
## 4K 50/60p PTZ Camera supporting Full-Bandwidth NDI®*1, SRT and FreeD protocols

# AW-UE80

The AW-UE80W/K is a PTZ camera suitable for capturing the natural facial expressions of actors/performers and for recording events without spoiling the ambiance. The dome-shaped design minimizes “the feeling of being recorded on video” while the new direct-drive motor produces a very quiet operating sound so it won’t disturb the production activities or spoil the ambiance. The camera offers high-image-quality 4K/60p resolution, wide 74.1° angle, and optical zoom with up to 24x magnification to achieve superb video image quality. The AW-UE80W/K also offers excellent stability and security during video streaming so it can be used for any type of video production. From the production of a reality show to the recording of an internal business or educational event, the top-of-the-line standard model, AW-UE80W/K, can be used in a diversity of applications.

**Key Features**

- Supports a wide variety of IP transmission protocols, including NDI®*1 High Bandwidth, NDI®*1 HX, and SRT*2
- Supports 4K 50p/60p shooting
- Includes a wide-angle lens with a 74.1° field of view and 24x optical zoom
- Supports FreeD for building AR/VR systems
- New Direct Drive System for improved responsiveness and quietness

Panasonic CONNECT

# AW-UE80

https://ap.connect.panasonic.com/ph/en/aw-ue80

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| **General -> Power Requirements** | 12 V DC (10.8 V to 13.2 V) (Supplied AC adapter) |
| **General -> PoE** | PoE++ *1<br>IEEE802.3bt compliant: DC42 to 57 V<br>(Software authentication (LLDP) is supported) |
| **General -> Current Consumption** | 3.0 A (Supplied AC adaptor), 1.0 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. 2.0 kg (4.41 lbs) (excluding ceiling mounting bracket),<br>Approx. 2.25 kg (4.96 lbs) (including ceiling mounting bracket) |
| **General -> Dimensions** | W 170.0 mm x H 211.0 mm x D 171.0 mm<br>(6.693 inches x 8.307 inches x 6.732 inches)<br>(Excluding protrusions, cable cover, ceiling mounting bracket) |
| **General -> Finish** | AW-UE80W: White<br>AW-UE80K: Black |
| **General -> Controller Supported<sup> *1</sup>** | See the "Compatibility Chart for Operation Devices and Application Software" page |
| **Camera Unit -> Imaging Sensor** | 1/2.5-type 4K MOS x 1 |
| **Camera Unit -> Effective Pixels** | Approx. 8,490,000 pixels |
| **Camera Unit -> Zoom** | • Optical zoom: 24x<br>• i.Zoom UHD 28x, FHD 36x<br>• Digital extender zoom: 1.4x, 2x |
| **Camera Unit -> Lens** | Motorized Optical 24x zoom, F1.8 to F4.0<br>[f=4.12 mm (5/32 inches) to 98.9 mm (3-29/32 inches);<br>35 mm (1-3/8 inches) equivalent: 25.0 mm (31/32 inches) to 600.0 mm (23-5/8 inches)] |
| **Camera Unit -> Conversion Lens** | Not supported |
| **Camera Unit -> Angle of View Range** | Horizontal angle of view: 74.1° (wide) to 3.3° (tele)<br>Vertical angle of view: 46.0° (wide) to 1.9° (tele)<br>Diagonal angle of view: 81.8° (wide) to 3.8° (tele) |
| **Camera Unit -> Optical Filter -> ND Filter** | Through, 1/4, 1/16, 1/64, IR through<br>(IR through is used as "night mode") |
| **Camera Unit -> Focus** | Switching between auto and manual |
| **Camera Unit -> Focus Distance** | Entire zooming range: 1200 mm (3.9 ft)<br>Wide end: 100 mm (0.33 ft) |
| **Camera Unit -> Color Separation Optical System** | 1MOS |
| **Camera Unit -> Minimum Illumination** | 3 lx (F1.8, 59.94p, 50IRE, 42 dB, without accumulation) |
| **Camera Unit -> Horizontal Resolution -> 4K** | 1,500 TV Typ (Center area, UHD mode, wide) |
| **Camera Unit -> Horizontal Resolution -> HD** | 1,000 TV Typ (Center area, FHD mode, wide) |
| **Camera Unit -> Gain Selection<sup> *2</sup>** | Auto, 0 dB to 36 dB *2 (Super Gain function equipped : 37 dB to 42 dB) |
| **Camera Unit -> Frame Mix<sup> *3</sup>** | Auto, 0 dB, 6 dB, 12 dB, 18 dB, 24 dB *3 |
| **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 |

