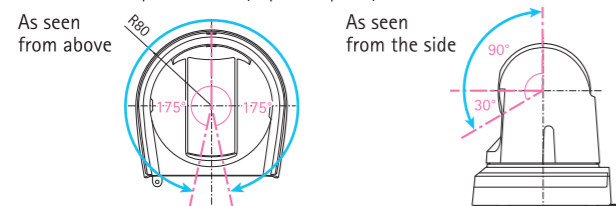## Exceptional Pan-tilt Performance for Smooth Shooting Over a Wide Area*¹

The pan range of ±175° and the tilt range of –30° to +90° cover a wide shooting area*¹. Pan and tilt operate at a maximum speed of 90°/second and respond quickly to remote control operation. They operate quietly at a sound level of NC35 or lower.

As seen from above
±175° ±175°

As seen from the side
90°
30°

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

Other Functions

● Preset memory up to 100 positions.
● Functions such as freeze during preset, digital extender zoom and color temperature settings can be assigned to the user buttons on Panasonic controllers.
● Equipped with RS422 remote terminal; up to five units can be controlled via serial control from a controller.
● Equipped with RS232C remote terminal (standard serial communication support). Up to seven units can be controlled via daisy chain connection.
● Up to four units can be operated with a wireless remote controller (AW-RM50G sold separately).
● Easy installation thanks to use of turn-lock mechanism.

Panasonic BUSINESS

AW-HE35SW/SK [SDI Model]
AW-HE38SW/SK [SDI Model]
AW-HE38HW/HK [HDMI Model]

HD Integrated Camera

AW-HE35SW/AW-HE38SW/AW-HE38HW
Suspended (Hanging) style
For indoor use

Supporting Lecture Capture with Auto Tracking function

Auto Tracking Software Key
AW-SF100G

(Main Features)

● Motion detection and face detection system using video streaming from camera achieves smooth auto tracking regardless of where the person facing
● A GUI screen designed for intuitive setup
● Using IP-based software to support installation/operation of camera in classroom in remote location.
● Selectable as a Web application for flexible installation and operation that also enables control from a tablet, smartphone, desktop PC, etc.
● When it is installed on a PC, it can be easily set up by connecting AW-HE35/HE38 series. Installation of sensors and other devices are not necessary.

* This refers to the standalone version. In case the Web application version is used, the Auto Tracking Software is installed on an HTTP server and used from there.
* Depending on the usage conditions, there may be errors in detection of tracking subjects or proper tracking. Please use this software in an environment in which corrections can be made by an operator.
* There is a 30-day free trial available for Auto Tracking Software. Please purchase this "Auto Tracking Software Activation Key" after checking precautions and confirming that this will work in your environment during this free trial period. When purchasing optional software please refer to the Panasonic website <http://pro-av.panasonic.net/>." Software Download".
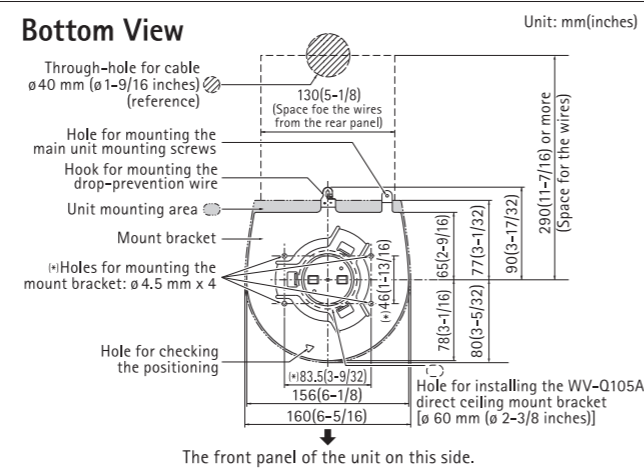
Rear View

