



**4K PTZ kamera umožňuje nové a jedinečné vizuální vyjádření**

## AW-UE160

4K PTZ kamera AW-UE160 je vybavena nově vyvinutým 4K 1" MOS senzorem, který nabízí nejvyšší citlivost celé řady PTZ společnosti Panasonic. Produkční týmy, které natáčejí v koncertním sále nebo v kostele, mohou snadno zachytit jasné snímky i v těch nejnáročnějších světelných podmínkách. Nový optický dolní propust UE160 snižuje efekt moaré pro jasnější kvalitu obrazu při fotografování proti LED stěně, což je zvláště důležité pro pronájem a inscenaci nebo bohoslužby. Jeho vysokorychlostní snímková frekvence pomůže sportovním vysílacím společnostem zachytit zpomalené záběry v HD pro záznamy, zatímco bezproblémová integrace s robotickým kamerovým systémem přináší do PTZ pohyby ve stylu živého vysílání, což vede k dynamické a vysoce poutavé video produkci.

### Key Features

Nekompromisní výkon a precizní ovladatelnost

Optický dolní propust výrazně snižuje moaré

Nově vyvinutý 4K senzor

Výrazně vylepšené automatické ostření s pokročilou technologií

Podpora SMPTE 2110 při zakoupení do datečného softwarového klíče

Video produkce nové generace s různými metodami a funkcemi natáčení.

Snadné použití a všestrannost snižuje stres při natáčení.





## AW-UE160

<https://eu.connect.panasonic.com/sk/cs/products/broadcast-proav/aw-ue160>

<b>Output Format (UHD/FHD SDI)</b>	4K2160/59.94p, 2160/50p, 2160/29.97p(Native), 2160/25p(Native), 2160/24p(Native), 2160/23.98p(Native) *2160/60p will be supported in version upgrade. HD1080/119.88p*, 1080/100p*, 1080/60p, 1080/59.94p, 1080/50p, 1080/29.97p(Native), 1080/25p(Native), 1080/24p(Native), 1080/23.98p(Native), 1080/59.94i, 1080/50i, 720/59.94p, 720/50p*1080/119.88p and 1080/100p use two 3G/SDI OUTPUT1/2 channels.*No output from 12G/SDI.
<b>Output Format (HDMI)</b>	4K 2160/59.94p, 2160/50p, 2160/29.97p(Native), 2160/25p(Native), 2160/24p(Native), 2160/23.98p(Native) *2160/60p will be supported in version upgrade.  HD 1080/119.88p, 1080/100p, 1080/60p, 1080/59.94p, 1080/50p, 1080/29.97p(Native), 1080/25p(Native), 1080/24p(Native), 1080/23.98p(Native), 720/59.94p, 720/50p
<b>Output Format (Fiber(Only Video))</b>	4K 2160/59.94p, 2160/50p, 2160/29.97p(Native), 2160/25p(Native), 2160/24p(Native), 2160/23.98p(Native) *2160/60p will be supported in version upgrade.  HD 1080/60p, 1080/59.94p, 1080/50p, 1080/29.97p(Native), 1080/25p(Native), 1080/24p(Native), 1080/23.98p(Native), 1080/59.94i, 1080/50i, 720/59.94p, 720/50p
<b>Supported Protocol</b>	<ul style="list-style-type: none"> <li>• Network Protocol: ICMP, ARP, GARP, MLD</li> <li>• Transmission Protocol: TCP/IP, UDP/IP</li> <li>• Application Protocol: <ul style="list-style-type: none"> <li>IPv4 : HTTP, HTTPS, DNS, NTP, DHCPv6, MDNS, SNMP, 802.1X</li> <li>IPv6 : HTTP, HTTPS, DNS, NTP, DHCPv4, MDNS, SNMP, 802.1X</li> </ul> </li> <li>• Video Streaming Protocol: <ul style="list-style-type: none"> <li>RTP/RTCP over RTSP, RTMP, RTMPS, SRT, MPEG2-TS over UDP, NDI HX version 2, High bandwidth NDI</li> <li>• External Device Cooperation Protocol: FreeD, TSL5.0, SNMP</li> </ul> </li> </ul>
<b>Current Consumption</b>	5.0 A (XLR IN connector), 1.5A (PoE++ power supply)
<b>Power Requirements</b>	12VDC±10%(10.8V to 13.2V)
<b>Ambient Operating Temperature</b>	0 °C to +40 °C (32 °F to +104 °F)
<b>PoE++</b>	IEEE802.3bt standard :DC 42 V to 57V (Camera Input)*Limited in function when PoE used.(Software authentication (LLDP) is supported))
<b>Storage Temperature</b>	-20 °C to +50 °C (-4 °F to +122 °F)
<b>Ambient Operating Humidity</b>	20 % to 90 % (no condensation)
<b>Mass</b>	Approx. 4.6kg (10.14lbs)(excluding mount bracket)
<b>Finish</b>	AW-UE160W : Pearl White AW-UE160K : Black
<b>Controller Supported</b>	AW-RP150 , AW-RP60 , AK-HRP1010 , AK-HRP1015 , AK-HRP250 *IP only. Other ROP will be compatible in the future.  **Digext Certification operation of AW-RP150 and AW-RP60 are not guaranteed.
<b>Lens</b>	Motorized Optical 20x Zoom F2.8 to F4.5(f=8.8 mm to 176.0 mm, 35mm equivalent:24.5 mm to 490.0 mm)
<b>Imaging Sensors</b>	1-type (1")* 4K MOSx1 *Effective size Effective Pixels: Approx. 9,620,000 pixels
<b>Camera Unit</b>	-
<b>Optical Filter</b>	Through, 1/4, 1/16, 1/64 *equipped with Low pass filter(Through is used as "night mode")

