

# Panasonic®

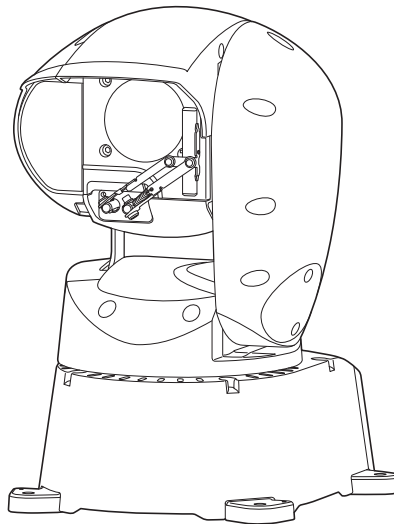
## Operating Instructions

Excerpted Version

Installation Instructions provided

HD Integrated Camera

Model No. **AW-HR140PJ**  
Model No. **AW-HR140EJ**



<b>ENGLISH</b> Excerpted Version	Before using this product, be sure to read "Read this first!" (pages 4, 18, 19). This manual contains information excerpted from the Operating Instructions and the Installation Instructions. For more information, please visit the Panasonic website ( <a href="http://pro-av.panasonic.net/en/manual/index.html">http://pro-av.panasonic.net/en/manual/index.html</a> ), and refer to the Operating Instruction (PDF).
<b>FRANÇAIS</b>	Avant d'utiliser cet appareil, assurez-vous de lire la section « Lire ces informations en premier ! » (pages 4, 20, 21). Pour de plus amples informations, visiter le site Web de Panasonic ( <a href="http://pro-av.panasonic.net/en/manual/index.html">http://pro-av.panasonic.net/en/manual/index.html</a> ) et consulter le mode d'emploi (PDF).
<b>ESPAÑOL</b>	Antes de usar este producto, asegúrese de leer "Lea este documento en primer lugar!" (páginas 4, 22, 23). Si desea obtener más información, visite el sitio web de Panasonic ( <a href="http://pro-av.panasonic.net/en/manual/index.html">http://pro-av.panasonic.net/en/manual/index.html</a> ) y consulte las instrucciones de funcionamiento (PDF).
<b>DEUTSCH</b>	Bitte lesen Sie sorgfältig die „Bitte lesen Sie zuerst diesen Hinweis!“ vor der Nutzung dieses Produkts. (Seiten 5, 24). Weitere Informationen finden Sie auf der Panasonic-Webseite ( <a href="http://pro-av.panasonic.net/en/manual/index.html">http://pro-av.panasonic.net/en/manual/index.html</a> ) und in der Bedienungsanleitung (PDF).
<b>ITALIANO</b>	Prima di utilizzare il prodotto, assicurarsi di leggere "Leggere prima quanto segue!" (pagine 5, 25). Per maggiori informazioni, per favore visitare il sito web Panasonic ( <a href="http://pro-av.panasonic.net/en/manual/index.html">http://pro-av.panasonic.net/en/manual/index.html</a> ), e fare riferimento alle istruzioni per l'uso (PDF).
<b>РУССКИЙ</b>	Перед использованием данного прибора ознакомьтесь с информацией в разделе «Прочитайте нижеследующее до начала эксплуатации!» (стр. 5, 26). Для получения дополнительной информации посетите веб-сайт Panasonic ( <a href="http://pro-av.panasonic.net/en/manual/index.html">http://pro-av.panasonic.net/en/manual/index.html</a> ), а также обратитесь к инструкции по эксплуатации (PDF).

Before operating this product, please read the instructions carefully and save this manual for future use.

<b>Български</b>	Посетете следния уебсайт относно информация за безопасността и важни уведомления за продукта.
<b>Hrvatski</b>	Za sigurnosne informacije i važne obavijesti o proizvodu posjetite sljedeću internetsku stranicu.
<b>Čeština</b>	Na následujícím webu najdete bezpečnostní informace a důležité poznámky k tomuto produktu.
<b>Dansk</b>	Besøg følgende webside for sikkerhedsinformation og vigtige bemærkninger vedrørende produktet.
<b>Nederlands</b>	Ga naar de volgende website voor veiligheidsinformatie en belangrijke meldingen over het product.
<b>Eesti</b>	Toodet puudutava ohutusteabe ja oluliste märkuste saamiseks külastage järgmist veebilehte.
<b>Suomi</b>	Käy seuraavalla verkkosivulla saadaksesi turvallisuustietoja ja tärkeitä tietoja liittyen laitteeseen.
<b>Ελληνικά</b>	Για πληροφορίες σχετικά με θέματα ασφάλειας και σημαντικές ειδοποιήσεις που αφορούν το προϊόν σας, επισκεφτείτε τον ιστότοπο που ακολουθεί.
<b>Magyar</b>	A termékkel kapcsolatos biztonsági információkért és fontos értesítésekért látogasson el az alábbi weboldalra.

<b>Latviešu</b>	Lai iegūtu informāciju par drošību un skatītu svarīgus paziņojumus par šo produktu, apmeklējiet tālāk norādīto tīmekļa vietni.
<b>Lietuvių</b>	Jei reikia saugos informacijos ir svarbių pranešimų apie gaminį, apsilankykite toliau nurodytoje svetainėje.
<b>Polski</b>	Informacje o bezpieczeństwie i ważne informacje o produkcie znajdują się w poniższej witrynie internetowej.
<b>Português</b>	Consulte o seguinte website para as informações de segurança e importantes notificações sobre o produto.
<b>Română</b>	Vizitați următoarea pagină web pentru informații de securitate și notificări importante cu privire la produs.
<b>Slovensky</b>	Pre bezpečnostné informácie a dôležité oznámenia súvisiace s produktom navštívte túto webovú stránku.
<b>Slovenščina</b>	Za varnostne informacije in pomembna obvestila v zvezi z izdelkom obiščite naslednje spletno mesto.
<b>Svenska</b>	Besök följande webbplats för säkerhetsinformation och viktiga meddelanden om produkten.

<http://pro-av.panasonic.net/en/manual/index.html>

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### ■ About copyright and licence

Distributing, copying, disassembling, reverse compiling, reverse engineering, and also exporting in violation of export laws of the software provided with this unit are expressly prohibited.

### ■ Abbreviations

The following abbreviations are used in this manual.

- Microsoft® Windows® 7 Professional SP1 32/64-bit is abbreviated to "Windows 7".
- Microsoft® Windows® 8 Pro 32/64-bit is abbreviated to "Windows 8".
- Microsoft® Windows® 8.1 Pro 32/64-bit is abbreviated to "Windows 8.1".
- Microsoft® Windows® 10 Pro 32/64-bit is abbreviated to "Windows 10".
- Windows® Internet Explorer® 8.0, Windows® Internet Explorer® 9.0, Windows® Internet Explorer® 10.0 and Windows® Internet Explorer® 11.0 are abbreviated to "Internet Explorer".

For the purposes of this manual, the model numbers of the units are given as listed in the table below.

Model number of unit	Model number given in manual
AW-HR140PJ	<b>AW-HR140</b>
AW-HR140EJ	
AW-HS50N	<b>AW-HS50</b>
AW-HS50E	
AW-RP50N	<b>AW-RP50</b>
AW-RP50E	
AW-RP120G	<b>AW-RP120</b>
AK-HRP200G	<b>AK-HRP200</b>

### ■ Illustrations and screen displays featured in the manual

- What is shown in the manual's illustrations and screen displays may differ from how it is actually appears.
- Functions which can be used by Windows only are indicated using the **Windows** mark.
- The screenshots are used in accordance with the guidelines of Microsoft Corporation.

## Installation Instructions

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## Operating Instructions


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**Read this first!****ENGLISH****WARNING:**

To prevent injury, this apparatus must be securely attached to the floor/wall in accordance with the installation instructions.

**WARNING:**

Installation should only be performed by qualified installation personnel.  
Improper installation may result in the entire apparatus falling down and causing injury.


 indicates safety information.

**Lire ces informations en premier!****FRANÇAIS****AVERTISSEMENT:**

Pour éviter tout risque de blessures, l'appareil doit être solidement fixé au plancher/mur conformément aux instructions d'installation.

**AVERTISSEMENT:**

L'installation ne doit être effectuée que par du personnel d'installation qualifié.  
Une mauvaise installation peut avoir pour conséquence la chute de l'appareil et provoquer des blessures.

 Informations concernant la sécurité.

**Lea esto primero!****ESPAÑOL****ADVERTENCIA:**

Para evitar heridas, este aparato debe estar firmemente instalado al piso/pared de acuerdo con las instrucciones de instalación.

**ADVERTENCIA:**

La instalación solamente debe llevarla a cabo personal cualificado.  
Una instalación incorrecta podría provocar la caída del dispositivo y causar lesiones.

 indica información de seguridad.

**Bitte lesen Sie zuerst diesen Hinweis!****WARNUNG:**

Um Verletzungen zu verhüten, muss dieser Apparat gemäß der Installationsanleitung sicher am Boden bzw. an der Wand befestigt werden.

**WARNUNG:**

Die Installation darf nur durch qualifiziertes Personal ausgeführt werden.  
Fehlerhafte Installation kann zum Herunterfallen des Gerätes und zu Verletzungen führen.

 ist die Sicherheitsinformation.

**Leggere prima quanto segue!****AVVISO:**

Per prevenire ferite, questo apparecchio deve essere montato saldamente al pavimento/muro in conformità alle istruzioni di installazione.

**AVVISO:**

L'installazione deve essere realizzata unicamente da tecnici qualificati.  
Un'installazione incorretta può risultare nella caduta dell'apparecchio con conseguenti danni alle persone.

 sono le informazioni sulla sicurezza.

**Прочитайте нижеследующее до начала эксплуатации!****ОСТОРОЖНО:**

Во избежание повреждения данный прибор должен быть надежно закреплен на полу/стене в соответствии с инструкцией по установке.

