Panasonic CONNECT




**HD remote camera that enables high-quality video production even in dark environments.**

# AW-HE145

The HD integrated camera AW-HE145 realizes high sensitivity of F9/2000lx with the mounted 1.0-type MOS sensor, and can shoot beautifully at stage events or church services with low light. The operation mechanism is the same design as the high-end model, so the operating performance of the pan/tilt and zoom is smooth and accurate, allowing you to shoot without stress. Furthermore, it is equipped with an optical 20x zoom and horizontal 75.1° wide-angle lens to realize flexible video production.

**Key Features**

- High sensitivity achieved with the 1-type large-sized sensor
- Optical 20x zoom/horizontal 75.1° wide-angle shooting
- Pan/tilt performance that achieves smooth and accurate operation
- Enables high-quality video production even in dark environments
- SRT support and optional NDI®*1 HX support

SRT SECURE RELIABLE TRANSPORT

Panasonic CONNECT

# AW-HE145

https://latam.connect.panasonic.com/mx/en/products/projectors/aw-he145

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| **General -> Power Requirements** | 12 V DC (10.8 V to 13.2 V), DC 42 V to 57 V (Camera Input, PoE++ power supply) |
| **General -> Current Consumption** | 4.0 A (XLR IN connector), 1.2 A (PoE++ power supply) |
| **General -> Ambient Operating Temperature** | 0 °C to 40 °C (32 °F to 104 °F) |
| **General -> Ambient Operating Humidity** | 20 % to 90 % (no condensation) |
| **General -> Storage Temperature** | –20 °C to 50 °C (–4 °F to 122 °F) |
| **General -> Weight** | Approx. 4.1 kg (9.04 lb) (excluding mount bracket) |
| **General -> Dimensions** | W 213 mm x H 267 mm x D 219 mm<br>(8-3/8 inches x 10-1/2 inches x 8-5/8 inches)<br>(excluding protrusions, direct ceiling mount bracket) |
| **General -> Finish** | AW-HE145W: Pearl white<br>AW-HE145K: Metallic Black |
| **General -> Controller Supported** | See the Compatibility Chart for Operation Devices and Application Software page |
| **Camera Unit -> Imaging Sensor** | 1-type Full-HD MOSx1 |
| **Camera Unit -> Effective Pixels** | Approx. 20.18 million pixels |
| **Camera Unit -> Zoom** | • Optical zoom: 20x<br>• i.Zoom: FHD 32x<br>• Digital zoom: 10x |
| **Camera Unit -> Lens** | Motorized Optical 20x zoom, F2.8 to F4.5<br>[f=8.8 mm (11/32 inches) to 176.0 mm (6-15/16 inches);<br>35 mm (1-3/8 inches) equivalent: 24.5 mm (31/32 inches) to 490.0 mm (19-9/32 inches)] |
| **Camera Unit -> Conversion Lens** | Not supported |
| **Camera Unit -> Angle of View Range** | Horizontal angle of view: 75.1° (wide) to 4.0° (tele)<br>Vertical angle of view: 46.7° (wide) to 2.3° (tele)<br>Diagonal angle of view: 82.8° (wide) to 4.6° (tele) |
| **Camera Unit -> Optical Filter -> ND Filter** | Through, 1/4, 1/16, 1/64, IR through (IR through is used as “Night mode”) |