<b>Focus</b>	Switching between auto and manual
<b>Conversion</b>	Not Supported
<b>Lens</b>	
<b>Angle of View</b>	Horizontal: 75.1°(wide) to 4.0°(tele)
<b>Range</b>	Vertical: 46.7°(wide) to 2.3°(tele) Diagonal: 82.8°(wide) to 4.6°(tele)
<b>Focus Distance</b>	Entire zooming range: 1000 mm, Wide end: 100 mm
<b>Standard Sensitivity</b>	F1 1/2,000lux (Normal), F1 4/2,000lux (Low Light)
<b>Color</b>	1MOS
<b>Separation</b>	
<b>Optical Systems</b>	
<b>Horizontal Resolution</b>	1,600 TV Typ (center area, UHD Mode, Wide)
<b>Gain Selection</b>	Auto, -6dB to 12dB *1 dB step increments can be set.
<b>Frame Mix</b>	Auto, 0dB, 6dB, 12dB, 18dB, 24dB*If format is set in 1080/119.88p, 1080/100p, 2160/29.97p, 2160/23.98p, 2160/24p, 2160/25p, 1080/29.97p, 1080/25p, it cannot be set.
<b>Electronic Shutter Speed</b>	60p: 1/60, 1/100, 1/120, 1/125, 1/250, 1/500, 1/1,000, 1/1,500, 1/2,000  59.94p/59.94i: 1/60, 1/100, 1/120, 1/125, 1/250, 1/500, 1/1,000, 1/1,500, 1/2,000  50p/50i: 1/60, 1/100, 1/125, 1/250, 1/500, 1/1,000, 1/1,500, 1/2,000  29.97p: 1/48, 1/50, 1/60, 1/96, 1/100, 1/120, 1/125, 1/250, 1/500, 1/1,000, 1/1,500, 1/2,000  25p: 1/48, 1/50, 1/60, 1/96, 1/100, 1/125, 1/250, 1/500, 1/1,000, 1/1,500, 1/2,000  23.98p: 1/48, 1/50, 1/60, 1/96, 1/100, 1/120, 1/125, 1/250, 1/500, 1/1,000, 1/1,500, 1/2,000  24p: 1/48, 1/50, 1/60, 1/96, 1/100, 1/120, 1/125, 1/250, 1/500, 1/1,000, 1/1,500, 1/2,000  59.94p- 120fps: 1/125, 1/250, 1/500, 1/1,000, 1/1,500, 1/2,000  50p- 100fps: 1/125, 1/250, 1/500, 1/1,000, 1/1,500, 1/2,000
<b>Synchro Scan</b>	60p: 60.00Hz to 7,200Hz 59.94p/59.94i: 60.00Hz to 7,200Hz 50p/50i: 50.00Hz to 7,200Hz 29.97p: 30.00Hz to 7,200Hz 25p: 25.00Hz to 7,200Hz 23.98p: 24.00Hz to 7,200Hz 59.94p- 120fps: 120Hz to 7,200Hz 50p- 100fps: 100Hz to 7,200Hz
<b>White Balance</b>	ATW, 3200K, 5600K AWB-A, AWB-B VAR (selectable between 2000 K and 15000 K by designating a value) *ATW Speed 3-stage variables.
<b>Gamma</b>	HD / NORMAL / CINEMA1 / CINEMA2 *HLG is set in other menuMASTER GAMMA (0.15~0.75)R GAMMA (-75~+75)B GAMMA (-75~+75) R BLACK GAMMA (-20~+20)B BLACK GAMMA (-20~+20)
<b>Scene File</b>	Scene 1 to 8
<b>Chroma Amount Variability</b>	OFF, -100% to 40%
<b>HDMI</b>	HDMI 2.0 connector 4:2:2/10bit *HDCP is not supported. *Viera Link is not supported.