AW-HE35SW/SK
AW-HE38SW/SK

IN←RS-232C→OUT   AUDIO IN   micro SD
LINK ACT
SDI OUT
100BASE-T/ 100BASE-TX
12V⎓IN
SIGNAL GND
RS-422

AW-HE38HW/HK

IN←RS-232C→OUT   AUDIO IN   micro SD
LINK ACT
HDMI
100BASE-T/ 100BASE-TX
12V⎓IN
SIGNAL GND
RS-422

Bottom View

Unit: mm(inches)

Through-hole for cable ø40 mm (ø 1-9/16 inches) (reference)
130(5-1/8) (Space foe the wires from the rear panel)
Hole for mounting the main unit mounting screws
Hook for mounting the drop-prevention wire
Unit mounting area
Mount bracket
Holes for mounting the mount bracket: ø4.5 mm x 4
290(11-7/16) or more (Space for the wires)
46(1-13/16)
65(2-9/16)
77(3-1/32)
90(3-17/32)
Hole for checking the positioning
78(3-1/16)
80(3-5/32)
83.5(3-9/32)
156(6-1/8)
160(6-5/16)
Hole for installing the WV-Q105A direct ceiling mount bracket [ø 60 mm (ø 2-3/8 inches)]

The front panel of the unit on this side.

System Camera Options

As of October, 2016

Control Assist Camera **AW-HEA10W**	Control Assist Camera **AW-HEA10K**	
Remote Camera Controller **AW-RP50**	Remote Camera Controller **AW-RP120G** (AC adaptor (DC12 V) is required separately.)	Remote Operation Panel **AK-HRP200G** (AC adaptor (DC12 V) is required separately.)
Wireless Remote Control **AW-RM50G** ("AA", "R6" or "LR6" battery x 2 are not included.)	Compact Live Switcher **AW-HS50**	Direct Ceiling Mount Blacket **WV-Q105A**

Panasonic®

[Countries and Regions]

India   +91 1860 425 1860

SP-HE35PE

201610U-1

Features 15x*¹/22x*² optical zoom lens and support for PoE+*³ for outstanding operability and installation flexibility

AW-HE35SK/AW-HE38SK/AW-HE38HK
Stand-alone (Desktop) style
For indoor use

POWER STANDBY

* 1: Available in the AW-HE35 series.
* 2: Available in the AW-HE38 series.
* 3: Abbreviation of Power over Ethernet Plus.

Full HD camera with integrated pan-tilt for lectures, meetings and a wide variety of applications.
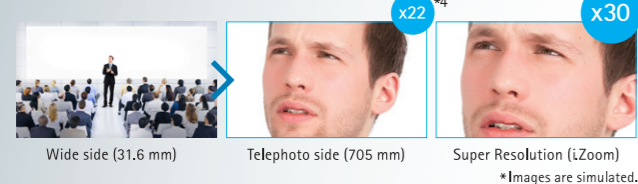
The AW-HE35/HE38 series of integrated full HD cameras performs in a wide variety of onsite shooting applications that require high-quality video, such as conferences, lecture capture and other events, thanks to its high-performance zoom, wide angle of view and outstanding color reproducibility.
In addition to IP video transmission, support for PoE+*1 enables power to be supplied via a LAN cable*2. The result is installation flexibility. It also supports HD-IP video output, output of video and audio via USB, and SD card recording.

Developed 1/2.3-type MOS Sensor

Equipped with a developed 1/2.3-type MOS sensor and DSP (Digital Signal Processor) for high sensitivity and high resolution.
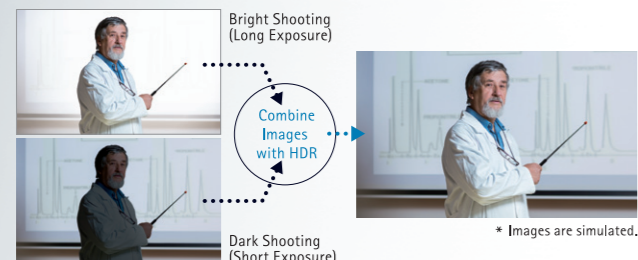
High Performance Optical 15x*3/22x*4 Zoom Lens/ Super Resolution 20x*3/30x*4 Zoom

In addition to a 15x*3/22x*4 optical zoom, the AW-HE35/HE38 series can zoom up to 20x*3/30x*4 while maintaining high resolution thanks to Super Resolution technology. It also features a 16x digital zoom*5 and a 1.4x digital extender, which enables the AW-HE35/HE38 series to shoot in large conference halls and classrooms.

x22 *4   x30 *4

Wide side (31.6 mm)   Telephoto side (705 mm)   Super Resolution (i.Zoom)
*Images are simulated.