**ОСТОРОЖНО:**

Установка должна выполняться только квалифицированным специалистом по установке.  
Неадекватная установка может привести к падению всего аппарата и получению травмы.

 Данный знак обозначает информацию, относящуюся к технике безопасности.

## Installation precautions

Panasonic does not accept any responsibility for accident or damage during installation if procedure in this manual is not followed.

### To installation personnel

Read the "Installation Instructions" thoroughly and then perform the operation correctly and safely.

Also, always read the "Read this first!" (→ page 4) of this manual as they contain important information.

After the installation, give the "Installation Instructions" to the customer to save for future use.

### ■ Ensure that the installation work complies with the technical standards governing electrical equipment.

#### ■ This unit is a stand-alone (desktop) device that supports installation outdoors.

This unit is not designed to be used in vehicles.

If the unit will be subjected to extreme vibration, take measures to reduce the vibration before use.

### ■ Use the unit with an installation where the unit is suspended from an overhead surface or with a stand-alone installation.

Do not use the unit on its side or tilted at an angle.

#### <NOTE>

- Be absolutely sure to use the supplied mounting bolts (M8) for the unit.

Do not use wood screws, nails, etc.

In the case of a concrete ceiling, secure the unit using anchor bolts (for M8) or AY plug bolts (for M8).

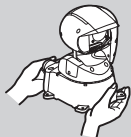
#### Recommended clamping torque

M8: 11.76 N·m {120 kgf·cm}

- The withdrawal strength of the mounting location for each screw must be at least 1764 N {180 kgf}.
- Do not hold the camera head while undertaking the installation work. Doing so may cause malfunctioning.

OK

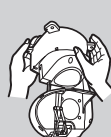
NG



Desktop installation

OK

NG



Hanging installation

### ■ Concerning the installation location

Consult the dealer about the installation area and then select a strong ceiling, floor, or other area for the installation area.

- Mount the unit to a ceiling or floor that is strong enough (one made of concrete).
- Mount the camera unit to a part of the main structure of the building or a part that is sufficiently strong.
- Do not mount the unit on a plaster board or a wooden section because they are too weak. If the unit is unavoidably mounted on such a section, the section shall be sufficiently reinforced.

### ■ Concerning waterproofing and dustproofing

When installed correctly, the unit complies with IP65 waterproof and dustproof performance standards.

Be sure to perform wiring and other installation procedures according to the instructions in this document.

### ■ Do not install or use the unit in the following kinds of locations.

- Locations where a chemical agent is used such as a swimming pool
- Locations subject to moisture or oil smoke such as a kitchen
- Locations that have a specific environment that is subject to an inflammable atmosphere or solvents
- Locations where radiation, X-ray, intense radio wave, or strong magnetism is produced
- Locations where seawater will directly splash on the unit and locations where corrosive gas is generated such as volcanic regions and spa areas
- Locations where the temperature is not within the specified range (→ page 53)
- Locations subject to vibrations, such as on vehicles or above product lines (This unit is not designed to be used in vehicles.)
- Locations subject to sudden changes in temperature, such as near the outdoor unit of an air conditioner (The inside of the front glass may steam up or condensation may form on it.)

### ■ Concerning installation in a seashore area

- Salt damage prevention is applied to this unit. However, it is not completely anti-corrosive. Therefore, consider a place for installation where direct splash of seawater can be avoided.
- Especially when installing this unit in a seashore area or a place where a snow-melting agent is applied, and also where rainwater is avoided, it is recommended to regularly clean and rinse off salt with water.
- In case of installing this unit in a seashore area or a place where a snow-melting agent is applied, regularly check the status of equipment. (Replace the parts as required.)
- Provide a basic structure, pole, etc. for installing the unit that are highly resistant to salt.

### ■ Concerning sulfidation caused by rubber products

Do not install the unit near any rubber products (such as gaskets or rubber feet) that contain sulfur. Sulfur components in the rubber product may cause the sulfidation corrosion of parts such as electrical components and terminals, leading to malfunction.

### ■ Concerning the tightening of anchor bolts and screws

- The anchor bolts and screws must be tightened with an appropriate tightening torque according to the material and strength of the installation area.
- Do not use an impact driver. Use of an impact driver may damage the screws.
- When tightening an anchor bolt or screw, ensure it is straight. After tightening the screws or anchor bolts, perform checks to ensure that the tightening is sufficient enough so that there is no movement or looseness.

### ■ What to avoid to ensure that the unit will perform stably over a prolonged period

- Using the unit for a prolonged period in a location with high temperature and humidity levels will cause its parts to deteriorate and shorten its service life.
- Ensure that a cooling unit or heating unit will not blow any air directly toward the installation location.

## Installation precautions (continued)

- Be absolutely sure to use the supplied bolts to install the camera.**

  - Do not mount the unit by employing any methods other than those specified.
  - Do not remodel the mounting screws provided with the unit.
  
- Concerning humidity**

Install the unit when humidity is low.  
If the unit is installed when it is raining or humidity is high, moisture will accumulate inside the unit and the inside of the front glass may steam up.
  
- Heater and defroster**

The lower temperature limit for which operation of the unit is guaranteed is  $-15\text{ }^{\circ}\text{C}$  ( $5\text{ }^{\circ}\text{F}$ ).  
The unit is equipped with an internal heater and defroster to enable use in cold environments.  
The heater and defroster automatically activate when the approximate internal temperature of the unit reaches  $0\text{ }^{\circ}\text{C}$  ( $32\text{ }^{\circ}\text{F}$ ) or below.  
However, in harsh temperature environments of  $-15\text{ }^{\circ}\text{C}$  ( $5\text{ }^{\circ}\text{F}$ ) or below, thawing of snow or frost that forms on the front glass or moving parts may not be possible.  
When using the unit in especially cold environments, beware of the ambient temperature and the camera's internal temperature.  
When using the unit in temperature environments of  $-15\text{ }^{\circ}\text{C}$  ( $5\text{ }^{\circ}\text{F}$ ) or below, normal image capture may not be possible immediately after startup.  
In such cases, wait for the unit's heater to warm the inside of the camera (at least 1 hour at  $-15\text{ }^{\circ}\text{C}$  ( $5\text{ }^{\circ}\text{F}$ ) or below), and then turn the unit off and then on again.
  
- Protection from lightning**

When cables are used outdoors, there is a chance that they may be affected by lightning.  
In this case, install a lightning arrester close to the unit to prevent it from being affected by lightning, and keep the length of the network cable between the lightning arrester and the unit as short as possible.
  
- Before installation, always disconnect the DC connector**

When installing, always use the supplied components.  
Do not disassemble or modify the wall mount adaptor.
  
- Tightening up the mounting screws**

  - Tighten up the screws and bolts securely to the degree that is appropriate for each of the materials used in the mounting location and structures.
  - After tightening up the screws and bolts, check that there is no unsteadiness and that the parts have been tightened securely.
  - Use the specified tools and tighten the screws firmly.
  - Tighten up the screws using the specified torque driver. Do not use electrical drivers or impact drivers.
  
- When the unit is no longer going to be used, do not leave it lying around, but be absolutely sure to dispose of it properly.**
  
- When installing, transferring or disposing of the unit, be absolutely sure to hold it by its pedestal area.**

Problems may result if the camera head is held or rotated.
  
- Do not attach a filter, extender or other parts to the unit.**
  
- Power switch**

This unit does not have a power switch.  
When power is supplied, the pan, tilt, zoom, and focus test operations are performed. Do not touch the unit during this time.  
Before proceeding with maintenance, be absolutely sure to disconnect the power plug from the power outlet.
  
- Grounding**

Before operating the unit, check that SIGNAL GND has been securely grounded.
  
- If there is a possibility of noise interference**

Either wire the cables so that the power cable (ceiling light cord) of AC 100 V\*1 (AC 220 V\*2) or more, and the signal cable are placed at least 1 meter (3.3 ft) apart.  
Alternatively run each cable through its own metal conduit. (The metal conduits must be grounded.)

  - \*1 For AW-HR140PJ
  - \*2 For AW-HR140EJ
  
- Radio signal interference**

If the unit is positioned near a TV or radio transmitting antenna or a strong electrical field or magnetic field (such as that generated by a motor, transformer or power lines), its images may be distorted and/or the images may be affected by noise.
  
- When connecting the cables, ensure that the connector areas will not be subject to any load.**

Doing so may cause malfunctioning.
  
- Allowing the generated heat to escape**

This unit allows the heat generated inside to escape from its surfaces.  
Do not install the unit in a location where it will be surrounded by walls or other surfaces and where heat will be trapped.  
In addition, the heat is dissipated to the bottom panel which will warm up over time: This is normal and not indicative of any trouble.
  
- PoE++ power supplies**

Use a PoE++ (IEEE802.3bt Draft ver.2.0 standard) compatible hub or power supply device.
  
- Make sure installed screws do not touch any wiring inside the ceiling.**
  
- Preventing injuries and interference during operation**

Take measures to prevent unauthorized persons from touching or approaching the unit to prevent injuries and interference during operation.

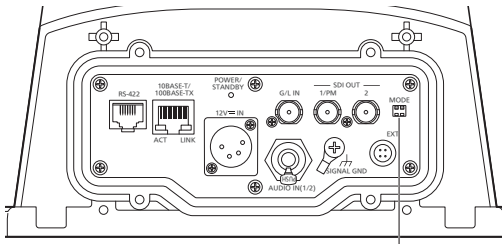


## Before installation

Be sure to configure the switches on the connector panel and bottom of the unit before installing it. Configuring the switches after the unit is installed may prove difficult.

### MODE switch settings

The MODE switches are located on the connector panel of the unit.



MODE switch

Switch positions	Function
1	AW series protocol setting (Factory settings)
2	Standard protocol setting (baud rate 38400 bps)
3	Standard protocol setting (baud rate 9600 bps)
4	These are the positions for maintenance. Do not use the unit while the switches are in these positions.

