All-in-one IP live switcher with
all the functions needed for live productions

Video, audio and camera control through single LAN cable, achieving easy controls by single operator

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, 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.

- The 1080/59.94p and 1080/50p formats are not supported for HDMI input.

HD-SDI

HDMI

IP

Direct streaming by RTMP (Real-Time Messaging Protocol)

The AV-HLC100 supports RTMP (Real-Time Messaging Protocol), enabling footage to be directly uploaded to live streaming services such as YouTube Live and Facebook Live. Streamed footage can be streamed and recorded at the same time for easy archiving and restreaming.

YouTube

LIVE

Quick workflow for production and streaming with a wide range of video effects and titling

A wide range of video effects are available for quick and easy live production work, including a title function with a design template, a clip player in which video and still image data can be used as materials, still image storage and over 190 transition patterns including 3D-DVE patterns. Footage from Skype TX can be used for interviews or on-site broadcasts, providing an effective technique for live events, lectures and presentations. Audio functions include mixing of embedded audio, line input and microphone input. Whether you're working with video or audio material, the AV-HLC100 enables smooth live production work.

**Skype**

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.
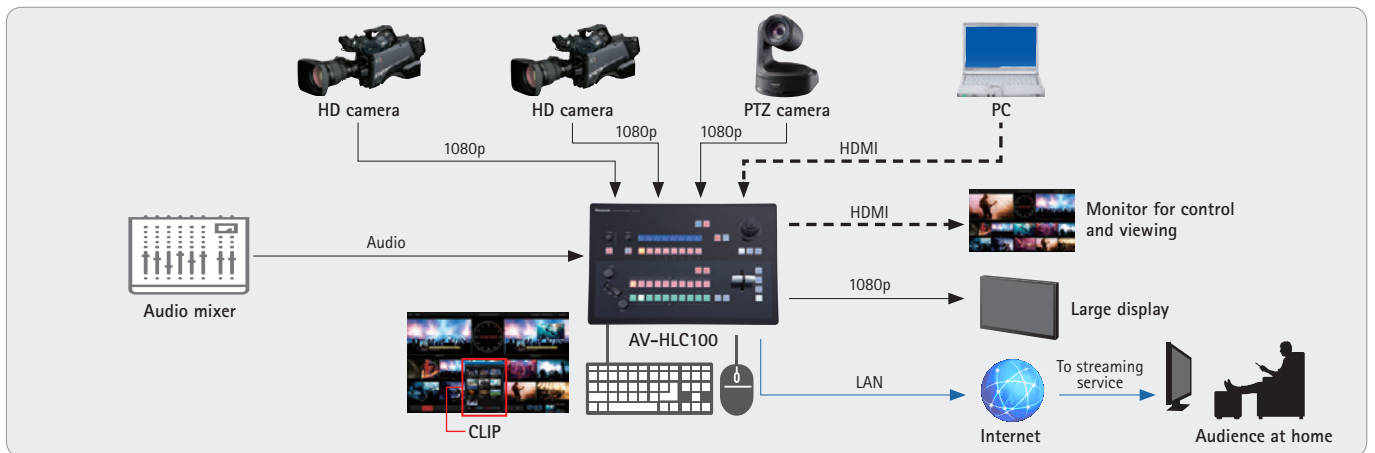