Equipped with High Dynamic Range (HDR) Mode

In addition to conventional Dynamic Range Stretch (DRS) and Digital Noise Reduction (DNR), the AW-HE35/HE38 series are newly equipped with High Dynamic Range (HDR) mode. When shooting and synthesizing two images with differing exposure times, the AW-HE35/HE38 series can create video with high visibility that corrects for halation and black defects even under backlit conditions.

Bright Shooting (Long Exposure)

Combine Images with HDR

Dark Shooting (Short Exposure)

*Images are simulated.

Either SDI Model or HDMI Model Can Be Selected To Match Usage Needs*6

Supports 1080/59.94p (HDMI model only), 29.97p*7, 59.94i, 29.97PsF, 1080/50p (HDMI model only), 25p*7, 50i, 25PsF, 720/59.94p, and 50p video formats. Flexible operation in line with the application is made possible by a lineup that includes an SDI output model (AW-HE35SW/SK, AW-HE38SW/SK), optimal for video content production, and an HDMI output model (AW-HE38HW/HK), optimal for video streaming, both of which come in two body colors (white and black) that can be selected depending on the usage environment.

Outputs Still Image During Preset Movements; Supports One-Camera Operations

The new Freeze During Preset function enables to freeze the video during preset playback. The immediately 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

OFF
*Images are simulated.

ON   Preset movement starts   Preset movement ends

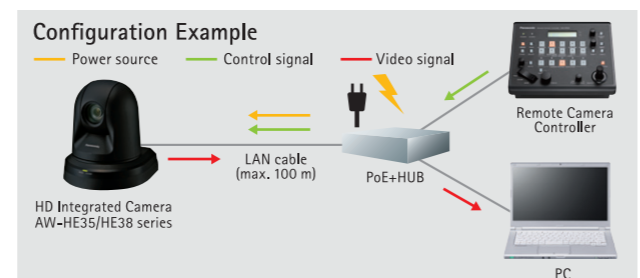Outputs the last frame of the camera image before it starts preset

Audio Input Function

The AW-HE35/HE38 series also supports audio input, embedding and encoding.
Audio output to IP is also supported. The ALC (Audio Automatic Level Control) in the original AW-HE35/HE38 series can be switched ON/OFF and an equalizer function can be used. By reducing low-frequency sound from air conditioners, projectors, and other devices, it is possible to emphasize and increase the clarity of the spoken words.
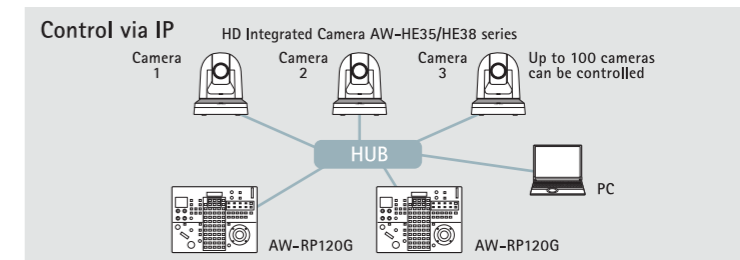
Supporting PoE+*1 for Lower Installation Costs

By connecting network devices that support the IEEE802.3at PoE+ 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.