## How to install and connect the unit

Be absolutely sure to read through the “Read this first!” (→ pages 4 to 5) and “Installation precautions” (→ pages 6 to 7).

### Performing the installation surface work

Perform the work to weld bolts to or drive anchors into the installation surface.

This section describes the case of driving in anchors and fixing with screws.

The dimensions of the installation parts (positions and hole diameter) are shown below.

### When fixing the camera directly to the installation surface

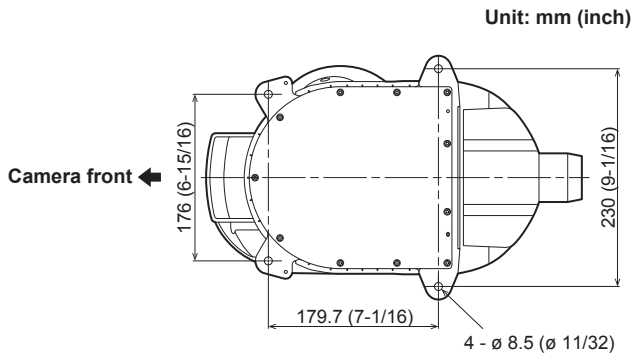


Image of AW-HR140 viewed from the bottom

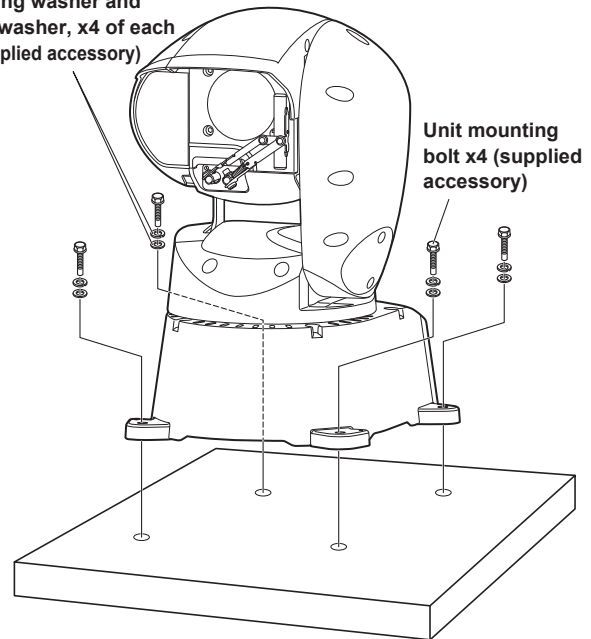
#### <IMPORTANT>

- Check that the mounting installation surface is level.
- When welding anchor bolts to the installation surface, the length of the cut threaded section should be 40 mm (1-9/16 inches) at maximum and 30 mm (1-3/16 inches) at minimum.  
**Minimum withdrawal strength: 1764 N {180 kgf} per bolt**
- Give sufficient consideration to corrosion and similar problems by, for example, using screws with corrosion-resistant coating or performing corking for the mounting screws between the camera or mount bracket and body.

### Mounting the camera to the installation surface

#### When fixing directly to the installation surface

Spring washer and flat washer, x4 of each (supplied accessory)



#### <IMPORTANT>

- Pass the cables through the bottom wiring hole or side wiring hole before putting the camera down on the installation surface.  
**Recommended clamping torque for mounting unit: 11.76 N·m {120 kgf·cm}**  
**Minimum withdrawal strength of unit mounting bolts or mount bracket mounting screws: 1764 N {180 kgf} per bolt**

#### <NOTE>

- When a washer nozzle will be used, attach it to the washer nozzle mount bracket (supplied accessory) in advance and then fix the washer nozzle mount bracket in place when securing the camera in the preceding “Mounting the camera to the installation surface” (→ page 8).



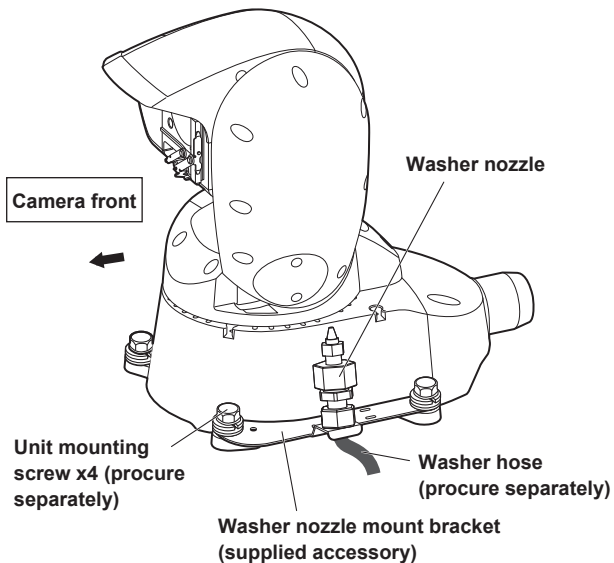
## How to install and connect the unit (continued)

### Example of attaching the washer nozzle

Diameter of nozzle that can be attached:  $\varnothing$  16 mm ( $\varnothing$  5/8 inches)



### Fixing the washer nozzle mount bracket



#### <NOTE>

- Attach the washer nozzle mount bracket to the side of the camera.
- Perform an installation operation check and then adjust the orientation of the washer nozzle and check that water flows onto the front glass.
- To control the washer, connect pin number 2 and pin number 3 of the EXT connector (→ page 36) to the washer unit and then perform control from the camera menu or controller.
- The washer fluid is not sprayed until the washer hose is filled with washer fluid.
- If the limiter is set more inward than the position to be washed with the washer fluid, the washer will not operate.
- To use the washer function, set [Washer] to [Yes] in the OSD or web screen.

The camera head will move to the position of the washer nozzle, washer fluid will be sprayed for a specific duration, and the camera head will return to the original position.

The wiper also operates momentarily during cleaning.

- The washer position changes depending on whether the installation method is stand-alone or suspended.

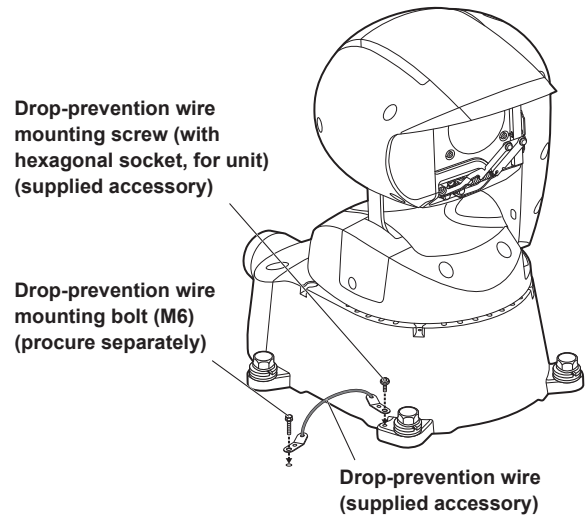
Before installing the unit, verify that the camera head moves to the washer nozzle position and confirm that the washer function operates properly.

For details, consult your dealer.

### Fixing the drop-prevention wire

Fix the drop-prevention wire to a part of the main structure of the building or a part that is sufficiently strong (minimum withdrawal strength of 1764 N {180 kgf} or more).

Separately procure M6 mounting bolts suitable for the material of the installation location.



#### <IMPORTANT>

- Attach the drop-prevention wire so the unit will not hit anybody nearby in the event that it becomes detached.

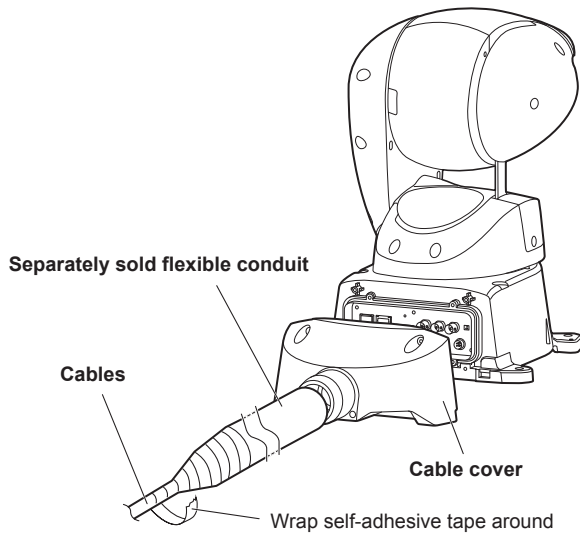
## How to install and connect the unit (continued)

### Attaching the cable cover

Pass each of the cables (control cable, optional washer cable, etc.) to be connected to the unit through the supplied cable cover. Connect each of the cables to the respective connector at the rear of the unit. (Refer to "Connections" (→ pages 12 to 16)) Connect the cable cover to the connector section at the rear of the unit and fix it in place with the four screws.

**<IMPORTANT>**

- Securely tighten the four screws for attaching the cable cover to the specified torque. Otherwise, water entering inside will cause the unit to fail or fall.



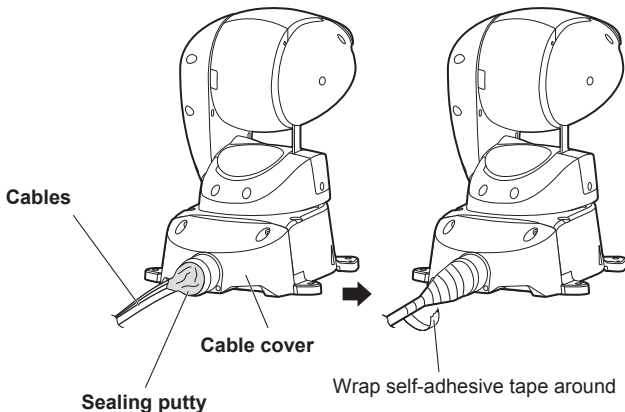
When installing the unit in an environment in which the cables need to be protected, provide a separately sold flexible conduit. Select the following recommended flexible conduit or a flexible conduit suitable for the outer diameter (ø 51 mm (ø 2 inches)) of the cable cover back side and protect and waterproof the connections by wrapping self-adhesive tape around.