<b>Synchronization</b>	Internal/External synchronization (BBS/Tri-level sync)
<b>System</b>	
<b>Input</b>	DC 12 V IN, G/L IN(BNC)
<b>G/L In</b>	BBS (Black Burst Sync), tri-level sync supported)
<b>Output</b>	-
<b>AUDIO INPUT</b>	XLR(2ch) or MIC/LINE Input compatibles /HDMI /IP)AAC compatibility (compatible with IP only)3-pin XLR female connectors, 2ch, balanced input · During MIC input Input level: -50dBu or -60dBu/-40dBu(0 dB=1 V/Pa, 1 kHz) Phantom power compatible, Supply voltage:47 V±2 V Input impedance: Approx. 10kΩ · During LINE input Input level : 0 dBu ( or +4dBu/-20dBu) Input impedance: Approx. 10kΩ · Input volume variable range: -40 dB ~ 0dB ~ +20 dB (1 dBstep) · Embedded audio output level: -12dBFS/-18dBFS/-20dBFS · Sampling frequency: 48 kHz · Quantization bit rate : 24 bit(SDI, HDMI), 16bit(IP)
<b>1/2</b>	
<b>12G SDI OUT</b>	SMPTTE2082-1, SMPTE424M /SMPTE292M / 75 Ω(BNC×1) *Level-A/Level-B supported
<b>3G SDI OUT1</b>	SMPTTE424M /SMPTE292M / 75 Ω(BNC×1) *Level-A/Level-B supported
<b>3G SDI OUT2/PM</b>	SMPTTE424M /SMPTE292M / 75 Ω(BNC×1) *Level-A/Level-B supported
<b>SFP+</b>	SFP+ standard (Single Fiber) *This unit does not support input by optical signals
<b>LAN</b>	LAN connector for IP control (RJ-45)
<b>USB</b>	USB3.0 HOST(5G mobile router with USB tethering support) *Limited power supply to USB Wifi dongle.
<b>RS-422</b>	CONTROL IN RS422A (RJ-45)
<b>Input/Output</b>	-
<b>IP Connecting</b>	· If you have PoE++ ethernet hub
<b>Cable</b>	LAN cable *1( category 5e or above, straight cable) max. 100 m (328 ft) · If you don't have PoE++ ethernet hub LAN cable *1( category 5e or above, straight cable) max. 100 m (328 ft) *1 STP(Shielded Twisted Pair) is recommended *2 Category 6 or above is used for 4K video transmission.
<b>Pan-tilt Head Control</b>	-
<b>AW Protocol Connecting</b>	LAN cable*( category 5e or above, straight cable) max. 1000 m (3280 ft) *STP (Shielded Twisted Pair) is recommended
<b>Cable</b>	
<b>Pan/Tilt Operation</b>	Speed range: 0.08 °/s ~180°/s( Normal mode)
<b>Speed</b>	3 speed modes installed: Normal: ~60°/s, Fast1: ~90°/s, Fast2: ~180°/s
<b>Quietness</b>	NC35 or less *When standing still, NC25 or less
<b>Tilting Range</b>	-30°~ 210° *Depending on the pan or tilt position, the camera may be reflected in the image.
<b>Panning Range</b>	±175°
<b>Pan-Tilt Head Unit</b>	-
<b>Installation Method</b>	Stand-alone (Desktop) or suspended (Hanging) *To ensure safety, the unit must be secured using the mount bracket supplied.
<b>Windows</b>	Windows®10 Microsoft Edge Google Chrome
<b>Supported operating systems and web browsers</b>	-
<b>Image Resolution</b>	3840x2160, 1920x1080, 1280x720, 640x360
<b>Mac</b>	macOS 10.13 / Safari 13 macOS 10.14 / Safari 13 macOS 10.15 / Safari 13 macOS 10.15 / Google Chrome
<b>Android</b>	Android OS Google Chrome
<b>IP Streaming</b>	-
<b>Image Streaming Mode</b>	JPEG(MJPEG), H.264, H.265, NDI HX Ver2, High Bandwidth NDI
<b>Image Transmission setting (JPEG)</b>	· Frame rate : Max. 30fps *No bit rate specified *JPEG and H.264, JPEG and H.265 simultaneous operation depends on bit rate · Image quality: Fine/Normal