Configuration Example

— Power source   — Control signal   — Video signal

Remote Camera Controller

HD Integrated Camera AW-HE35/HE38 series

LAN cable (max. 100 m)   PoE+HUB

PC

Flexible IP Control Architecture Simplifies System Design and Operation*8

Up to 100 x AW-HE35/HE38 series cameras can be controlled via IP from a single AW-RP120G/RP50 or PC. An AW-HE35/HE38 series can also be simultaneously controlled by up to five AW-RP120G/RP50's via IP.
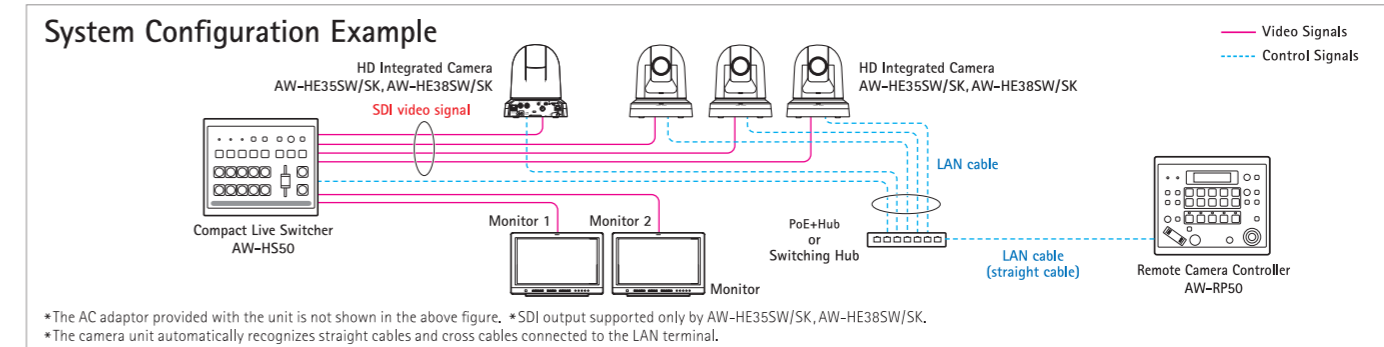
Control via IP

HD Integrated Camera AW-HE35/HE38 series
Camera 1   Camera 2   Camera 3   Up to 100 cameras can be controlled
HUB
PC
AW-RP120G   AW-RP120G

*8: Controller upgrade required. For details, please refer to the "service and support" section on the Panasonic website (http://pro-av.panasonic.net).

Specifications

As of October, 2016

GENERAL	Power requirements		DC 12 V (Supplied AC adaptor) / DC 42 V to 57 V (PoE+ power supply)
	Current consumption		1.2 A (Supplied AC adaptor) / 0.4 A (PoE+ power supply)
	Ambient operating temperature		0 °C to 40 °C (32 °F to 104 °F)
	Storage temperature		−20 °C to 50 °C (−4 °F to 122 °F)
	Allowable humidity ranges		20 % to 90 % (no condensation)
	Mass		Approx. 1.5 kg (3.30 lb)
	Dimensions (W x H x D)		160 mm x 186 mm x 166 mm (6-5/16 inches x 7-41/128 inches x 6-17/32 inches) [excluding protrusions, direct ceiling mount bracket]
	Finish		[AW-HE35SWED], [AW-HE38SWED], [AW-HE38HWED] Pearl white / [AW-HE35SKED], [AW-HE38SKED], [AW-HE38HKED] Metallic black
	Controller supported*1		AW-RP50, AW-RP120, AK-HRP200

INPUT	Power		DC 12 V IN, PoE+ (IEEE802.3at standard)
	Mic/line input		Stereo mini-jack (ø3.5 mm) / Input impedance: Approx. 2 kΩ (unbalanced) / [Mic input] / Supported microphones: Stereo mic (plug-in power, on/off switching via menu) / Supplied voltage: 2.5 V ± 0.5 V / Mic input level: −60 dBV ± 3 dBV / [Line input] / Input level: −10 dBV ± 3 dBV

OUTPUT	Video output	HDMI	[AW-HE38HW/HK] HDMI connector / • HDCP is not supported. • VIERA Link is not supported.
		HD SDI OUT	[AW-HE35SW/SK, AW-HE38SW/SK] Compliant with the SMPTE292M standards/75 Ω(BNC x 1)