**Separately sold flexible conduit (recommended product)**

Manufacturer:  
Eco Solutions Company, Panasonic Corporation  
Part no.:  
Panasonic PV flexible conduit, nominal diameter  
DMW128N (Panasonic PV flexible conduit)

**<NOTE>**

- Use weatherproof cables for outdoor wiring.
- If a cable protection tube will not be used, after passing the cables through the cable cover opening, fill the opening with sealing putty and then wrap self-adhesive tape around.



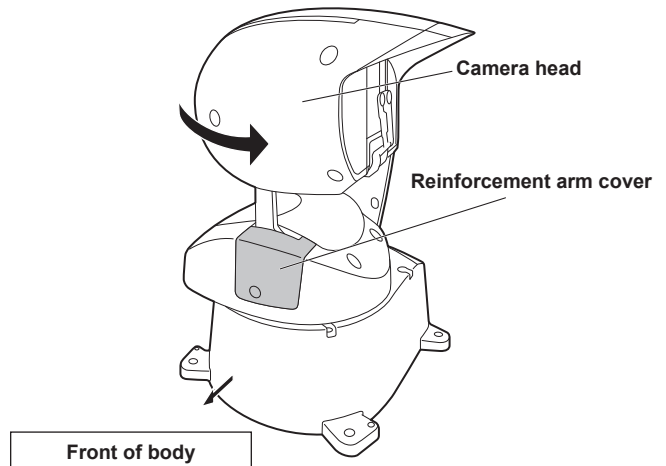
### Suspended installation

When installing the unit suspended by pole installation or other means outdoors, provide a mount bracket of ø 350 mm (ø 13-25/32 inches) or more that matches the dimensions in four places as a shelter against rain and to prevent damage from birds. For the structure of the mounting part, refer to "Performing the installation surface work" (→ page 8).

### Changing the rotation range (suspended installation)

When the unit is installed suspended, the mechanism structure needs to be switched over to enable rotation within the range of 175 degrees left and right.

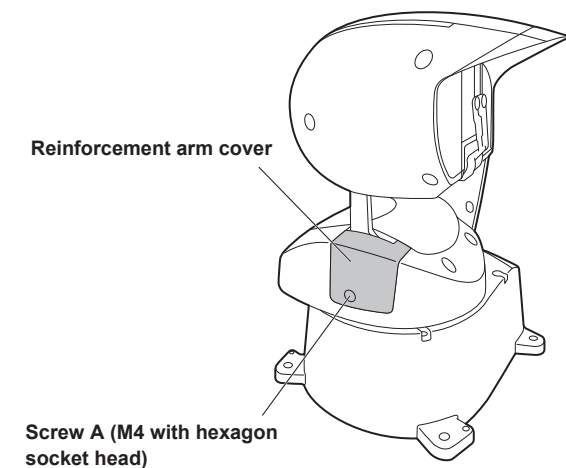
**1. Rotate the camera head to the position in the figure.**



**<NOTE>**

- Make sure the reinforcement arm cover is oriented toward the front of the body. If the work is performed when it is at another position, a load will be applied to the cables inside the unit, leading to a failure.

**2. Loosen screw A and remove the reinforcement arm cover from the body.**

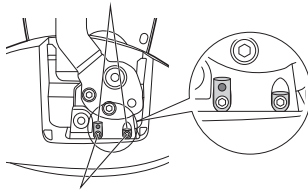


## How to install and connect the unit (continued)

3. Remove the two pin fixing screws and remove the pins at the mechanism endpoint.

### Positions of pins for stand-alone installation

Pins at mechanism end point

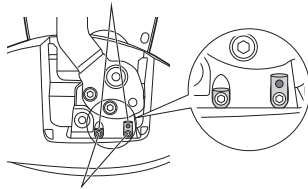


Pin fixing screws (M2 with hexagon socket heads)

4. Switch over the pins at the mechanism end point between the left and right and then reattach the pin fixing screws.

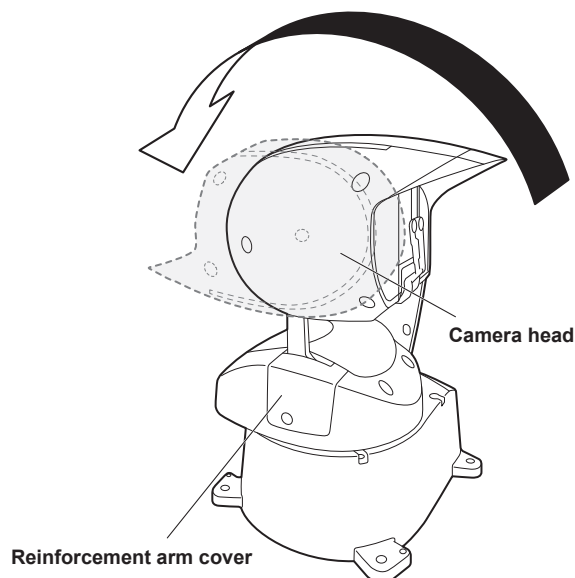
### Positions of pins for suspended installation

Pins at mechanism end point



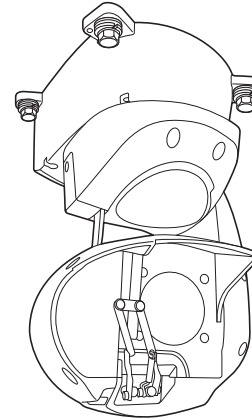
Pin fixing screws (M2 with hexagon socket heads)

5. Rotate the camera head 180 degrees in the direction of the arrow so that the top and bottom of the camera head are reversed and then attach the reinforcement arm cover to the body.



6. Install the unit suspended.

For the installation procedure, refer to the preceding "Performing the installation surface work" (→ page 8) to "Suspended installation" (→ page 10).



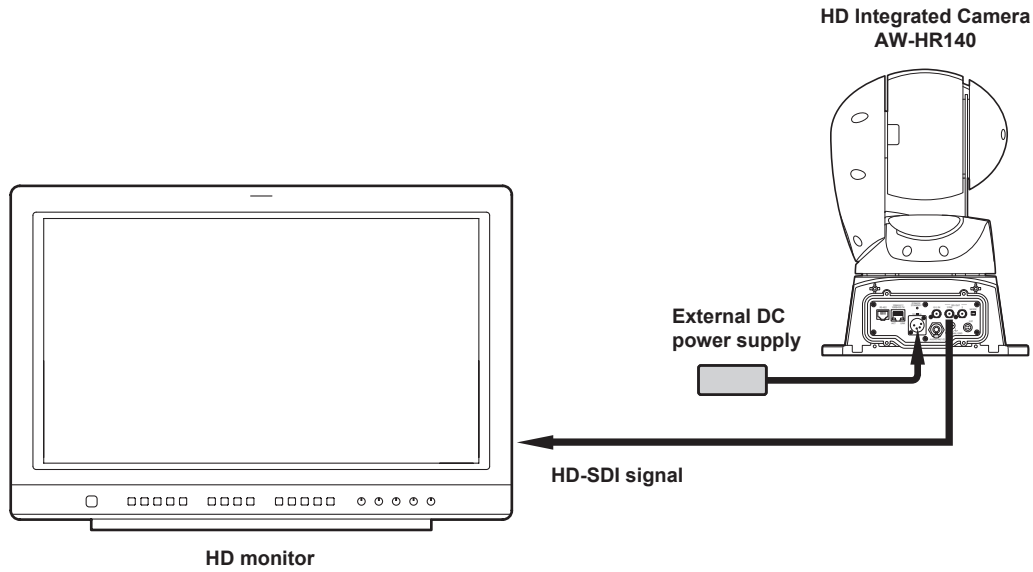
- The rotation range is now switched to 180 degrees so rotation 175 degrees left and right is possible when the unit is in a suspended installation state.
- To return to the stand-alone installation state, perform the work with the procedure in reverse to switch over the pins at the mechanism end point between the left and right.