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| **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 / Normal / Cinema1 / Cinema2 / Still Like |
| **Camera Unit -> White Balance** | • ATW: 3200 K, 5600 K (ATW Speed 3-stage variables.)<br>• AWB: AWB-A / AWB-B<br>• VAR (selectable between 2000 K and 15000 K by designating a value) |
| **Camera Unit -> Chroma Amount Variability** | OFF, –99 % to 99 % |
| **Camera Unit -> Output Format (SDI) -> HD** | 1080/59.94p, 50p, 1080/59.94i, 50i, 1080/29.97p (Native), 25p (Native),<br>23.98p (over59.94i), 1080/29.97psF, 25psF, 23.98psF, 1080/24p (Just),<br>23.98p (Native), 720/59.94p, 50p |
| **Camera Unit -> Output Format (HDMI) -> 4K** | 2160/59.94p, 2160/50p, 2160/29.97p (Native), 2160/25p (Native), 2160/24p (Native), 2160/23.98p (Native) |
| **Camera Unit -> Output Format (HDMI) -> HD** | 1080/59.94p, 50p, 1080/59.94i, 50i, 1080/29.97p (Native), 25p (Native),<br>23.98p (over59.94p), 1080/24p (Just), 23.98p (Native), 720/59.94p, 50p |
| **Synchronization System** | Internal/External synchronization (BBS/Tri-level sync) |
| **Input Connector -> DC IN** | DC 12 V IN |
| **Input Connector -> G/L IN** | BBS (Black Burst Sync), tri-level sync supported) |
| **Output Connector -> HDMI** | HDMI 2.0 connector<br>4:2:2/10bit<br>• HDCP is not supported.<br>• Viera Link is not supported. |
| **Output Connector -> 3G-SDI OUT** | SMPTE292M/424M/ 75 Ω(BNC×1)<br>• Level-A/Level-B supported |
| **Input/Output Connector -> LAN** | LAN terminal for IP control (RJ-45) 100BASE-TX/1000BASE-T |
| **Input/Output Connector -> RS-422** | CONTROL IN RS422A(RJ-45) |
| **Input/Output Connector -> MIC/LINE Input** | AC compatibility (compatible with IP only)<br>Φ3.5 mm stereo mini jack<br>• During MIC input<br>Input level: -40 dBV (0 dB=1 V/Pa, 1 kHz)<br>Supply voltage: 2.5 V±0.5 V (plug-in power compatible)<br>"• Input impedance: Approx. 2 kΩ (when plug-in power is turned ON)<br>Approx. 20 kΩ (when plug-in power is turned OFF)"<br>• During LINE input<br>Input level: -10 dBV<br>Input impedance: Approx. 3 kΩ<br>• Input volume variable range: -36 dB to 12 dB (3 dB step)<br>• Embedded audio output level: -12 dBFS<br>• Sampling frequency: 48 kHz<br>• Quantization bit rate: 24 bit (SDI, HDMI), 16 bit (IP) |
| **Pan-tilt Head Unit -> IP connecting cable** | • If you have a PoE++ ethernet hub<br>LAN cable *4 *5(category 5e or above, straight cable) Max 100 m (328 ft)<br>• If you don't have a PoE++ ethernet hub<br>LAN cable *4 *5(category 5e or above, straight cable) Max 100 m (328 ft) |
| **Pan-tilt Head Unit -> AW protocol connecting cable** | LAN cable *4(category 5e or above, straight cable) Max 1000 m (3280 ft) |
| **Pan-tilt Head Unit -> Installation Method** | Stand-alone (Desktop) or suspended (Hanging) *6 |
| **Pan-tilt Head Unit -> Pan/tilt Operation Speed** | Speed range: 0.08°/s to 60°/s (Normal mode) *7<br>• 3 speed modes installed<br>Normal:60°/s, Fast1:90°/s, Fast2:180°/s |
| **Pan-tilt Head Unit -> Panning Range** | ±175° |
| **Pan-tilt Head Unit -> Tilting range<sup> *5</sup>** | -30°to 90° *8 |
| **Pan-tilt Head Unit -> Quietness** | NC25 or less |
| **Supported Operating Systems and Web Browsers -> Windows<sup> *11</sup>** | Windows 10<br>Windows® Internet Explorer® 11(32 bit / 64 bit)<br>Microsoft Edge<br>Google Chrome |
| **Supported Operating Systems and Web Browsers -> Mac<sup> *11</sup>** | Mac OS v11.0.1 / Safari 14.01<br>Mac OS v11.0.1 / Google Chrome<br>Mac OS v10.15 / Google Chrome<br>Mac OS v10.14 / Google Chrome |
| **Supported Operating Systems and Web Browsers -> iPhone/iPad<sup> *11</sup>** | iOS<br>Safari<br>iPadOS |

