Panasonic BUSINESS

AW-HR140
Full-HD Outdoor Integrated Camera

Compatible with various outdoor environments and applications
Outdoor integrated remote camera that maintains stable recording performance in the toughest of environments

Outdoor housing and camera, lens, and pan head are integrated in this remote camera system. The camera is equipped with the same Digital Signal Processor (DSP) and 1/2.86 type full HD 3MOS sensors as in the AW-HE130W/K. High sensitivity, high S/N ratio, and high resolution are achieved by advanced video processing.

In addition to the functions of the AW-HE130W/K, mechanisms needed for shooting outdoors are enhanced as well. Flexible operation is achieved by features compatible with tough outdoor environments such as resistance to water and dust, wind pressure, and severe salt damage, as well as hot environments.

1/2.86-type 3MOS sensors for high-level video capture and production.

Equipped with the same 1/2.86-type full HD 3MOS sensors and DSP (Digital Signal Processor) as AW-HE130W/K, AW-HR140 realizes high sensitivity, a high S/N ratio and high resolution through the use of advanced video processing.

High Performance 20x Zoom Lens/1.4x Digital Extender Zoom

In addition to a sharp, fast F1.6, 20x optical zoom lens, the AW-HR140 is equipped with an innovative 1.4x digital extender that can increase the effective focal length of the lens by 40% while delivering smooth, high resolution video.

Haze Reduction Function

For installations in places where haze tends to occur, this function performs correction for a subject with low contrast to make the image clearer. Three settings can be selected for the compensation level.

- White-tinged images are reduced and overall contrast is improved.
- Intensity of haze reduction effect can be adjusted manually according to the density of haze.
- Haze reduction level can be selected from three stages: low, mid, and high.

Resistance to severe salt damage and compatibility with hot environments

Aluminum and other metal parts are coated to protect against severe salt damage, enabling installation in seaside areas subject to salt air. PBT/PPS plastic is employed for the exterior, giving excellent heat resistance.

Defroster for temperatures down to –15 ºC (5 ºF)

Frosting, icing, and condensation are prevented by heating in environments as cold as –15 ºC (5 ºF). Even in blizzards, snow that hits the glass surface melts off to maintain visibility.

Lens wiper

The lens part is kept clear even when used in harsh environments. The wiper can be controlled by a remote camera controller (AW-RP120G/RP50) if connected to the control terminal of a commercially available washer unit from the camera’s washer control terminal.

PBT (Polybutylene Terephthalate): Excellent long-term thermal stability

PPS (Polyphenylene Sulfide): High heat resistance and excellent abrasion resistance

Resistance to wind pressure

All functions are guaranteed to operate in wind speeds of up to 15 m/s. Basic performance is maintained at wind speeds of up to 50 m/s without destruction of the camera.

*Images are simulated
Monitoring by IP control using PC, Mac and mobile terminals

Using an IP browser, such as Internet Explorer or Safari, it is possible to set up and control the camera from a remote location. This feature simplifies the management of cameras around a campus, or across a worldwide enterprise network. IP video monitoring and remote camera control can also be performed from mobile terminals such as an iPhone, iPad or Android devices.

Transmit IP video without a separate encoder reduces cost and simplifies installation

There is no need for the separate encoder normally required when streaming video and audio via IP. Thus, systems can be built with exceptional cost/performance benefits.

Auto Tracking White Balance (ATW) modes (Slow/Normal/Fast)

In addition to the conventional tracking speed (Normal), Slow Mode for gently tracking color temperature changes outdoors, and Fast Mode for quick tracking have been added.

Supporting PoE++ for lower installation cost

By connecting to network devices that support the IEEE802.3bt Draft ver.2.0 standard, power can be supplied via LAN cable. Since it is not necessary to install a power supply or even a local AC outlet, installation costs can be significantly reduced.

Dynamic Range Stretch (DRS) / Hybrid Digital Noise Reduction (Hybrid DNR)

Black defects, halation and washed-out colors are minimized for video images with a visually broad dynamic range (DRS). In addition, with Hybrid Digital Noise Reduction (Hybrid DNR), two types of noise reduction, 2D and 3D, are used together to enable clear video capture under a wide range of lighting conditions, with minimal after-image blurring or image degradation.

Equipped with Night Mode for infrared shooting

The AW-HR140 can deliver high-quality monochrome video in total darkness, when the camera’s Night Mode is used in conjunction with an optional IR illuminator.