<b>Image Transmission Setting (H.264)</b>	<ul style="list-style-type: none"> <li>Transmission Type : Unicast port (AUTO), Unicast port (MANUAL), Multicast port</li> <li>Transmission mode :CBR, VBR</li> <li>Frame Rate <ul style="list-style-type: none"> <li>[60Hz] <ul style="list-style-type: none"> <li>5fps/15fps/30fps/60fps (UHD: 30fps,60fps)</li> </ul> </li> <li>[50Hz] <ul style="list-style-type: none"> <li>5fps/12.5fps/25fps/50fps (UHD: 25fps,50fps)</li> </ul> </li> </ul> </li> <li>Max to Min Bit Rate: <ul style="list-style-type: none"> <li>2048kbps/4096kbps/8192kbps/10240kbps/12288kbps/14336kbps/20480kbps/24576kbps/51200kbps/76800kbps</li> </ul> </li> </ul>
<b>iPhone / iPad / iPod touch</b>	iOS, Safari, iPadOS
<b>Image Transmission Setting (H.265)</b>	<ul style="list-style-type: none"> <li>Transmission Type: Unicast port (AUTO), Unicast port (MANUAL), Multicast port</li> <li>Transmission Mode: CBR,VBR</li> <li>Frame Rate <ul style="list-style-type: none"> <li>[60Hz] <ul style="list-style-type: none"> <li>30fps / 60fps</li> </ul> </li> <li>[50Hz] <ul style="list-style-type: none"> <li>25fps / 25fps</li> </ul> </li> </ul> </li> <li>Max to Min Bit Rate: <ul style="list-style-type: none"> <li>2048kbps/4096kbps/8192kbps/10240kbps/12288kbps/14336kbps/20480kbps/24576kbps/51200kbps/76800kbps</li> </ul> </li> </ul>
<b>Audio Compression Type</b>	AAC-LC, 48kHz/16bit/2ch
<b>Output Format</b>	<ul style="list-style-type: none"> <li>Video Format (Full x1, MONI x1.Crop x1, all of these same format) 1080/60p, 1080/59.94p, 50p, 1080/59.94i, 50i, 1080/29.97p(Native), 25p(Native), 1080/24p, 1080/23.98p(Native), 720/59.94p, 50p</li> <li>Audio Specification INPUT1/INPUT2 PCM/48kHz/24bit/1 ch x2</li> </ul>
<b>NDI (High Bandwidth NDI,NDI HX Ver.2)</b>	-
<b>Output Format (High bandwidth NDI)</b>	4K <ul style="list-style-type: none"> <li>2160/59.94p, 2160/50p, 2160/29.97p, 2160/25p, 2160/24p, 2160/23.98p</li> </ul>
	HD <ul style="list-style-type: none"> <li>1080/60p, 1080/59.94p, 1080/50p, 1080/29.97p, 1080/25p, 1080/24p, 1080/23.98p, 720/59.94p, 720/50p</li> </ul>
<b>Image Resolution (NDI HX Ver.2)</b>	3840x2160, 1920x1080, 1280x720
<b>Image Streaming Setting</b>	<ul style="list-style-type: none"> <li>High Bandwidth NDI</li> <li>Transmission Type: TCP /UDP, Unicast/Multicast</li> <li>Bit Rate: Max. 250Mbps</li> <li>NDI HX version.2: <ul style="list-style-type: none"> <li>Transmission Type: TCP/UDP, Unicast/Multicast</li> <li>Frame Rate: <ul style="list-style-type: none"> <li>[60Hz] 5fps/15fps/30fps/60fps</li> <li>[50Hz] 5fps/12.5fps/25fps/50fps</li> </ul> </li> <li>Max Bit Rate: <ul style="list-style-type: none"> <li>512kbps/768kbps/1024kbps/1536kbps/2048kbps/3072kbps/4096kbps</li> <li>/6144kbps/8192kbps/10240kbps/12288kbps/14336kbps/16384kbps/20480kbps/24576kbps</li> </ul> </li> </ul> </li> </ul>
<b>Audio Compression Type 2</b>	High Bandwidth NDI: AAC, 48kHz, 2ch NDI HX Ver.2: AAC-LC, 48kHz/16bit/2ch
<b>Number of Output (TX)</b>	Video: 3 line (Full x1, MONI x1.Crop x1) Audio: 2 line Auxiliary data: No output
<b>Number of Input (RX)</b>	Video: 1 line(RETURN) *Out from 3G SDI OUT2(Video is changed in the OSD menu) Audio: No input Auxiliary data: No input
<b>Optional Accessories</b>	-
<b>Cropping</b>	Select from 3 types of images from 3G/SDI OUTPUT2, Crop Zoom available
<b>Image Stabilization</b>	Hybrid method of OIS 2-axis + Roll direction correction MENU switching: select between OFF / O.I.S.(STABLE) / O.I.S.(PAN/TILT) / HYBRID(STABLE) / HYBRID(PAN/TILT)
<b>Power LED</b>	ON/OFF control