INPUT/ OUTPUT	Input/ Output connector	LAN	LAN connector for IP control (RJ-45) / Equipped with straight/crossover cable auto detection function
		RS-232C	Mini DIN 8-pin (IN) Mini DIN 8-pin (OUT)
		RS-422	CONTROL IN RS422A (RJ-45)
		USB	Mini-B port
		SD card	microSD card slot

[Camera unit]

FUNCTIONS AND PERFORMANCE	Imaging sensors		1/2.3-type MOS
	Lens		AW-HE35SW/SK : Motorized 15x zoom, F1.6 to F3.7 [f=4.3 mm (11/64 inches) to 64.5 mm(2-17/32 inches); 35 mm (1–3/8 inches) equivalent: 31.6 mm (1-31/128 inches) to 480.0 mm (18–57/64 inches)] / AW-HE38SW/SK/HW/HK : Motorized 22x zoom, F1.6 to F4.3 [f=4.3 mm (11/64 inches) to 94.6 mm(3-23/32 inches); 35 mm (1–3/8 inches) equivalent: 31.6 mm (1-31/128 inches) to 705.0 mm (27–49/64 inches)]
	Focus		Switching between auto and manual
	Focus distance		Entire zooming range:1.2 m (3.94 ft) / Wide end: 10 cm (0.33 ft)
	Color separation optical system		On-chip color filter system
	Minimum illumination	59.94 Hz	0.7 lx (50 IRE, F1.6, 48 dB,f/60 without accumulation) / 0.35 lx (50 IRE, F1.6, 48 dB,f/30 with accumulation[Frame Mix 6 dB])
		50 Hz	0.7 lx (50 IRE, F1.6, 48 dB,f/50 without accumulation) / 0.35 lx (50 IRE, F1.6, 48 dB,f/25 with accumulation[Frame Mix 6 dB])
	Horizontal resolution		1000 TV lines Typ (Center area)
	Gain selection*2		Auto, 0 dB to 48 dB (3 dB step)
	Frame mix*3		Auto, Off, 6 dB, 12 dB, 18 dB, 24 dB
	Electronic shutter speed	During Full Auto	1/30 to 1/2000 [59.94 Hz] / 1/25 to 1/2000 [50 Hz]
		During Auto	1/60 to 1/2000 [59.94 Hz] / 1/50 to 1/2000 [50 Hz]
		During Manual	1/100, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000 [59.94 Hz] / 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000 [50 Hz]
	Synchro scan		59.94 Hz : 59.94 Hz to 660.09 Hz / 50 Hz : 50.00 Hz to 570.12 Hz
	Gamma		Off, Normal (Low, Mid, High), Cinema

