services such as YouTube Live.

Various inputs supported, including SDI, HDMI and IP

The AV-HLC100 supports a wide range of video formats[^2] including 3G-SDI video in 1080/59.94p and 1080/50p, and enables cross-conversation between 1080p/1080i and 720p. SDIx4 or SDIx3/HDMIx1 can be selected, and it also has 8ch of IP inputs, so that a system can be configured to match the production environment. It is also compliant with NDI and NDI|HX, a technology of NewTek, Inc. which enables high-resolution videos to be encoded and transferred in real time. Our HD Integrated Cameras[^3] can be connected with a single LAN cable, without external IP decoders.

[^1]: A PoE+ hub is required for the power supply.  
[^2]: See “Supported Formats” on page 5 for details.  
[^3]: NDI I HX compatible models. See our website for the models compatible with our remote camera system (https://pro-av.panasonic.net/en/).  
[^4]: See “Supported Formats” on page 6 for details.  
[^5]: Power over Ethernet Plus, IEEE 802.3at
Recommended for

**Events and productions**

**Easy operation at live events requiring multiple cameras**

The AV-HLC100 enables simultaneous input of various signals such as SDI, HDMI and IP where multiple different cameras will be used together. The operator can easily operate the PTZ camera controls while checking the multiview of the live event venue.

**Direct online streaming of real-time footage**

The title function and PinP function can be used to display live footage on a big screen in the venue. Footage can also be directly streamed on video streaming services such as YouTube Live and Facebook Live. External audio input/output terminals are available, reducing the number of AV operators needed.

**Lectures and presentations**

**Camera control and document sharing for easy-to-understand lectures and presentations**

Connect the AV-HLC100 to our HD Integrated Cameras*3 to switch between footage from up to eight cameras and control each camera easily through a single LAN cable. Lecture document can be input from a computer or captured in advance, then displayed on sub-screens during live streaming.

**Recording and Streaming Simultaneously for lectures and presentations**

Shooting footage can be output directly to video streaming services without external converter, and can even be recorded simultaneously. The content is recorded in formats*4 that can be played on ordinary computers, enabling restreaming to users who were unable to view the live broadcast. Streaming and recording can all be done on one AV-HLC100 unit, enabling easy operations with a limited number of operators.
User-Friendly operations and compatibility with NDI and NDI | HX standards for smooth live productions

The extremely user-friendly panel includes buttons for various functions including camera control and switching, along with audio mixing. Up to eight video systems can be freely assigned to the crosspoint buttons, enabling them to be selected easily. With the capability to handle IP input and output, the AV-HLC100 also allows for live streaming and recording all over IP.

PTZ camera control
TELE/WIDE zooming can be done with the seesaw switch on the left of the control panel. Detailed IRIS and FOCUS adjustment can be performed by individual dials, and position control such as PTZ Camera, PinP or Title can be assigned to the 3D joystick at the top right for operation with one handle.

Audio level controls
The volume knob can be used to control all audio levels, which can be checked in the LED display. Detailed adjustments can be made using a GUI (see Audio Mixer Functions on page 6 for details).

LCD menu
The LCD menu displays a wide range of statuses and settings including PTZ camera selection, PTZ/PST operation, PinP material selection, title material selection, transition pattern selection, CLIP/STILL operation and input source selection.

GRAB and REC/STREAM control
The GRAB and REC/STREAM buttons are located at the top of the control panel, enabling capturing still image of PGM output, streaming and recording to be started and stopped with one touch.

*1: NDI | HX compatible models. See our website for the models compatible with our remote camera system (https://pro-av.panasonic.net/en/).
Smooth live production

The AV-HLC100 can be automatically linked to our HD Integrated Cameras. Footage from eight camera settings can also be directly input without using external IP decoder, enabling video and audio transfer, camera control through a single LAN cable.

SDI and HDMI input

Supported video inputs: SDI x 4 or SDI x 3 / HDMI x 1 video. Supported video outputs: HDMI x 1, 3G-SDI x 2, RTMP streaming x 1, NDI x 1.

Support Audio Input/Output

Audio input source are available from Embedded digital Audio, Analog Audio inputs and Microphone input. Those Audio source can be mixed and output to Analog Audio outputs, headphone output and Embedded with Video outputs.

Supported Formats

1080/59.94p, 1080/59.94i, 1080/29.97PsF (over 59.94i), 1080/23.98p, 1080/50p, 1080/50i, 1080/25PsF, 720/59.94p, 720/50p, 720/29.97p, 720/25p

*The 1080/59.94p and 1080/50p formats are not supported for HDMI input.
Wide range of video effects available for quick live productions and RTMP connections suitable for direct live streaming

Wide range of transitions through PinP and pattern formats
Supports PinP in one screen. You can also choose from a vast range of over 190 transition patterns, including 3D-DVE, to add effects easily.