#### <NOTE>

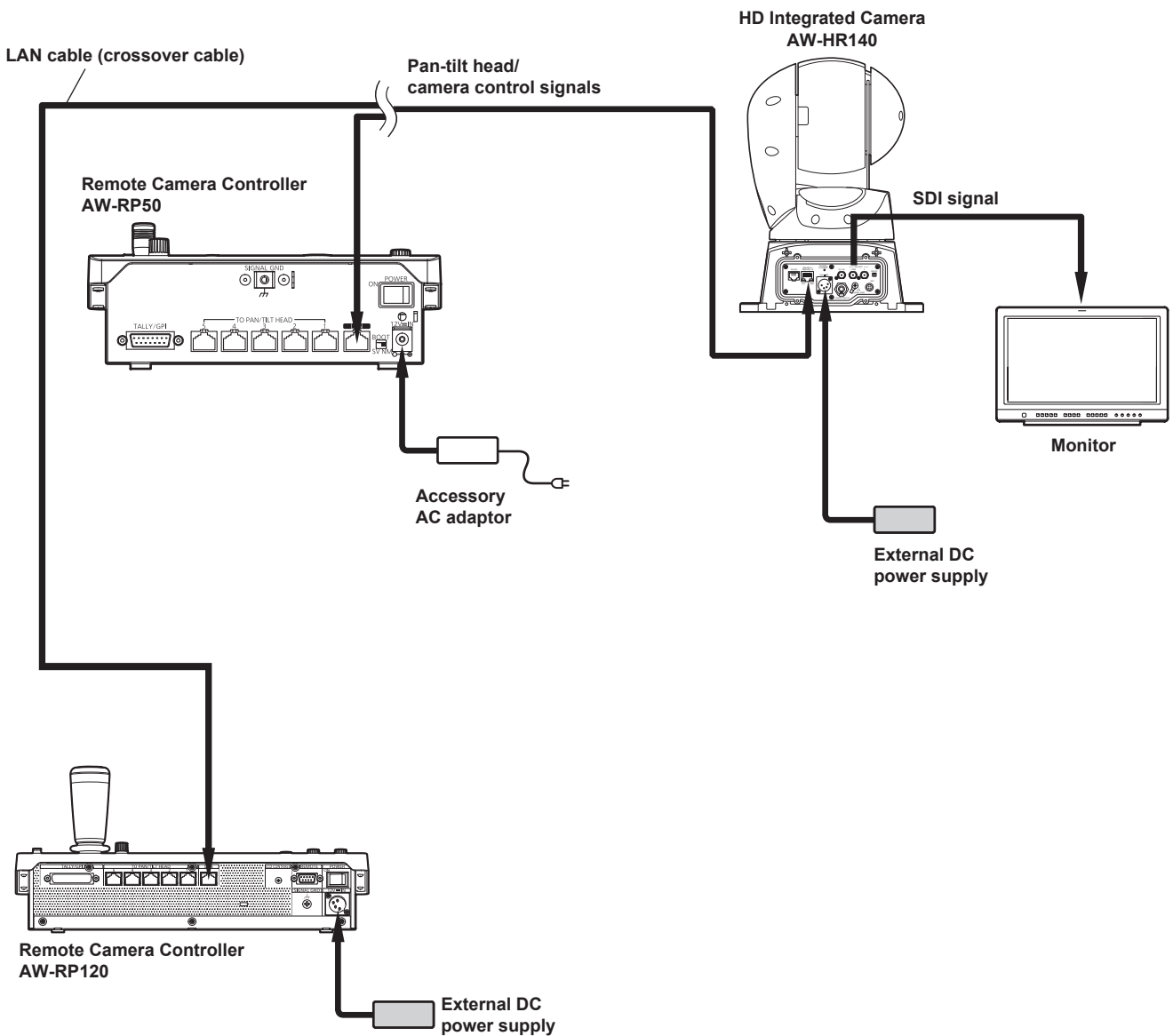
- Configurations are set for stand-alone installation under the factory settings. Be sure to perform the following when using the suspended installation method.
  - 1) Change the pins at mechanism end point
  - 2) Set [Install Position] to [Hanging] in the camera menu (→ PDF page 48 and page 80)
  - 3) Restart the unit (disconnect the power supply to the unit before connecting it again)
 Perform operations similar to the above for stand-alone installation when switching back from a suspended installation to a stand-alone installation.
- Selecting the wrong setting for [Install Position] may result in contact at the edges of the movement range and malfunction.

# Connections

## Connections with an HD monitor

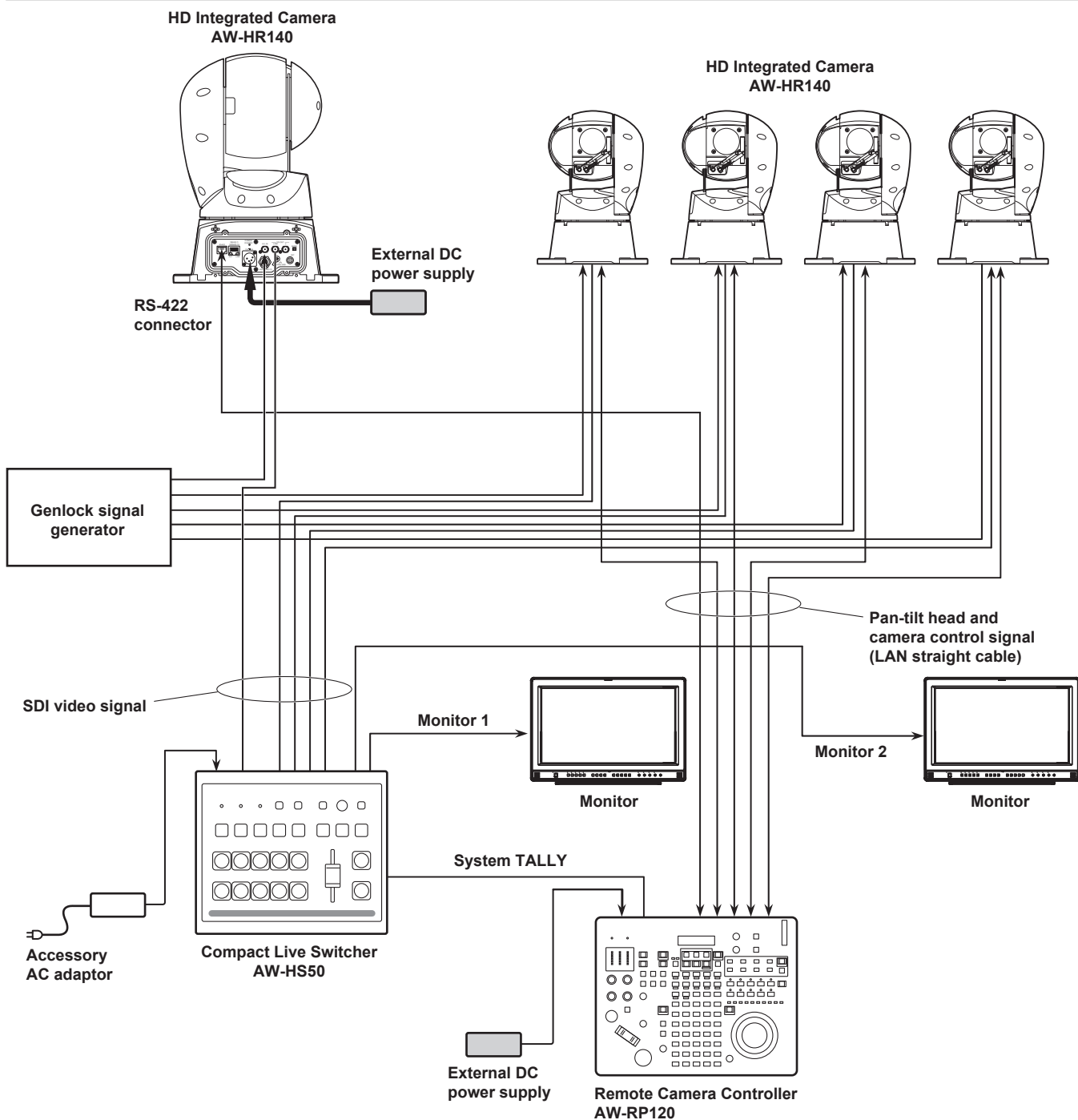


## Connections with a controller (AW-RP50/AW-RP120/AK-HRP200)



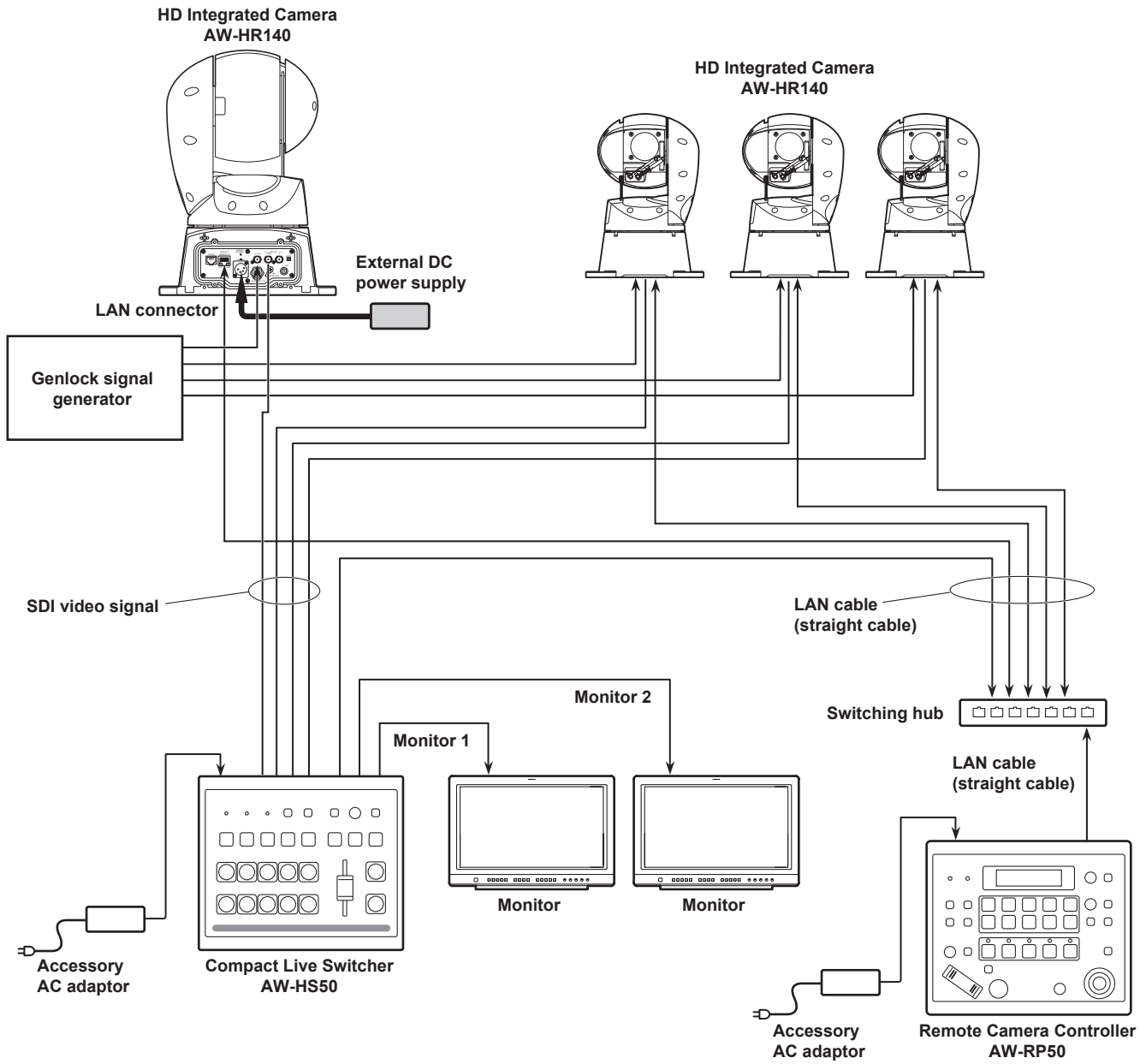
Connections (continued)