Supports multiple formats for flexible output

In addition to typically supported formats, the camera as well as other cameras designed for indoor-use supports multiple output formats required for specialized applications, including 1080/29.97p, 1080/25p, 1080/23.98p. Remote control video capture can now be more easily performed for specialized applications such as teleproduction, and scientific research.

* According to our research, as of April 2017.

* Images are simulated

Diagram Example

Power source  
Control signal  
Video signal  
Controller  
Lan cable (max. 100 m)

Hubs that support IEEE802.3af/at(PoE/PoE+) are not supported.  
* Abbreviation of Power over Ethernet Plus Plus.

*1: Native output *2: Over 59.94i output *3: For 1080/25PsF, 50i may be displayed on the monitor screen.  
 Furthermore, for 1080/23.98PsF and 29.97PsF, 59.94i may be displayed on the monitor screen.

Transmit IP video without a separate encoder reduces cost and simplifies installation

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Supported formats

1080i59.94p, 1080i29.97p*1, 1080i23.98p*2, 1080i59.94, 
1080PsF*3, 1080i23.98PsF*3, 720i59.94p, 1080i50p, 1080i25p*1, 
1080i50i, 1080i25PsF*4, 720i50p

*1: Native output *2: Over 59.94i output *3: For 1080/25PsF, 50i may be displayed on the monitor screen.  
Furthermore, for 1080/23.98PsF and 29.97PsF, 59.94i may be displayed on the monitor screen.

Lecture capture/Streaming System Example

When used with cameras with only SDI/HDMI output

When used with cameras capable of IP video output

Freeze During Preset function

The Freeze During Preset function can freeze the video during preset playback. The immediate preceding still image is output during preset movements so that the swiveling movement is not displayed, making operations possible with one camera.

With Freeze During Preset function OFF and ON

* Images are simulated

ON  OF

Preset movement starts  
Preset movement ends

Outputs the last frame of the camera image before it starts preset.
Intelligent Functions

Intelligent functions significantly reduce time and effort for adjustment during remote video acquisition.

**Auto Tracking White Balance Function**

This function automatically adjusts the white balance as the color temperature gradually changes during outdoor shootings.

**Automatic Gain Control (AGC)**

Variable gain is automatically controlled in dark scenes.

**Exceptional Pan-Tilt mechanism performance for smooth moves**

Thanks to a highly evolved pan-tilt design, the AW-HR140 achieves smoother and more natural movement during on-air shots. The pan-tilt head also has a wide shooting range, with a pan range of ±175° and a tilt range of -30° to 210°. The newly developed pan-tilt drive provides high-speed operation at maximum 60°/s, excellent response to remote control operation, and highly precise stop control. These features combine to accurately capture fast-action sports scenes or smooth concert footage. The camera also achieves the low noise level during operation, at NC45 or less at a pan-tilt speed of 60°/s.

System example

**Serial control**

- HD Integrated Camera AW-HR140
- External DC power supply
- SDI video signal
- Compact Live Switcher AW-HS50
- Monitor 1
- Monitor 2
- Remote Camera Controller AW-RP120G

*The AC adaptor provided with the unit is not shown in the above figure*

**IP control**

- HD Integrated Camera AW-HR140
- External DC power supply
- SDI video signal
- Compact Live Switcher AW-HS50
- Monitor 1
- Monitor 2
- Switching hub
- Remote Camera Controller AW-RP50

*The AC adaptor provided with the unit is not shown in the above figure*

**Optical fiber system/audio connection using PoE++**

- HD Integrated Camera AW-HR140
- SDI signal
- Optical fiber signal conversion module
- SDI monitor
- DC power supply
- PoE++ compatible switching hub or injector
- Audio signal (CH1/CH2)
- Optical fiber cable
- Line input is used for the unit's external audio input.

Flexible IP Control Architecture Simplifies System Design and Operation

Up to 100 x AW-HR140 cameras can be controlled via IP from a single AW-RP120G, AW-RP50, or PC. An AW-HR140 can also be simultaneously controlled by up to five AW-RP120G or AW-RP50’s via IP.

**Other functions**

- RS422 remote terminal allows up to five units to be controlled via serial control from a controller
- Audio line input function
- Power can be supplied to SDI/Fiber conversion module (DC 12 V outlet)
- Preset memory can hold up to 100 positions

Before correction

After correction

* Depending on the position of the pan and tilt, its own unit may be reflected in the image.