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| **Supported Operating Systems and Web Browsers -> Android<sup> *9</sup>** | Android OS<br>Google Chrome |
| **IP Streaming -> Image Streaming Mode** | JPEG(MJPEG), H.264, H.265, NDI®\|HX version 2 *10 *11 *12 (H.264), High Bandwidth NDI® |
| **IP Streaming -> Image Resolution** | 1920×1080, 1280×720, 640×360, 320×180 |
| **IP Streaming -> Image Transmission Setting (JPEG)** | Frame rate: Maximum 30fps<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** | [60 Hz] 5fps / 15fps / 30fps / 60fps<br>[50 Hz] 5fps / 12.5fps / 25fps / 50fps |
| **IP Streaming -> Image Transmission Setting (H.264) -> Max Bit Rate** | 512kbps / 768kbps / 1024kbps / 1536kbps / 2048kbps / 3072kbps / 4096kbps / 6144kbps / 8192kbps / 10240kbps / 12288kbps / 14336kbps / 16384kbps / 20480kbps / 24576kbp |
| **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** | [60 Hz] 30fps / 60fps<br>[50 Hz] 25fps / 50fps |
| **IP Streaming -> Image Transmission Setting (H.265) -> Max Bit Rate** | 1024kbps / 1536kbps / 2048kbps / 3072kbps / 4096kbps / 6144kbps / 8192kbps / 10240kbps / 12288kbps / 14336kbps / 16384kbps / 20480kbps / 24576kbps |
| **IP Streaming -> Audio Compression Format** | AAC-LC, 48 kHz, 16 bit, 2 ch |
| **IP Streaming -> Supported Protocol -> Network Protocol** | ICMP, ARP, GARP, MLD |
| **IP Streaming -> Supported Protocol -> Transmission Protocol** | TCP/IP, UDP/IP |
| **IP Streaming -> Supported Protocol -> IPv6** | HTTP, HTTPS, DNS, NTP, DHCPv6, MDNS, SNMP, 802.1X |
| **IP Streaming -> Supported Protocol -> IPv4** | HTTP, HTTPS, DNS, NTP, DHCPv4, MDNS, SNMP, 802.1X |
| **IP Streaming -> Supported Protocol -> Video Streaming Protocol** | RTP/RTCP over RTSP, RTMP, RTMPS, SRT,<br>MPEG2-TS over UDP, NDI® \|HX version 2, High bandwidth NDI® |
| **IP Streaming -> Supported Protocol -> External Device Cooperation Protocol** | FreeD, TSL5.0, SNMP |
| **NDI<sup>®</sup> Support -> NDI<sup>®</sup> Support** | NDI® NDI®\|HX Ver.2: Included as standard *13<br>High Bandwidth NDI®: Included as standard*13 |
| **NDI<sup>®</sup> Support -> Output Format (NDI<sup>®</sup> High bandwidth) -> HD** | 1080/59.94p, 1080/50p, 1080/29.97p, 1080/25p, 1080/24p, 1080/23.98p, 720/59.94p, 720/50p |
| **NDI<sup>®</sup> Support -> Image Resolution (NDI<sup>®</sup> HX)** | 1920x1080, 1280x720 |
| **NDI<sup>®</sup> Support -> Image Streaming Setting (NDI<sup>®</sup> High bandwidth) -> Transmission Type** | TCP/UDP, Unicast/Multicast |
| **NDI<sup>®</sup> Support -> Image Streaming Setting (NDI<sup>®</sup> High bandwidth) -> Max Bit Rate** | 250 Mbps |
| **NDI<sup>®</sup> Support -> Image Streaming Setting (NDI<sup>®</sup> HX) -> Transmission Type** | TCP/UDP, Unicast/Multicast |
| **NDI<sup>®</sup> Support -> Image Streaming Setting (NDI<sup>®</sup> HX) -> Flame rate** | [60 Hz] 5fps/15fps/30fps/60fps<br>[50 Hz] 5fps/12.5fps/25fps/50fps |
| **NDI<sup>®</sup> Support -> Image Streaming Setting (NDI<sup>®</sup> HX) -> Max Bit Rate** | 512kbps / 768kbps / 1024kbps / 1536kbps / 2048kbps / 3072kbps / 4096kbps / 6144kbps / 8192kbps / 10240kbps / 12288kbps / 14336kbps / 16384kbps / 20480kbps / 24576kbps |
| **NDI<sup>®</sup> Support -> Audio Compression Type (NDI<sup>®</sup> High bandwidth)** | AAC, 48 kHz, 2 ch |
| **NDI<sup>®</sup> Support -> Audio Compression Type (NDI<sup>®</sup> HX)** | AAC-LC, 48 kHz, 16 bit, 2 ch |
| **Other Function -> Tally LED Display Color** | red / green |
| **Other Function -> VR Support (IP/RS422)** | Compatible with FreeD |