Lectures and presentations

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.
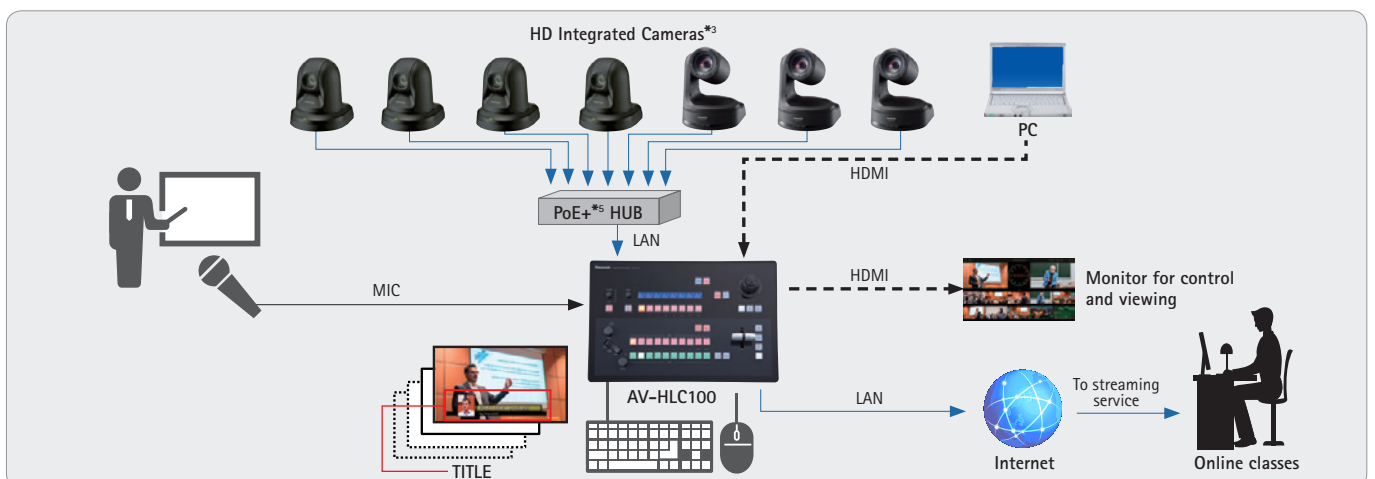
User-Friendly operations and compatibility with NDI and NDI|HX standards for smooth live productions

Control Panel

3 LCD menu
- Select PTZ camera, source of PinP and Title
- PST recall for PTZ
- Operation of camera's OSD menu

4 Capture a still image

REC/STREAM (Start/Stop)

2 Audio level adjustment and level meter

1 Select 3D joystick target
- PTZ
- PIP(PinP)
- TITLE

1 Camera lens control
- IRIS
- ZOOM
- FOCUS
- Select from Auto and Manual

Select transition target
- FTB
- TITLE
- PIP(PinP)
- BKGD

Transition execution fader lever
- CUT
- AUTO

PGM/PST Bus crosspoint

Select source (operation of CLIP/STILL)

Select transition pattern

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.

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1 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.

2 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).

3 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.
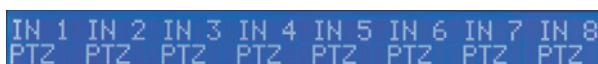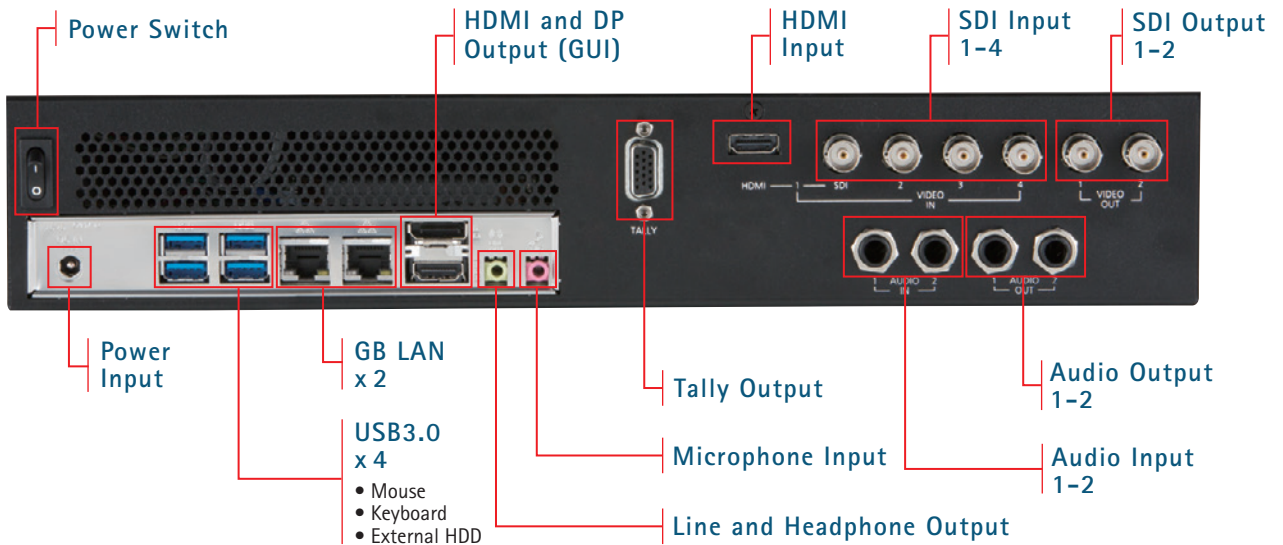
4 GRAB and REC/STREAM control

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 I HX compatible models. See our website for the models compatible with our remote camera system (https://pro-av.panasonic.net/en/).