	White balance		AWB A, AWB B, ATW, 3200K,5600K, VAR (2400K to 9900K)
FUNCTIONS AND PERFORMANCE	Chroma amount variability		±3 step
	Scene file		Full Auto, Manual1, Manual2, Manual3
	Output format	HD	1080:59.94p/50p*4 / 1080:59.94i/50i / 1080:29.97p/25p / 1080:29.97PsF/25PsF / 720:59.94p/50p
	Synchronization system		Internal synchronization
	[USB connection]		• This may vary depending on the operating environment.
	Video output		USB Video Class Ver1.0
	Video compression format		Motion JPEG
	Resolution		1920 x 1080, 1280 x 720, 640 x 360
	Frame rate		max 30 fps (System frequency 59.94 Hz) / max 25 fps (System frequency 50 Hz)
	Audio output		USB Audio Class Ver1.0
	Audio compression format		Linear PCM, 48 kHz, 16-bit, 2 channels
	Supported models		Devices standardly equipped with a USB 2.0 compatible port
	[Pan-tilt head unit]		
	Installation method		Stand-alone (Desktop) or suspended (Hanging)*5
	Pan/tilt operation speed		Maximum speed during preset: 300°/s / Maximum speed during manual: 90°/s
	Panning range		±175°
	Tilting range		−30° to 90°*6
	Quietness		During preset: NC40 or less / During manual: NC35 or less
	[Camera/pan-tilt head control]		
	IP connecting cable		When connecting through a hub: LAN cable*7 (category 5 or above),max. 100 m (328 ft) / When using a PoE+ hub: LAN cable*7 (category 5e or above),max. 100 m (328 ft) / When a hub is not used: LAN cable*7 (category 5 or above),max. 100 m (328 ft)
	AW protocol connecting cable		LAN cable*7 (category 5 or above,straight cable), max. 1000 m (3280 ft)
	Standard protocol connecting cable		Mini DIN 8-pin cable, male
	[SD card recording]		
	SD card type		micro SDHC (4 GB to 32 GB), micro SDXC (64 GB to 128 GB), Speed class 10 or higher
	System frequency		59.94 Hz/50 Hz
	Video compression format		MPEG-4 AVC/H.264 High Profile
	Audio compression format		AAC-LC (48 kHz, 16 bit, 2 ch, 128 kbps)
	SD card recording		MPEG-4 AVC file standard compliant (.MP4)
	Recording format		1920 x 1080/59.94p, 1920 x 1080/50p, 1920 x 1080/29.97p, 1920 x 1080/25p, 1280 x 720/59.94p, 1280 x 720/50p, 1280 x 720/29.97p, 1280 x 720/25p
	[Network]		
	Resolution	JPEG	VGA (640 x 360), QVGA (320 x 180) max.30 fps / 1920 x 1080, 1280 x 720, 640 x 360, 320 x 180 max.30 fps
		H.264	1920 x 1080, 1280 x 720, 640 x 360, 320 x 180 max.60 fps
	Supported protocol	IPv4	TCP/IP, UDP/IP, HTTP, HTTPS, RTSP, RTP, RTP/RTCP, FTP, DHCP, DNS, NTP, IGMP, UPnP, ICMP, ARP, RTSPoverTCP, RTSPoverHTTP, SSL(TLS), MultiCast/UniCast
		IPv6	TCP/IP, UDP/IP, HTTP, HTTPS, RTSP, RTP, RTP/RTCP, FTP, DHCPv6, DNS, NTP, ICMPv6(MLD), RTSPoverTCP, RTSPoverHTTP, SSL(TLS), MultiCast/UniCast
	i-OS, Android support		JPEG image display
ACCESSORIES			Mount bracket for installation surface (Hanging*8 / Desktop): 1 / Drop-prevention wire (already attached to the unit): 1 / Bracket mounting screws (bind-head) M4 x 10 mm: 4 / Main unit mounting screw (with flat washer, spring washer) M3 x 6 mm: 1 / Power cable (1.5 m [4.92 ft]): 1 / AC adaptor: 1 / CD-ROM: 1

• 1: It may be necessary to upgrade the version of the controller so that the controller will support the unit. • 2: During Auto, 6 dB to 48 dB (6 dB step) are available for AGC Max Gain setting.
• 3: During Auto, 0 dB, 6 dB, 12 dB and 18 dB are available for Auto F.Mix Max Gain setting. • 4: AW-HE38HW/HK only • 5: To ensure safety, the unit must be secured using the mount bracket supplied.
• 6: Depending on the pan or tilt position, the camera may be reflected in the image. • 7: Use of an STP (shielded twisted pair) cable is recommended.
• 8: To ensure more safety, AW-HE35/HE38 series can be secured by using the direct ceiling mount bracket (WV-Q105A).

System Configuration Example

— Video Signals   ---- Control Signals

HD Integrated Camera AW-HE35SW/SK, AW-HE38SW/SK
SDI video signal

HD Integrated Camera AW-HE35SW/SK, AW-HE38SW/SK
LAN cable

Compact Live Switcher AW-HS50

Monitor 1   Monitor 2

Monitor

PoE+Hub or Switching Hub

LAN cable (straight cable)

Remote Camera Controller AW-RP50

• The AC adaptor provided with the unit is not shown in the above figure. • SDI output supported only by AW-HE35SW/SK, AW-HE38SW/SK.
• The camera unit automatically recognizes straight cables and cross cables connected to the LAN terminal.