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| **Footnote Description** | * NDI® is a registered trademark of Vizrt NDI AB in the United States and other countries. |

In normal use within the ambient operating temperature range, the PoE+ switch will also work.

However, the camera may stop operating or the power supply may be stopped depending on the specifications of the PoE+ switch when the power load exceeds the PoE+ specified power when abnormalities such as pan/tilt is stopped due to external forces or when the ambient temperature has changed significantly. Operation with PoE+ switch is not guaranteed, so please check the operation in advance under the condition of use, and judge the use by yourself.

Can be set in 1 dB step increments.

Cannot be set 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.

STP (Shielded Twisted Pair) is recommended.

Use Category 6 or higher when transmitting 4K video.

To ensure safety, the unit must be secured using the mount bracket supplied.

Note that the operating noise may be loud in high speed. If the operating noise is disturbing, use the Normal mode.

The main unit may appear in the video depending on the pan/tilt position.

Supported OS indicated are for browsers current as of August 2020. See “Service and Support / PASS” for the latest information on browser support.

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.

In this instance, NDI® is used to indicate low latency with high bandwidth NDI®, NDI®|HX is used to indicate high efficiency low bandwidth NDI®|HX. In the NDI®|HX mode, 4K video signals cannot be output. AW-UE80 supports NDI®|HX version 2 and Full HD output.

Simultaneous operation with the AW protocol is not possible.

Non-synchronous with SDI-OUT