System example 1 (Serial control)



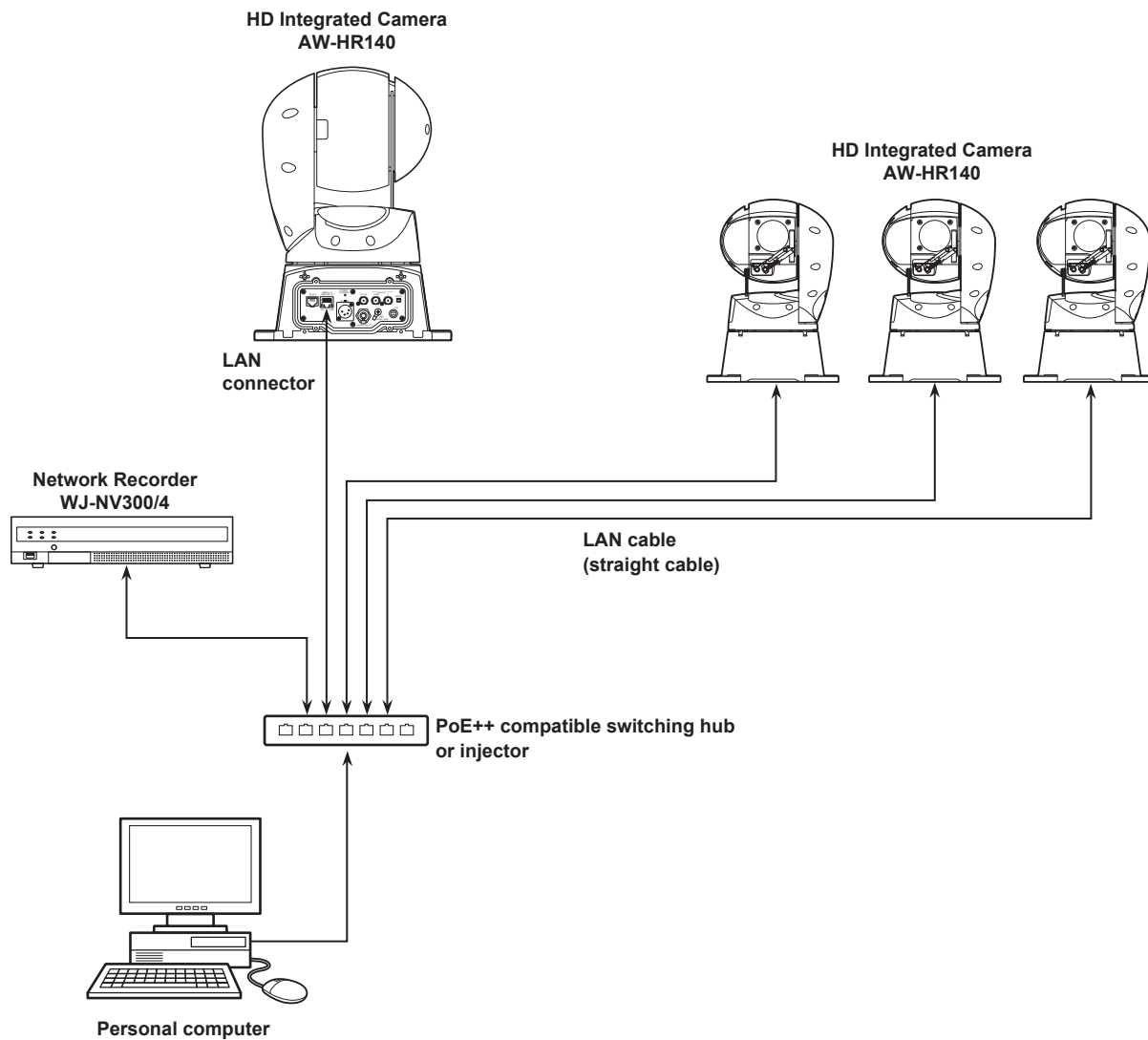
Connections (continued)

System example 2 (IP control)



Connections (continued)

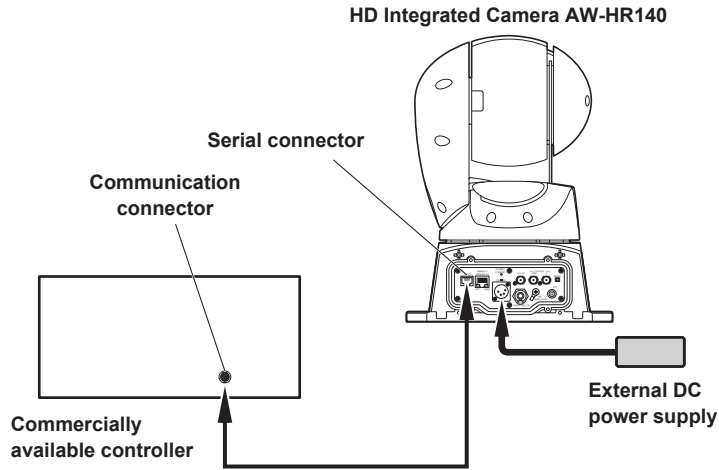
System example 3 (IP image transmission, PoE++)





Connections (continued)

System example 4 (connection with commercially available controller)



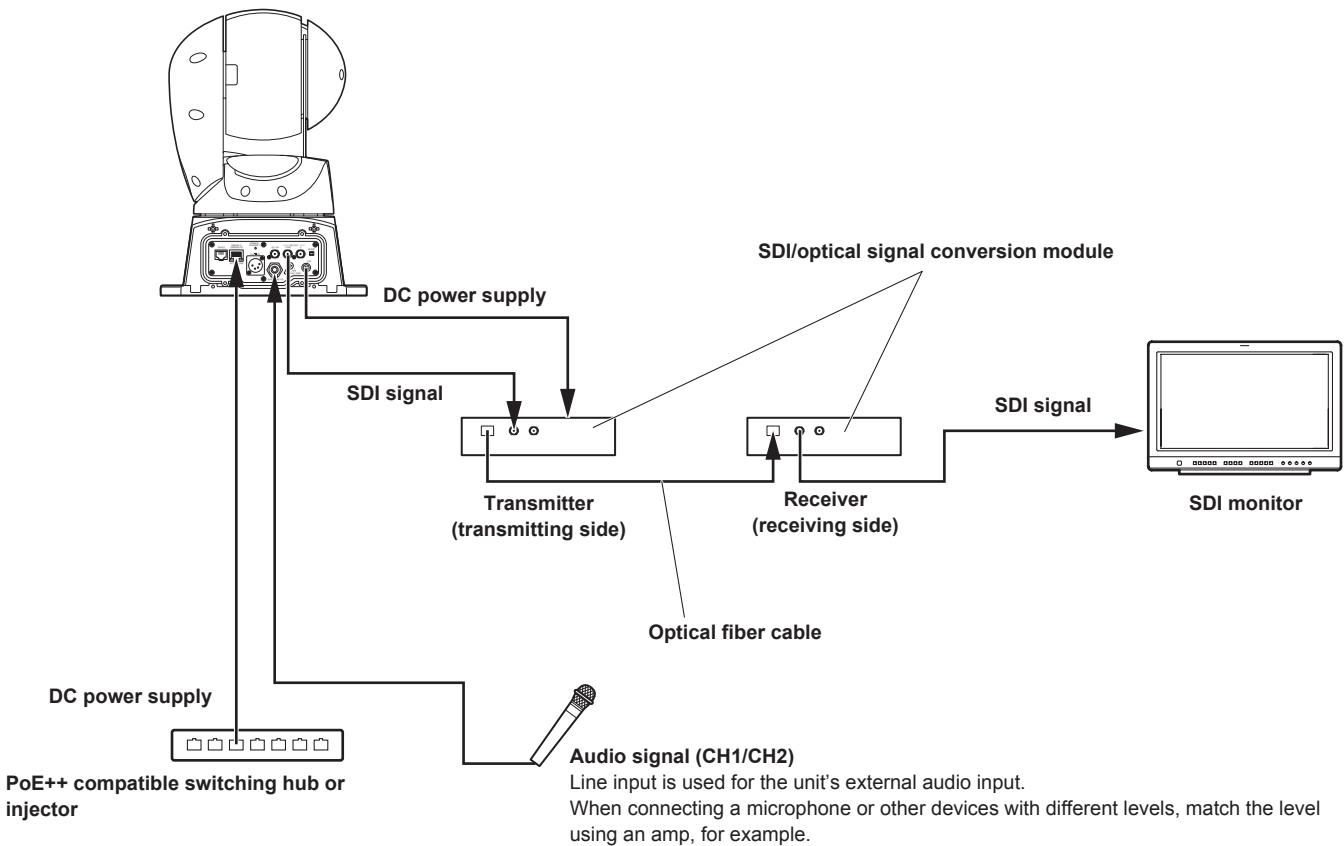
- Configure the MODE switches at the connector panel of the unit.  
For details on the MODE switches, see “MODE switch settings” (→ page 8).
- Configure the following items in the camera menu.
  1. Display [System] menu - [Protocol] - [Model Select].
  2. Select [SEVIHD1], [SBRC300], or [SBRCZ330] for the protocol type.