Rear View

Power Switch

HDMI and DP Output (GUI)

HDMI Input

SDI Input 1-4

SDI Output 1-2

HDMI — 1 — SDI — 2 — VIDEO IN — 3 — 4 — VIDEO OUT

TALLY

AUDIO IN — 1 — 2 — AUDIO OUT — 1 — 2

Power Input

GB LAN x 2

USB3.0 x 4
- Mouse
- Keyboard
- External HDD

Tally Output

Microphone Input

Line and Headphone Output

Audio Output 1-2

Audio Input 1-2

■ 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.

<Supported Formats>

1080/59.94p, 1080/59.94i, 1080/29.97PsF, 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.

■ 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.

■ Smooth live production

The AV-HLC100 can be automatically linked to our HD Integrated Cameras[1]. 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.

BEFORE

Video and Audio (SDI or HDMI)

Camera control (IP/RS422/RS232), Tally

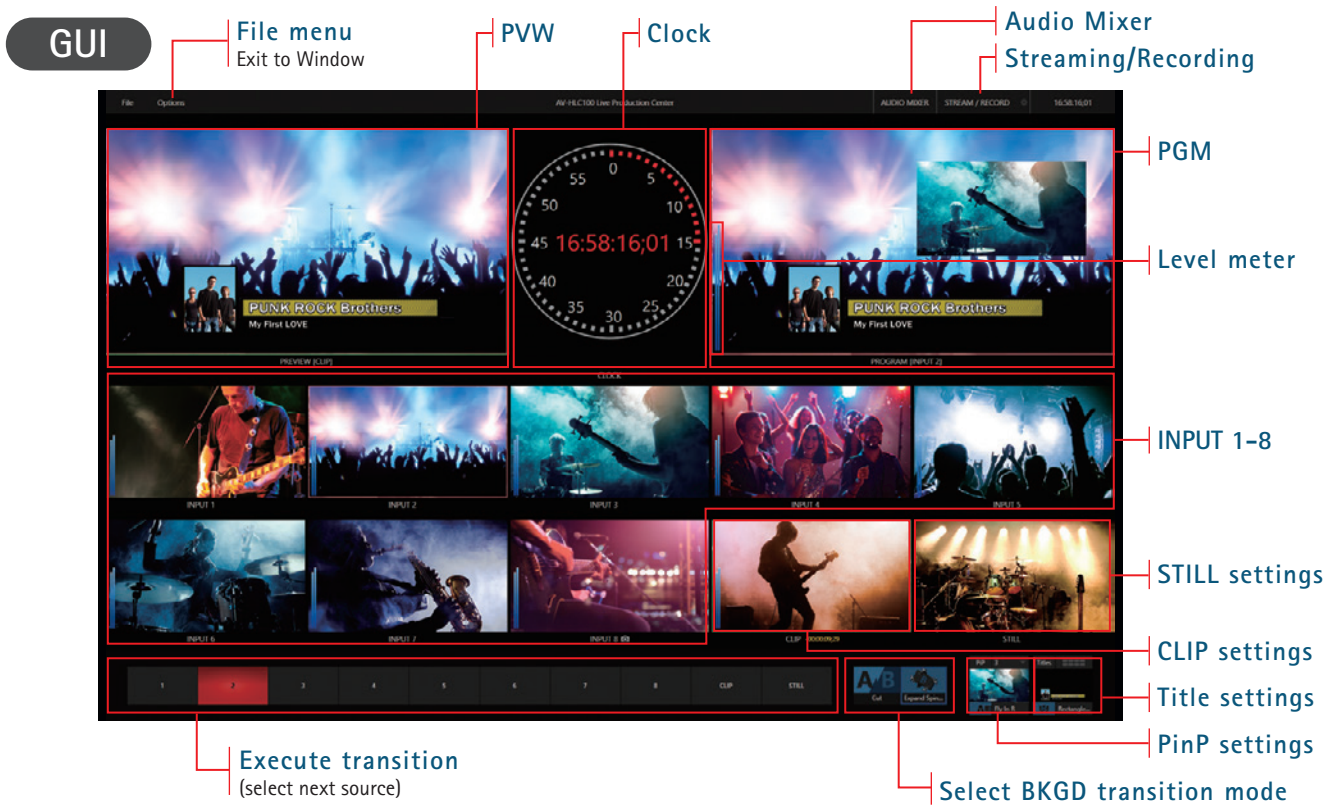Power supply for PTZ Camera (DC)