Exceptional Pan-Tilt mechanism performance for smooth moves

Thanks to a highly evolved pan-tilt design, the AW-HR140 achieves smoother and more natural movement during on-air shots. The pan-tilt head also has a wide shooting range, with a pan range of ±175° and a tilt range of -30° to 210°. The newly developed pan-tilt drive provides high-speed operation at maximum 60°/s, excellent response to remote control operation, and highly precise stop control. These features combine to accurately capture fast-action sports scenes or smooth concert footage. The camera also achieves the low noise level during operation, at NC45 or less at a pan-tilt speed of 60°/s.

* Depending on the position of the pan and tilt, its own unit may be reflected in the image.

Automatic Gain Control (AGC)

Variable gain is automatically controlled in dark scenes.
Specifications

General

- Power requirements: DC 12 V to 21.8 V (DC IN connected)
- DC 42 V to 57 V (PoE+ power supply)
- Current consumption: 3.1 A to 5.5 A (DC IN connected)
- 2 A (PoE+ power supply)
- Ambient operating temperature: -15 °C to 45 °C (5 °F to 113 °F) [Environment cooling is required when -5 °C (23 °F) or less]
- Ambient operating humidity: 10% to 100% (no condensation)
- Storage temperature: -20 °C to 55 °C (-4°F to 131°F)
- Storage humidity: 10% to 95% (no condensation)
- Mass: Approx. 9.0 kg (19.84 lb)
- Dimensions (W x H x D): 258 mm x 357 mm x 397 mm (10-5/32 inches x 14-13/16 inches x 15-5/8 inches) (including protrusions and cable cover)
- Finish: Silver, salt-resistant coating
- Waterproof and Dust Proof: IP66 compliant
- Maximum permissible wind speed: 15 m/sec: Operates normally 50 m/sec: Operation possible 60 m/sec: No damage
- Wi-Fi: Installed as standard
- Heater: Installed as standard
- Defrost: Installed as standard

Controller Supported

- AVH-HP1200W, AVH-HP50W, AX-HP200G
- It may be necessary to upgrade the version of the controller in order to support the unit. For details on upgrading, visit the support page on the following website: http://pro-av.panasonic.net/

Camera Unit

- Imaging Sensors: 1/2.86-type Full-HD 3MOS
- Lens: Optical 20x zoom (for digital zoom, f1.6 to f2.4 (f=4.5 mm to 90 mm; 35 mm equivalent: 22.13 mm to 642.5 mm)
- Focus: Switching between Auto and Manual
- Focus Distance: Entire zooming range: 800 mm (2.62 ft)
- Wide: 400 mm (13.11 ft)
- Color separation optical system: 3MOS
- Minimum Illumination: 2 lx (50 IRE, 1.6 lx, 36 dB, without accumulation)
- Horizontal Resolution: 1080 TV Lines Typ (Center area)
- Gain Selection: Auto 3 dB to 42 dB (1 dB steps) 37 dB to 42 dB is Super Gain Mode
- Frame Mix: 0 dB, 6 dB, 12 dB, 18 dB, 24 dB
- This cannot be configured when the format is 1080/29.97p, 1080/23.98p, 1080/29.97P, 1080/23.98P, 1080/25P, or 1080/25P(2:2:2)
- When [Iris Mode] or [Focus Mode] is set to [Auto], this cannot be set to 18 dB or 24 dB.

Electronic Shutter Speed

- 59.94p/59.84p
- 1/100, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000
- 29.97p
- 1/100, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000
- 23.9p
- 1/24, 1/60, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000
- 50.15p
- 1/100, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000
- 25p
- 1/100, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000
- Synchro Scan
- 59.94 Hz
- 60.15 Hz to 642.1 Hz (255 steps)
- 50 Hz
- 60.15 Hz to 642.1 Hz (255 steps)

Gamma

- HD, FILM1, FILM2, FILM3, FILM4, FILM5, FILM6
- 0.3 to 0.75 (Manual setting)

White Balance

- AWB A, AWB B, AWB C, AWB D, AWB E, AWB F
- Auto function for each of accumulation, gain, iris, electronic shutter, ND, and ATW

Synchronization System

- Internal/External synchronization (BBS[Tri-level sync])
- Input impedance: High impedance
- Input: 2 channels, XLR balanced input
- Input signal level: 480 mV ± 10 dB (selectable in menu)
- Volume variable range: -40 dB to +12 dB (can be changed in 1 dB steps in the menu)

Output

- Embedded audio output level: 75 dB ± 2 dB ± 12 dBFS, FS-18 dB ± 18 dBFS, FS-20 dB ± 20 dBFS (selectable in menu)
- Sampling frequency: 48 kHz (synchronized to video)
- Quantization bit rate: 24-bit (LP, LPCM)
- Audio compression format (IP): 0.726, AAC-LC (High quality)

Input

- Video Input: 3G/HD-SDI OUT (SMPTE424/SMPTE292 standards 75 Ω (BNC x 3)
- OSD output is possible from the SDI OUT (IP) connector but not from the SDI OUT 2 connector.