<NOTE>

- The unit is not equipped with a daisy-chain connection function for connecting multiple units.

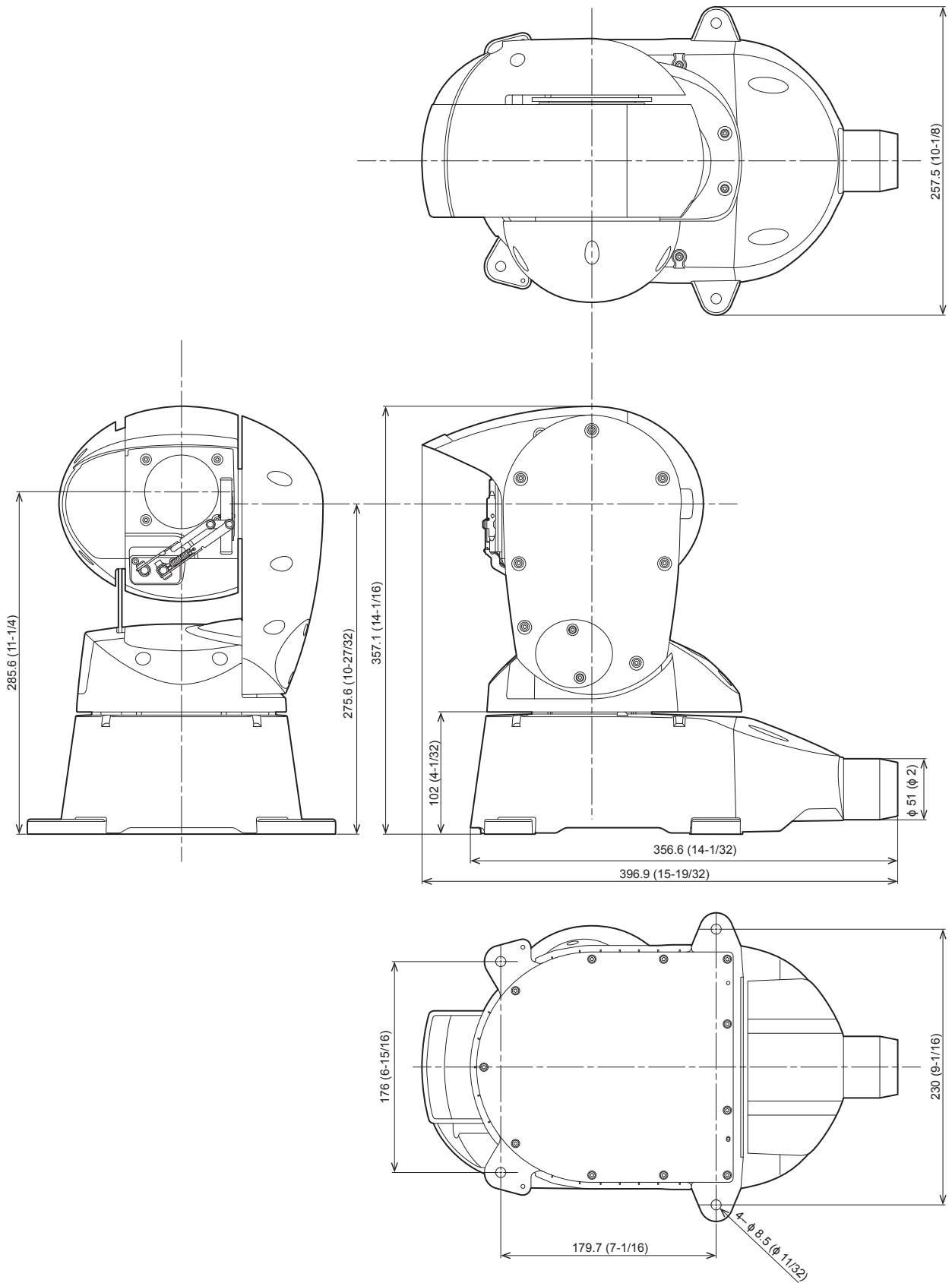
System example 5 (optical fiber system/audio connection using PoE++)

HD Integrated Camera AW-HR140



# Appearance

Unit: mm (inch)



**WARNING:**

- To reduce the risk of fire or electric shock, do not expose this equipment to rain or moisture.
- To reduce the risk of fire or electric shock, keep this equipment away from all liquids. Use and store only in locations which are not exposed to the risk of dripping or splashing liquids, and do not place any liquid containers on top of the equipment.

**WARNING:**

Always keep the mounting bolt, washer, spring washer and drop-prevention wire mounting screw out of the reach of infants and small children.

**CAUTION:**

Do not remove panel covers by unscrewing.  
To reduce the risk of electric shock, do not remove the covers.  
No user serviceable parts inside.  
Refer servicing to qualified service personnel.

**CAUTION:**

In order to maintain adequate ventilation, do not install or place this unit in a bookcase, built-in cabinet or any other confined space. To prevent risk of electric shock or fire hazard due to overheating, ensure that curtains and any other materials do not obstruct the ventilation.

**CAUTION:**

To reduce the risk of fire or electric shock and annoying interference, use the recommended accessories only.

**CAUTION:**

Check the installation at least once a year.  
An improper installation could cause the unit to fall off resulting in personal injury.

**FCC NOTICE (USA)**

This device complies with part 15 of the FCC Rules.

Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

**CAUTION:**


This equipment has been tested and found to comply with the limits for a class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

**FCC Warning:**

To assure continued FCC emission limit compliance, follow the attached installation instructions and the user must use only shielded interface cables when connecting to host computer or peripheral devices. Also, any unauthorized changes or modifications to this equipment could void the user's authority to operate this device.

**NOTIFICATION (Canada)**

CAN ICES-3 (A)/NMB-3(A)

 indicates safety information.

**Read this first! (For AW-HR140EJ)****WARNING:**

- To reduce the risk of fire or electric shock, do not expose this equipment to rain or moisture.
- To reduce the risk of fire or electric shock, keep this equipment away from all liquids. Use and store only in locations which are not exposed to the risk of dripping or splashing liquids, and do not place any liquid containers on top of the equipment.

**WARNING:**

Always keep the mounting bolt, washer, spring washer and drop-prevention wire mounting screw out of the reach of infants and small children.

**WARNING:**

This equipment is compliant with Class A of CISPR 32. In a residential environment this equipment may cause radio interference.

**CAUTION:**

Do not remove panel covers by unscrewing.  
To reduce the risk of electric shock, do not remove the covers.  
No user serviceable parts inside.  
Refer servicing to qualified service personnel.

**CAUTION:**

In order to maintain adequate ventilation, do not install or place this unit in a bookcase, built-in cabinet or any other confined space. To prevent risk of electric shock or fire hazard due to overheating, ensure that curtains and any other materials do not obstruct the ventilation.

**CAUTION:**

To reduce the risk of fire or electric shock and annoying interference, use the recommended accessories only.

**CAUTION:**

Check the installation at least once a year.  
An improper installation could cause the unit to fall off resulting in personal injury.

 indicates safety information.

**AEEE Yönetmeliğine Uygundur.**  
**AEEE Complies with Directive of Turkey.**



**Disposal of Old Equipment**  
**Only for European Union and countries with recycling systems**

This symbol on the products, packaging, and/or accompanying documents means that used electrical and electronic products must not be mixed with general household waste.

For proper treatment, recovery and recycling of old products, please take them to applicable collection points in accordance with your national legislation.

By disposing of them correctly, you will help to save valuable resources and prevent any potential negative effects on human health and the environment.

For more information about collection and recycling, please contact your local municipality, dealer or supplier.

Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.

Manufactured by: Panasonic Corporation, Osaka, Japan  
Importer's name and address of pursuant to EU rules:  
Panasonic Marketing Europe GmbH  
Panasonic Testing Centre  
Winsbergring 15, 22525 Hamburg, Germany

**AVERTISSEMENT:**

- Pour réduire les risques d'incendie ou de choc électrique, évitez d'exposer cet appareil à la pluie ou à l'humidité.
- Pour réduire tout risque de feu ou de choc électrique, éloigner l'appareil des liquides — utiliser et ranger uniquement dans un endroit ne risquant pas de recevoir des gouttes ou d'être aspergé de liquides, et ne pas mettre de récipient renfermant des liquides sur le dessus de l'appareil.

**AVERTISSEMENT:**

Toujours conserver le boulon de fixation, la rondelle, la rondelle élastique et la vis de montage du fil antichute hors de portée des nourrissons et des enfants.

**ATTENTION:**

Ne pas dévisser le couvercle.  
Pour réduire tout risque d'électrocution, ne pas retirer le couvercle. Il ne se trouve à l'intérieur aucune pièce qui puisse être réparée par l'utilisateur.  
Confier toute réparation à un personnel qualifié.

**ATTENTION:**

Pour maintenir une bonne ventilation, ne pas installer ni placer l'appareil dans une étagère, un meuble encastré ni aucun endroit confiné.  
Pour éviter tout risque de choc électrique ou de feu dû à une surchauffe, vérifier qu'aucun rideau ni aucun autre matériau ne fait obstacle à la ventilation.

**ATTENTION:**


Pour éviter tout risque d'incendie, de chocs électriques ou d'interférences, n'utiliser que les accessoires recommandés.

**ATTENTION:**

Vérifiez l'installation au moins une fois par an.  
Une mauvaise installation peut provoquer la chute de l'appareil et engendrer des blessures.

**NOTIFICATION (Canada)**

CAN ICES-3 (A)/NMB-3(A)

 Informations concernant la sécurité.

## Lire ces informations en premier ! (Pour AW-HR140EJ)

**AVERTISSEMENT:**

- Pour réduire les risques d'incendie ou de choc électrique, évitez d'exposer cet appareil à la pluie ou à l'humidité.
- Pour réduire tout risque de feu ou de choc électrique, éloigner l'appareil des liquides — utiliser et ranger uniquement dans un endroit ne risquant pas de recevoir des gouttes ou d'être aspergé de liquides, et ne pas mettre de récipient renfermant des liquides sur le dessus de l'appareil.