AFTER

Video and Audio
Camera control (IP)
Tally
Power supply for PTZ Camera

Wide range of video effects available for quick live productions and RTMP connections suitable for direct live streaming

GUI

- File menu — Exit to Window
- PVW
- Clock
- Audio Mixer
- Streaming/Recording
- PGM
- Level meter
- INPUT 1–8
- STILL settings
- CLIP settings
- Title settings
- PinP settings
- Select BKGD transition mode
- Execute transition (select next source)

■ 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.
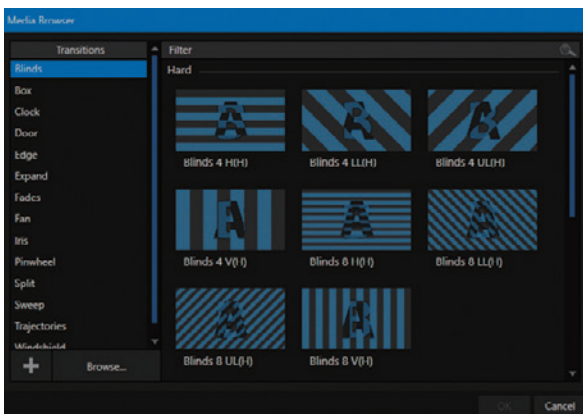
■ Clip player and still image store

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.

CLIP
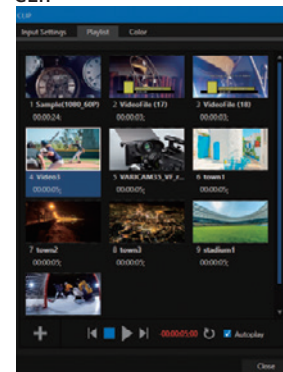
STILL

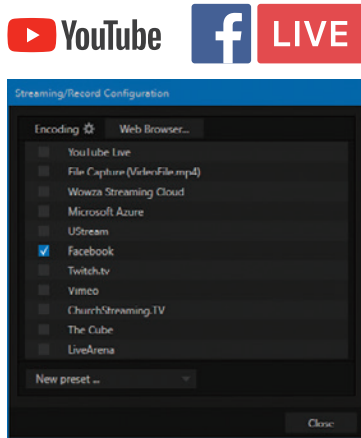## ■ Extensive title functions

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.

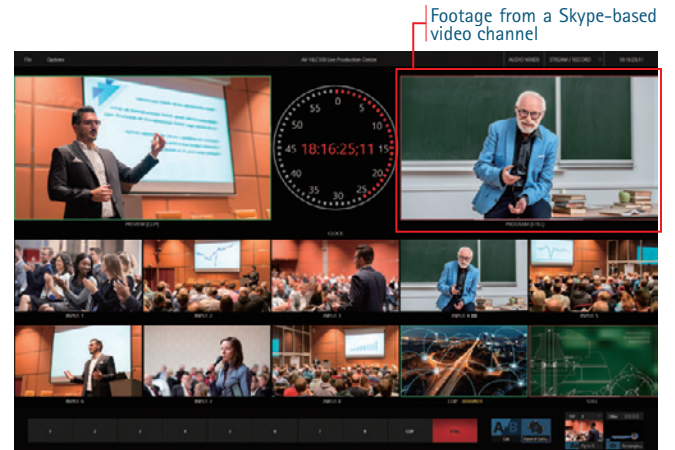| Supported Format	

Video Clip Memory	1) When plug-in provided by NewTek is not installed
	   Video format: avi, mpg, gif
	   Audio format: wav, wma, au, midi
	2) When plug-in provided by NewTek is installed
	   Video format:
	   3g2, 3gp, asf, avi, dif, dv, f4v, flv, h261, h263, h264, m2p, m2t, m2ts, m4a, m4v, mjpeg, mjpg, mkv, mov, mp4, mpeg, mpg, mts, mxf, ts, webm, wmv
	   Audio format: aif, aiff, mp3, wav, wma