<b>Tripod Screw Penetration Measures</b>	Possible
<b>Privacy Mode</b>	The lens surface faces downward when standing by (ON/OFF)
<b>Input Format</b>	Video Format (Full x1, MONI x1.Crop x1, all of these same format)1080/60p, 1080/59.94i, 50i, 1080/29.97p(Native), 25p(Native) 1080/24p, 1080/23.98p(Native), 720/59.94p, 50p
<b>New Feature</b>	-
<b>HDR/SDR</b>	HLG/BT.2020 compatible, SDR/BT.709 compatible
<b>F Number</b>	Displayed on the AW-RP150 and AW-RP60 sides
<b>Display</b>	
<b>NDI</b>	High Bandwidth NDI, NDI HX Ver.2 included as standard
<b>IP menu display</b>	supported *Non-synchronous with SDI-OUT
<b>VR (FreeD) (IP/RS422)</b>	supported
<b>Yellow Tally</b>	supported
<b>PTP</b>	supported
<b>5G/WiFi 6</b>	Compatible with recommended products only
<b>WFM display</b>	Output with video superimposed from 3G/SDI OUTPUT2
<b>Return Video Output</b>	Output return video input from ST 2110 via SDI_OUT2
<b>Horizontal Level Gauge</b>	ON/OFF control in OSD MENU or Web GUI
<b>Wireless Remote Controller</b>	AW-RM50AG ( Size "AA" dry battery x 2, obtained separately )
<b>Dimensions (W x H x D)</b>	213.0 mm x 277.0 mm x 240.0 mm (8.39inches x 10.91 inches x 9.45inches) [excluding protrusions, cable cover, ceiling mount bracket]
<b>Supported Format</b>	ST 2110: 10/20/21/30 PTP: ST 2059-2 NMOS: IS-04/IS-05
<b>Output Format (ST 2110)</b>	HD 1080/60p, 1080/59.94p, 1080/50p, 1080/29.97p(Native), 1080/25p(Native), 1080/24p(Native), 1080/23.98p(Native), 720/59.94p, 720/50p
<b>SFP+(ST 2110)</b>	Compatible protocol: -ST 2110-10/-20/-21/-30 -PTP ST 2059-2 -NMOS IS-04/IS-05 Output number: Video x3 (Full, Crop, Monitor), Audio x2 Input number: Video x1 (RETURN) Video format: FHD *Same as system format
<b>ST 2110</b>	
<b>Zoom</b>	• Optical Zoom: 20x• i.Zoom: UHD 24x, FHD 32x• Digital Extender Zoom: 1.4x, x