Extensive title functions
You can select from a wide range of design templates where text attributes such as font and color can be edited, and insert a title. Up to eight created titles can be preset for a smooth workflow during live streaming.

Clip player and still image store
Still image and video data can be inserted as source, along with a variety of file formats Windows® supports (please note that some formats are not supported). Autoplay can also be set to automatically play multiple sources that have been prepared in advance.
**RTMP (Real-Time Messaging Protocol) connections supported**
The AV-HLC100 supports RTMP connections, enabling PGM output to be directly uploaded to live streaming services such as YouTube Live and Facebook Live. Streamed footage can also be recorded while it is being streamed.

**Audio mixer function**
The AV-HLC100 supports up to eight audio input source. You can select up to eight source from eight IP input source, four embedded audio source, two line input source and one microphone input source and assign them to the mixer.

**System Configuration**

**Block Diagram**

**Dimensions: mm (inch)** As of March, 2018
Specifications

Power Supply
DC 19 V (AC adaptor provided)

Power Consumption
110 W

Ambient Operating Temperature
0 °C to 40 °C (32°F to 104°F)

Humidity
20 % to 80 % (no condensation)

Mass
Approx. 6.05 kg (13.34 lbs)

Dimensions (W x H x D)
427 mm x 93 mm x 278 mm
[16.8 inches x 3.67 inches x 10.96 inches] (excluding protrusions)

Number of ME
1ME

Number of switcher channel
10
• 8 External (selected from among 3G-SDI x 4, 3G-SDI x 3 + HDMI x 1, NDI sources x 8)
• 2 Internal (CLIP x 1, STILL x 1)

Number of Keyer
2 Keyer (Pop / Title)

System Video Format
1080/59.94P, 1080/59.94I, 1080/59.94P*2, 1080/59.94I, 1080/59.94PsF, 1080/59.94PsF (over 59.94I), 1080/59.94PsF (over 59.94I), 1080/59.94PsF
720/59.94P, 720/59.94I, 720/59.94PsF, 720/59.94PsF

Video Input
SDI x 4 or 3G-SDI x 3 + HDMI x 1*1

Network Input Sources
8
• NDI input from Panasonic PTZ Camera that supports NDI | HD and NDI compatible equipment
• IP input from Skype TX compatible PC

Audio Input
15
• 4-channel SDI (HD) embedded audio x 4
• 4-channel NDI embedded audio x 8
• 6.35 mm balanced line x 2
• 3.5 mm diameter, stereo mini jack x 1

Video Output
4
• BNC x 1 SDI (PGM)*1
• BNC x 1 SDI (selectable from PGM / PWX / AUX)*1
• HDMI x 1 or Display Port (for GUI) x 1
• Network output x 1

Network Video Output
1
selectable from MIX (PGM or PWX) / AUX
• NDI output
• RTMP format streaming output

Audio Output
6
• SDI embedded audio x 2
• 6.35 mm balanced line x 2
• 3.5 mm diameter, stereo mini jack x 1
• NDI embedded audio x 1

Effects and Transitions
Wipe / Mix / Cut
• Background Video
• Pop / Title

Audio Mixing
• 4 x 8.7 Master (Program) mix
• 12 x faders: 1 for each of 8 external audio inputs, plus 1 x internal Clipper output and 1 x Skype TX Talkback input; plus 1 x Master output and 1 x Headphones
• 1 x separate audio fader for video Streaming output
• Seven-band equalizer and stereo compressor [selector per input and output, with per-input audio delay control]

Video Clip Memory
DDR x 1 ch

Still Store Memory
DDR x 1 ch

Title Buffer
1 Title Buffer [displays 1 of 8 Buffer presets]

Reference Input
Internal only

PTZ Camera Control (Via IP)
• Number of connected cameras: Up to 8 cameras
• Pan / Tilt / Zoom / Focus control: 3 axes joystick
• Zoom / Focus is switched by pressing the upper button
• IRIS control:
• Remote IRIS knob, preset AUTO / manual switching
• Focus control:
• Remote FOCUS knob, preset AUTO / manual switching
• Preset control:
• Store / recall, up to 100 positions
• DSD menu control: DSD button
• White balance control: DSD Camera menu or DSD screen
• Auto / PST X / PST B / Execute*
• CAM / BAR selection: DSD Camera menu or DSD screen*

Tally Output
DB-15 Tally port

Network Connector
RJ-45 x 2 to 100BASE-T / 10BASE-T

USB Host I/F
USB3.0 x 4

Accessory
AC adaptor, Power cable, keyboard, mouse

* Specifications are subject to change without notice.

Specifications As of March, 2018

For more information, please visit Panasonic web site

https://pro-av.panasonic.net/

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