Output/Output

- Input/Output Connector: LAN
- LAN connector for IP control/video output/audio output PoE+ power supply PoE+ (IEEE802.3af Std draft ver.3.0 standard)
- IP connecting cable
- When connecting through a PoE++ hub: LAN cable® (category 5 or above, straight cable), max. 100 m (328 ft)
- When a PoE++ hub is not used: LAN cable® (category 5 or above, straight cable), max. 100 m (328 ft)

Pan/Tilt Head Unit

- Installation Method: Stand-alone (Desktop) or suspended (Hanging)
- To ensure safety, the unit must be secured using the mount brackets supplied.

Camera/Pan-Tilt Head Control

- AVH-HP1200W
- PW series
- connecting cable, standard protocol connecting cable
- LAN cable® (category 5 or above, straight cable), max. 1000 m (3280 ft)

Pan/Tilt Operation Speed

- Maximum speed 60°/s or higher

Panning Range

- ±75°

Tilting Range

- ±30° to ±210°
- Depending on the pan or tilt position, the camera may be reflected in the image.
- For suspended installations, the positions of the pins that determine the movement range must be changed.

Quietness

- 60°/s (NC4 or less)

Vibration Correction

- 0.5, 1, 1.5, 2, 5, 50 Hz Dynamic Image Stabilizing System
- Hexagonal bolt
- M8 x 30 mm: 4
- M8 washer: 4
- Spring washer: 4
- Cable cover: 1
- Washer nozzle mount bracket: 1
- Drop-prevention wire: 1
- Mounting screw (with hexagonal socket, for unit): M4 x 10 mm: 1
- Specifications are subject to change without notice.

Computer requirements

- CPU: Intel® Core™ 2 Duo 2.4 GHz or more recommended
- Memory: For Windows 1 GB or more (2 GB or more for 64-bit editions of Microsoft® Windows®10, Microsoft® Windows®8.1, Microsoft® Windows®8, and Microsoft® Windows®7)
- For Mac: 2 GB or more
- Network function: TCP/IP stacks part 6
- Image display: Resolution: 1024 x 768 pixels or more
- Supported operating systems and web browsers:
  - For Windows: Microsoft® Windows® 10 Pro 64-bit - 32-bit *1 *2 Windows® Internet Explorer® 11.0.0 *3
  - Microsoft® Windows® 8.1 Pro 64-bit - 32-bit *1 *2 Windows® Internet Explorer® 11.0.0 *3
  - Microsoft® Windows® 8 Pro 64-bit - 32-bit *1 *2 Windows® Internet Explorer® 10.0.0 *3
  - Microsoft® Windows® 7 Professional SP1 64-bit - 32-bit *1 *2 Windows® Internet Explorer® 10.0 / 10.1 / 9.0 / 8.0 / 8.0 *3
  - For Mac: OS X 10.11 Safari 9.5 / OS X 10.10 Safari 8.0.4 / OS X 10.9 Safari 7.0.2 / OS X 10.8 Safari 6.1.2
- For iPhone / iPad / iPod touch: iOS Standard web browsers
- For Android: Android OS Standard web browsers

Other

- Adobe® Reader® (for viewing the operating instructions available on the website)

Notes

1. Use the desktop version of Internet Explorer. (Internet Explorer for Modern UI is not supported.) *2 Windows® XP compatibility mode is not supported. *3 The 64-bit version of Internet Explorer® is not supported.

2. For the latest information on supported OS/browsers, please refer to the “Service and Support” on the Panasonic website (http://pro-av.panasonic.net/en/).

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Rear view

System Camera Option

Remote Camera Controller
AW-RP50

Remote Camera Controller
AW-RP120G (AC adaptor DC12 V is required separately.)

Remote Operation Panel
AK-HRP200G

Compact Live Switcher
AW-HS50

Dimensions

(Unit: mm (inch))

Front:

298.6 (11-1/16)

276.0 (10-7/32)

257.5 (10-4/16)

Bottom:

357.1 (14-1/16)

356.6 (14-1/32)

178.7 (7-1/16)

4 ø 8.5 (ø 11/32)

For more information, please visit Panasonic web site

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

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