Still Store Memory	1) When plug-in provided by NewTek is not installed:
	   jpeg, bmp
	2) When plug-in provided by NewTek is installed:
	   3fr,arw,bay,bmp,bmq,cap,cine,cr2, crw,cs1,cut,dc2,dcr,dds,dng,drf,dsc,erf,exr,fff, g3,gif,hdr,ia,ico,iff,iiq,j2c,j2k, jif,jp2,jpe,jpeg,jpg,k25,kc2,kdc,koa,lbm,mdc,mef, mng,mos,mrw,nef,nrw,orf, pbm,pcd,pct,pcx,pef,pfm,pgm,pic,pict,png,ppm,psd, psdz,ptx,pxn,qtk,raf, ras,raw,rdc,rw2,rwz,sgi,sr2,srf,sti,targa,tga,tif,tiff,wap,wbm, wbmp,xbm

■ 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
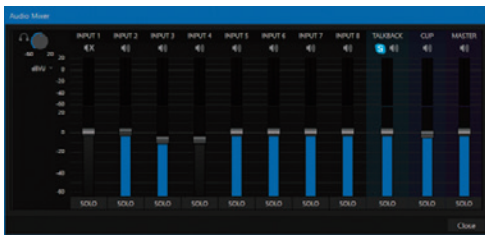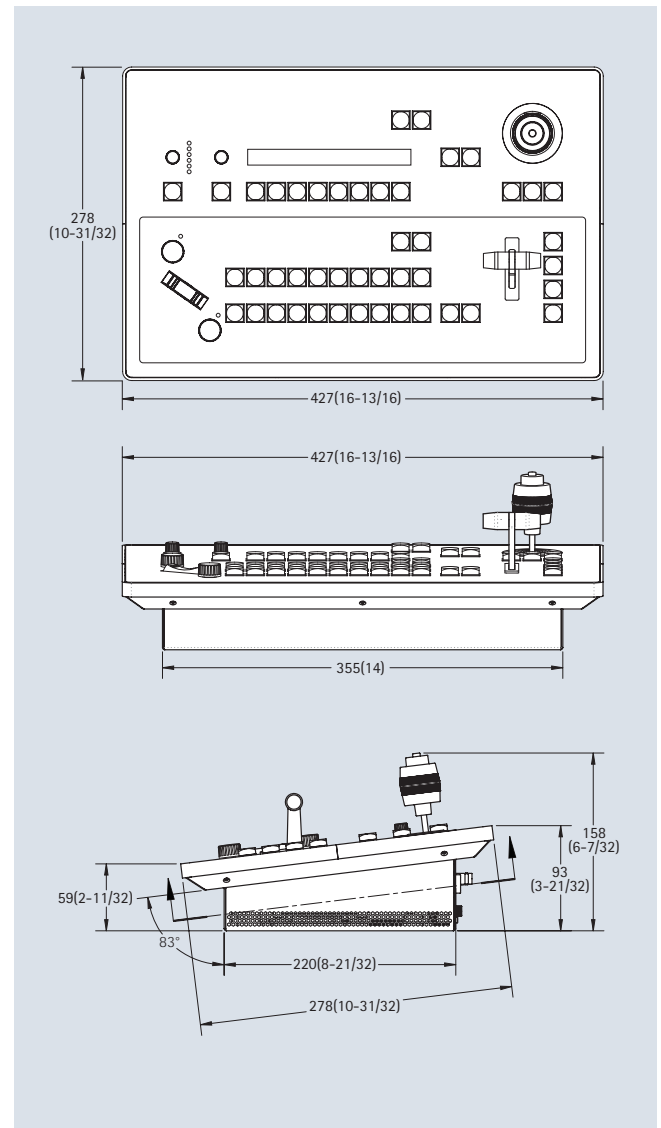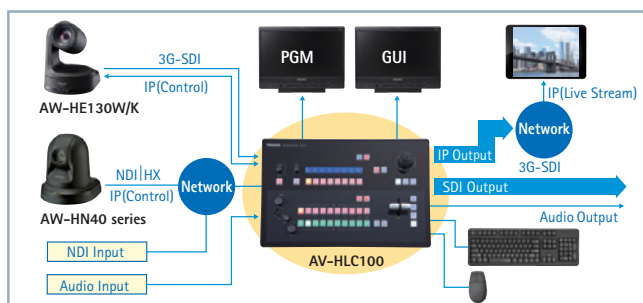