| **Camera Unit -> Focus** | Switching between auto and manual |
| **Camera Unit -> Focus Distance** | Entire zooming range: 1000 mm (3.3 ft)<br>Wide end: 100 mm (0.33 ft) |
| **Camera Unit -> Color Separation Optical System** | 1MOS |
| **Camera Unit -> Standard Sensitivity** | F9, 2000 lx (When normal mode is selected) |
| **Camera Unit -> Minimum Illumination** | 2 lx (F2.8, 59.94p, 50IRE, 42 dB, without accumulation) |
| **Camera Unit -> Horizontal Resolution -> HD** | 1000 TV lines Typ (Center area) |
| **Camera Unit -> Gain Selection** | Auto, 0 dB to 36 dB *2<br>Super Gain function equipped : +37 dB to 42 dB |
| **Camera Unit -> Frame Mix** *2 | 0 dB, 6 dB, 12 dB, 18 dB, 24 dB |
| **Camera Unit -> Electronic Shutter Speed -> 59.94p/59.94i** | 1/60, 1/100, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/8000, 1/10000 |
| **Camera Unit -> Electronic Shutter Speed -> 50p/50i** | 1/60, 1/100, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/8000, 1/10000 |
| **Camera Unit -> Electronic Shutter Speed -> 29.97p** | 1/30, 1/60, 1/100, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/8000, 1/10000 |
| **Camera Unit -> Electronic Shutter Speed -> 25p** | 1/25, 1/50, 1/60, 1/100, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/8000, 1/10000 |
| **Camera Unit -> Electronic Shutter Speed -> 23.98p/24p** | 1/24, 1/48, 1/60, 1/100, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/8000, 1/10000 |
| **Camera Unit -> Synchro Scan -> 59.94p/59.94i** | 60.00 Hz to 7200 Hz |
| **Camera Unit -> Synchro Scan -> 50p/50i** | 50.00 Hz to 7200 Hz |
| **Camera Unit -> Synchro Scan -> 29.97p** | 30.00 Hz to 7200 Hz |
| **Camera Unit -> Synchro Scan -> 25p** | 25.00 Hz to 7200 Hz |
| **Camera Unit -> Synchro Scan -> 23.98p/24p** | 24.00 Hz to 7200 Hz |
| **Camera Unit -> Gamma** | HD / FILMLIKE1 / FILMLIKE2 / FILMLIKE3/ FILM REC / VIDEO REC / HLG |
| **Camera Unit -> White Balance** | ATW : 3200K, 5600K<br>ATW Speed : Normal / Slow / Fast<br>AWB : AWB-A / AWB-B<br>VAR (selectable between 2000K and 15000K by designating a value) |
| **Camera Unit -> Chroma Amount Variability** | OFF, –99 % to 99 % |
| **Camera Unit -> Scene File** | Scene1, Scene2, Scene3, Scene4 |
| **Camera Unit -> Output Format (SDI) -> 4K** | 1080/59.94p, 1080/50p, 1080/29.97p *4, 1080/29.97PsF, 1080/25p *4, 1080/25PsF, 1080/23.98p *5, 1080/24p *4, 1080/23.98p *4, 1080/23.98PsF, 1080/59.94i, 1080/50i, 720/59.94p, 720/50p |
| **Camera Unit -> Output Format (SDI) -> HD** | 1080/59.94p, 1080/50p, 1080/29.97p *4, 1080/29.97PsF, 1080/25p *4, 1080/25PsF, 1080/23.98p *5, 1080/24p *4, 1080/23.98p *4, 1080/23.98PsF, 1080/59.94i, 1080/50i, 720/59.94p, 720/50p |
| **Camera Unit -> Output Format (HDMI) -> 4K** | 1080/59.94p, 1080/50p, 1080/29.97p *4, 1080/29.97PsF, 1080/25p *4, 1080/25PsF, 1080/23.98p *5, 1080/24p *4, 1080/23.98p *4, 1080/23.98PsF, 1080/59.94i, 1080/50i, 720/59.94p, 720/50p |