■ Block Diagram

■ Connection compatible with Skype TX

The AV-HLC100 can use Skype TX as one of the source, which enables broadcast-quality video communication. Footage sent by Skype-based video channels from remote locations can be added as an input material during live shows.

Footage from a Skype-based video channel

■ Dimensions: mm (inch)

As of March, 2018

278 (10-31/32)
427(16-13/16)
427(16-13/16)
355(14)
158 (6-7/32)
93 (3-21/32)
59(2-11/32)
83°
220(8-21/32)
278(10-31/32)

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 (PinP / Title)
System Video Format	1080/59.94p[*1][*2], 1080/59.94i, 1080/29.97PsF, 1080/23.98p, 1080/50p[*1][*2], 1080/50i, 1080/25PsF 720/59.94p, 720/50p, 720/29.97p, 720/25p
Video Input	SDI x 4 or SDI x 3 + HDMI x 1[*1][*3]
Network Input Sources	8 • NDI input from Panasonic PTZ Camera that supports NDI|HX and NDI compatible equipment • IP input from Skype TX compatible PC
Audio Input	15 • 4-channel SDI/HDMI 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 3G-SDI (PGM)[*1] • BNC x 1 3G-SDI (selectable from PGM / PVW / AUX)[*1] • HDMI x 1 or Display Port (for GUI)[*4] x 1 • Network output x 1
Network Video Output	1 selectable from MIX (PGM or PVW) / AUX • NDI output • RTMP format streaming output[*5]

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 • PinP • Title
Audio Mixing	• 4 ch. Master (Program) mix • 12 x faders: 1 for each of 8 external audio inputs, plus 1 x internal Clips player and 1 x Skype TX Talkback input; plus 1 x Master output and 1 x Headphones • Plus 1 x separate audio fader for video Streaming output • Seven-band equalizer and stereo compressor / limiter per input and output, with per-input audio delay control
Video Clip Memory	DDR x 1 ch[*6]
Still Store Memory	DDR x 1 ch[*6]
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 axis joystick (ZOOM / FOCUS is switched by pressing the upper button) ZOOM control: Independent rocker switch IRIS control: independent IRIS knob, pressed AUTO / manual switching FOCUS control: Independent FOCUS knob, pressed AUTO / manual switching Preset control: store / recall, up to 100 positions OSD menu control: OSD button[*7] White balance control: GUI screen Camera menu or OSD screen (Auto / PST A / PST B / Execute)[*7] CAM / BAR selection: GUI screen Camera menu or OSD screen[*7]
Tally Output	DB-15 Tally port
Network Connector	RJ-45 x 2 1000BASE-T / 100BASE-TX / 10BASE-TX
USB Host I/F	USB3.0 x 4
Accessory	AC adaptor, Power cable, keyboard, mouse

*1: 3G-SDI corresponds to Level-A only.
*2: The 1080/59.94p and 1080/50p formats are not supported for HDMI input.
*3: You cannot use the SDI input 1 and the HDMI connector at the same time.
*4: HDMI and Display port can not be used simultaneously.
*5: Only available when plug-in provided by NewTek is installed.
*6: See "Supported Formats" on page 6 for details.
*7: OSD function is available for Panasonic PTZ camera of SDI and HDMI output.
    It is not available for those of NDI | HX output.

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

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* Specifications are subject to change without notice.

Panasonic®

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Canada	+1 905 624 5010	Mexico	+52 55 5488 1000	Turkey	+90 216 578 3700
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051

Factories of AVC Networks Company have received ISO14001:2004-the Environmental Management System certification. (Except for 3rd party's peripherals.)