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| **Camera Unit -> Output Format (HDMI) -> HD** | 1080/59.94p, 1080/50p, 1080/29.97p [*4], 1080/29.97PsF, 1080/25p [*4], 1080/25PsF, 1080/23.98p [*5], 1080/24p [*4], 1080/23.98p [*4], 1080/23.98PsF, 1080/59.94i, 1080/50i, 720/59.94p, 720/50p |
| **Camera Unit -> Output Format(Fiber (video only)) -> 4K** | 1080/59.94p, 1080/50p, 1080/29.97p, 1080/29.97PsF, 1080/25p, 1080/25PsF, 1080/23.98p, 1080/24p, 1080/23.98p, 1080/23.98PsF, 1080/59.94i, 1080/50i, 720/59.94p, 720/50p |
| **Camera Unit -> Output Format(Fiber (video only)) -> HD** | 1080/59.94p, 1080/50p, 1080/29.97p, 1080/29.97PsF, 1080/25p, 1080/25PsF, 1080/23.98p [*5], 1080/24p, 1080/23.98p, 1080/23.98PsF, 1080/59.94i, 1080/50i, 720/59.94p, 720/50p |
| **Camera Unit -> Output Format(ST 2110) -> HD** | 1080/59.94p, 1080/50p, 1080/29.97p, 1080/29.97PsF, 1080/25p, 1080/25PsF, 1080/23.98p, 1080/24p, 1080/23.98p, 1080/23.98PsF, 1080/59.94i, 1080/50i, 720/59.94p, 720/50p |
| **Synchronization System** | Internal/External synchronization (BBS/Tri-level sync) |
| **Input Connector -> DC IN** | DC 12 V IN |
| **Input Connector -> G/L IN (BNC)** | BBS (Black Burst Sync), tri-level sync supported |
| **Input Connector -> AUDIO INPUT -> Stereo Mini Jack** | AAC compatible (compatible with IP only)<br>ø 3.5 mm stereo mini jack<br>Input impedance: Approx. 10 kΩ (unbalanced)<br>• During MIC input<br>Supported mic: Stereo mic (plug-in power, on/off switching via menu)<br>Supply voltage: 2.5 V ± 0.5 V<br>Mic input sensitivity: Approx. –40 dBV (0 dB=1 V/Pa, 1 kHz)<br>• During LINE input<br>Input level: Approx. –10 dBV |
| **Output Connector -> HDMI** | HDMI 2.0 standard<br>4:2:2/10bit<br>• HDCP is not supported.<br>• Viera Link is not supported. |
| **Output Connector -> 3G-SDI OUT** | SMPTE292M/SMPTE424M / 75 Ω (BNC x 1)<br>• Level-A/Level-B supported |
| **Input/Output Connector -> LAN** | LAN connector for IP control (RJ-45) 100BASE-TX/1000BASE-T |
| **Input/Output Connector -> RS-422** | CONTROL IN RS-422A (RJ-45) |
| **Input/Output Connector -> MIC/LINE Input** | AAC compatible (compatible with IP only)<br>ø 3.5 mm stereo mini jack<br>Input impedance: Approx. 10 kΩ (unbalanced)<br>• During MIC input<br>Supported mic: Stereo mic (plug-in power, on/off switching via menu)<br>Supply voltage: 2.5 V ± 0.5 V<br>Mic input sensitivity: Approx. –40 dBV (0 dB=1 V/Pa, 1 kHz)<br>• During LINE input<br>Input level: Approx. –10 dBV |
| **Pan-tilt Head Unit -> IP connecting cable [*5]** | LAN cable [*6]: (category 5e or above, straight cable), max. 100 m (328 ft) |
| **Pan-tilt Head Unit -> AW protocol connecting cable** | LAN cable [*6]: (category 5e or above, straight cable), max. 1000 m (3280 ft) |
| **Pan-tilt Head Unit -> Installation Method** | Stand-alone (Desktop) or suspended (Hanging) [*7] |
| **Pan-tilt Head Unit -> Pan/tilt Operation Speed** | Minimum speed 0.08°/s<br>Maximum speed 60°/s or higher [*8]<br>• Maximum speed is 180°/s in high-speed mode |
| **Pan-tilt Head Unit -> Panning Range** | ±175° |
| **Pan-tilt Head Unit -> Tilting range** | –30° to 210° [*9] |
| **Pan-tilt Head Unit -> Quietness** | NC35 or less |
| **Supported Operating Systems and Web Browsers -> Windows** | Microsoft® Windows® 10<br>Microsoft Edge<br>Google Chrome |
| **Supported Operating Systems and Web Browsers -> Mac** | MacOS v11.0.1 / Safari 14.01<br>MacOS v11.0.1 / Google Chrome<br>MacOS V10.15 / Google Chrome<br>MacOS V10.14 / Google Chrome |
| **Supported Operating Systems and Web Browsers -> iPhone/iPad** | iOS<br>Google Chrome |
| **IP Streaming -> Image Streaming Mode** | JPEG (MJPEG), H.264, H.265 |
| **IP Streaming -> Image Resolution** | 1920x1080, 1280x720, 640x360, 320x180 |
| **IP Streaming -> Image Transmission Setting (JPEG)** | Frame Rate: Maximum 30 fps<br>Image quality (Fine / Normal) |
| **IP Streaming -> Image Transmission Setting (H.264) -> Transmission Type** | Unicast port (AUTO)<br>Unicast port (MANUAL)<br>Multicast port |
| **IP Streaming -> Image Transmission Setting (H.264) -> Transmission mode** | Constant bit rate<br>Frame rate<br>Best effort |
| **IP Streaming -> Image Transmission Setting (H.264) -> Frame Rate** | [60Hz] 60fps / 30fps / 15fps / 5fps<br>[50Hz] 50fps / 25fps / 12.5fps / 5fps |
| **IP Streaming -> Image Transmission Setting (H.264) -> Max Bit Rate** | 24576kbps / 20480kbps / 16384kbps / 14336kbps / 12288kbps / 10240kbps / 8192kbps / 6144kbps / 4096kbp / 3072kbpss / 2048kbps / 1536kbps / 1024kbps / 768kbps / 512kbps |

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| **IP Streaming -> Image Transmission Setting (H.265) -> Transmission Type** | Unicast port (AUTO)<br>Unicast port (MANUAL)<br>Multicast port |
| **IP Streaming -> Image Transmission Setting (H.265) -> Frame Rate** | [60Hz] 60fps / 30fps<br>[50Hz] 50fps / 25fps |
| **IP Streaming -> Image Transmission Setting (H.265) -> Max Bit Rate** | 24576kbps / 20480kbps / 16384kbps / 14336kbps / 12288kbps / 10240kbps / 8192kbps / 6144kbps / 4096kbp / 3072kbpss / 2048kbps / 1536kbps / 1024kbps / 768kbps / 512kbps |
| **IP Streaming -> Image Transmission Setting (SRT H.264) -> Transmission Type** | UDP Unicast Only |
| **IP Streaming -> Image Transmission Setting（SRT H.264） -> Frame Rate** | [60Hz] 60fps / 30fps / 15fps / 5fps<br>[50Hz] 50fps / 25fps / 12.5fps / 5fps |
| **IP Streaming -> Image Transmission Setting (SRT H.264) -> Max Bit Rate** | 24576kbps / 20480kbps / 16384kbps / 14336kbps / 12288kbps / 10240kbps / 8192kbps / 6144kbps / 4096kbp / 3072kbpss / 2048kbps / 1536kbps / 1024kbps / 768kbps / 512kbps |
| **IP Streaming -> Image Transmission Setting（SRT H.265） -> Transmission Type** | UDP Unicast Only |
| **IP Streaming -> Image Transmission Setting（SRT H.265） -> Frame Rate** | [60Hz] 60fps / 30fps / 15fps / 5fps<br>[50Hz] 50fps / 25fps / 12.5fps / 5fps |
| **IP Streaming -> Image Transmission Setting（SRT H.265） -> Max Bit Rate** | 24576kbps / 20480kbps / 16384kbps / 14336kbps / 12288kbps / 10240kbps / 8192kbps / 6144kbps / 4096kbp / 3072kbpss / 2048kbps / 1536kbps / 1024kbps / 768kbps / 512kbps |
| **IP Streaming -> Image Transmission Setting（RTMP/RTMPS） -> Max Bit Rate** | 24576kbps / 20480kbps / 16384kbps / 14336kbps / 12288kbps / 10240kbps / 8192kbps / 6144kbps / 4096kbp / 3072kbpss / 2048kbps / 1536kbps / 1024kbps / 768kbps / 512kbps |
| **IP Streaming -> Audio Compression Format** | AAC-LC, 48 kHz / 16 bit / 2ch |
| **IP Streaming -> Supported Protocol -> IPv6** | TCP / IP, UDP / IP, HTTP, HTTPS, DNS, NTP, DHCPv6, MLD, ICMP, ARP, RTSP/RTP |
| **IP Streaming -> Supported Protocol -> IPv4** | TCP / IP, UDP / IP, HTTP, HTTPS, RTSP/RTP, DHCP, DNS, DDNS, NTP, IGMP, ICMP, ARP, RTMP, RTMPS, SRT, MPEG2-TS over UDP |
| **NDI® Support -> NDI® Support** | NDI® \| HX version 2 |
| **NDI® Support -> Image Streaming Setting (NDI® HX) -> Transmission Type** | Unicast port (AUTO)<br>Unicast port (MANUAL)<br>Multicast port |
| **NDI® Support -> Image Streaming Setting (NDI® HX) -> Flame rate** | [60Hz] 60fps / 30fps / 15fps / 5fps<br>[50Hz] 50fps / 25fps / 12.5fps / 5fps |
| **NDI® Support -> Image Streaming Setting (NDI® HX) -> Max Bit Rate** | 24576kbps / 20480kbps / 16384kbps / 14336kbps / 12288kbps / 10240kbps / 8192kbps / 6144kbps / 4096kbp / 3072kbpss / 2048kbps / 1536kbps / 1024kbps / 768kbps / 512kbps |
| **Other Function -> Tally LED Display Color** | red / green |
| | [60Hz] 60fps / 30fps / 15fps / 5fps<br>[50Hz] 50fps / 25fps / 12.5fps / 5fps<br>[24Hz] 24fps |
| **Footnote Description** | *NDI® is a new protocol developed by NewTek, Inc. that supports IP video production workflow. NDI® is a registered trademark of NewTek, Inc. in the United States and other countries.<br>1. Available in September 2021.<br>2. 1 dB step increments can be set.<br>3. This cannot be configured when the format is 2160/29.97p, 2160/23.98p, 2160/24p, 2160/25p, 1080/29.97p, 1080/23.98p(59.94i), 1080/29.97PsF, 1080/23.98PsF, 1080/25p, 1080/25PsF.<br>4. Native output.<br>5. It denotes “1080/23.98p over 59.94i”.<br>6. Use of an STP (shielded twisted pair) cable is recommended.<br>7. To ensure safety, the unit must be secured using the mount bracket supplied.<br>8. Quietness, stationary accuracy, etc., in high-speed mode may vary from normal mode.<br>9. Depending on the pan or tilt position, the camera may be reflected in the image.<br>10. Supported OS indicated are for browsers current as of October 2018. See “Service and Support / PASS” for the latest information on browser support.<br>11. Contact your local Panasonic vendor for further information. |