**ATTENTION:**

Pour maintenir une bonne ventilation, ne pas installer ni placer l'appareil dans une étagère, un meuble encastré ni aucun endroit confiné.

Pour éviter tout risque de choc électrique ou de feu dû à une surchauffe, vérifier qu'aucun rideau ni aucun autre matériau ne fait obstacle à la ventilation.

**AVERTISSEMENT:**

Toujours conserver le boulon de fixation, la rondelle, la rondelle élastique et la vis de montage du fil antichute hors de portée des nourrissons et des enfants.

**ATTENTION:**

Pour éviter tout risque d'incendie, de chocs électriques ou d'interférences, n'utiliser que les accessoires recommandés.

**AVERTISSEMENT:**

Cet équipement est conforme à la Classe A de la norme CISPR 32. Dans un environnement résidentiel, cet équipement peut produire des interférences radio.

**ATTENTION:**

Vérifiez l'installation au moins une fois par an.

Une mauvaise installation peut provoquer la chute de l'appareil et engendrer des blessures.

**ATTENTION:**

Ne pas dévisser le couvercle.

Pour réduire tout risque d'électrocution, ne pas retirer le couvercle. Il ne se trouve à l'intérieur aucune pièce qui puisse être réparée par l'utilisateur.

Confier toute réparation à un personnel qualifié.

 Informations concernant la sécurité.

**L'élimination des équipements usagés**

**Applicable uniquement dans les pays membres de l'Union européenne et les pays disposant de systèmes de recyclage.**

Apposé sur le produit lui-même, sur son emballage, ou figurant dans la documentation qui l'accompagne, ce pictogramme indique que les appareils électriques et électroniques usagés, doivent être séparés des ordures ménagères.

Afin de permettre le traitement, la valorisation et le recyclage adéquats des appareils usagés, veuillez les porter à l'un des points de collecte prévus, conformément à la législation nationale en vigueur.

En les éliminant conformément à la réglementation en vigueur, vous contribuez à éviter le gaspillage de ressources précieuses ainsi qu'à protéger la santé humaine et l'environnement.

Pour de plus amples renseignements sur la collecte et le recyclage, veuillez vous renseigner auprès des collectivités locales, votre revendeur ou fournisseur.

Le non-respect de la réglementation relative à l'élimination des déchets est passible d'une peine d'amende.

Fabriqué par : Panasonic Corporation, Osaka, Japon  
 Nom et adresse de l'importateur en accord avec les règlements de l'Union Européenne :  
 Panasonic Marketing Europe GmbH  
 Panasonic Testing Centre  
 Winsbergring 15, 22525 Hamburg, Allemagne

**ADVERTENCIA:**

- Para reducir el riesgo de producir un incendio o recibir una descarga eléctrica, no exponga este equipo a la lluvia ni a la humedad.
- Para reducir el riesgo de incendio o sacudida eléctrica, mantenga este equipo alejado de todos los líquidos. Utilícelo y guárdelo solamente en lugares donde no corra el riesgo de que le caigan gotas o le salpiquen líquidos, y no coloque ningún recipiente de líquidos encima del equipo.

**ADVERTENCIA:**

Mantenga siempre el perno de montaje, la arandela, la arandela de resorte y el tornillo de montaje del cable de prevención de caídas fuera del alcance de los niños y los bebés.

**PRECAUCIÓN:**

No quite la cubierta desatornillándola.  
No quite la tapa para evitar el riesgo de sacudidas eléctricas.  
Las piezas del interior no requieren mantenimiento por parte del usuario.  
Solicite las reparaciones al personal de servicio calificado.

**PRECAUCIÓN:**

Para mantener unas buenas condiciones de ventilación, no instale ni ponga este aparato en una librería, mueble empotrado u otro espacio reducido. Para evitar el riesgo de que se produzcan sacudidas eléctricas o peligros de incendio debidos al recalentamiento, asegúrese de que las cortinas y otros materiales no obstruyan la ventilación.

**PRECAUCIÓN:**

Para reducir el riesgo de incendios, sacudidas eléctricas e interferencias molestas, utilice solamente los accesorios recomendados.

**PRECAUCIÓN:**

Compruebe la instalación al menos una vez al año.  
Una instalación incorrecta podría provocar la caída de la unidad, lo cual podría causar lesiones al usuario.

 indica información de seguridad.



## Lea esto primero! (Para AW-HR140EJ)

### ADVERTENCIA:

- Para reducir el riesgo de producir un incendio o recibir una descarga eléctrica, no exponga este equipo a la lluvia ni a la humedad.
- Para reducir el riesgo de incendio o sacudida eléctrica, mantenga este equipo alejado de todos los líquidos. Utilícelo y guárdelo solamente en lugares donde no corra el riesgo de que le caigan gotas o le salpiquen líquidos, y no coloque ningún recipiente de líquidos encima del equipo.

### ADVERTENCIA:

Mantenga siempre el perno de montaje, la arandela, la arandela de resorte y el tornillo de montaje del cable de prevención de caídas fuera del alcance de los niños y los bebés.

### ADVERTENCIA:

Este equipo se ajusta a los requisitos de la Clase A de CISPR 32. Este equipo puede causar interferencias por radio en un entorno residencial.

### PRECAUCIÓN:

No quite la cubierta desatornillándola.  
No quite la tapa para evitar el riesgo de sacudidas eléctricas.  
Las piezas del interior no requieren mantenimiento por parte del usuario.  
Solicite las reparaciones al personal de servicio calificado.

### PRECAUCIÓN:

Para mantener unas buenas condiciones de ventilación, no instale ni ponga este aparato en una librería, mueble empotrado u otro espacio reducido. Para evitar el riesgo de que se produzcan sacudidas eléctricas o peligros de incendio debidos al recalentamiento, asegúrese de que las cortinas y otros materiales no obstruyan la ventilación.

### PRECAUCIÓN:

Para reducir el riesgo de incendios, sacudidas eléctricas e interferencias molestas, utilice solamente los accesorios recomendados.

### PRECAUCIÓN:

Compruebe la instalación al menos una vez al año.  
Una instalación incorrecta podría provocar la caída de la unidad, lo cual podría causar lesiones al usuario.

 indica información de seguridad.



#### Eliminación de Aparatos Viejos

##### Solamente para la Unión Europea y países con sistemas de reciclado.

Este símbolo en los productos, su embalaje o en los documentos que los acompañen significa que los productos eléctricos y electrónicos usados no deben mezclarse con los residuos domésticos.

Para el adecuado tratamiento, recuperación y reciclaje de los productos viejos llévelos a los puntos de recogida de acuerdo con su legislación nacional.

Si los elimina correctamente ayudará a preservar valuosos recursos y evitará potenciales efectos negativos sobre la salud de las personas y sobre el medio ambiente.

Para más información sobre la recogida o reciclaje, por favor contacte con su ayuntamiento, su distribuidor o su proveedor.

Puede haber sanciones por una incorrecta eliminación de este residuo, de acuerdo con la legislación nacional.

Fabricado por: Panasonic Corporation, Osaka, Japón  
Nombre y dirección del importador conforme a las normas de la UE:  
Panasonic Marketing Europe GmbH  
Panasonic Testing Centre  
Winsbergring 15, 22525 Hamburg, Alemania

**WARNUNG:**

- Zur Reduzierung der Gefahr von Brand und elektrischem Schlag dieses Gerät weder Nässe noch Feuchtigkeit aussetzen.
- Um Brand- oder Stromschlaggefahr zu reduzieren, muss dieses Gerät von allen Flüssigkeiten ferngehalten werden. Vermeiden sie Gebrauch und Lagerung des Gerätes an Orten, an denen die Gefahr besteht, dass es mit Flüssigkeiten betropft oder bespritzt wird, und stellen sie keine Flüssigkeitsbehälter auf das Gerät.

**WARNUNG:**

Bewahren Sie Montageschraube, Unterlegscheibe, Federring und Fallschutzdraht-Befestigungsschraube stets außer Reichweite von Säuglingen und Kleinkindern auf.

**WARNUNG:**

Dieses Gerät entspricht Klasse A der CISPR 32. In einem Wohnbereich kann dieses Gerät Funkstörungen verursachen.

**VORSICHT:**

Öffnen Sie nicht das Gerät durch Abschrauben von Gehäuseteilen.  
Zur Vermeidung von elektrischem Schlag darf das Gehäuse nicht geöffnet werden. Im Geräteinneren befinden sich keine Teile, die vom Benutzer gewartet werden können.  
Wartungs- und Reparaturarbeiten grundsätzlich autorisiertem Kundendienstpersonal überlassen.

**VORSICHT:**

Um eine ausreichende Belüftung zu gewährleisten, dieses Gerät nicht in einem Bücherregal, Einbauschränk oder an einem anderen engen Platz aufstellen. Sicherstellen, dass die Ventilationsöffnungen im Gehäuse nicht durch Vorhänge oder andere Materialien blockiert werden; anderenfalls besteht die Gefahr von elektrischem Schlag oder Feuer aufgrund von Überhitzung.

**VORSICHT:**

Nur das empfohlene Zubehör verwenden, um die Gefahr von Feuer und elektrischem Schlag sowie Störungen auszuschalten.

**VORSICHT:**

Die Installation ist mindestens einmal jährlich zu überprüfen. Bei fehlerhafter Installation besteht Verletzungsgefahr durch Herunterfallen des Gerätes.

 ist die Sicherheitsinformation.

**Entsorgung von Altgeräten****Nur für die Europäische Union und Länder mit Recyclingsystemen**

Dieses Symbol, auf den Produkten, der Verpackung und/oder den Begleitdokumenten, bedeutet, dass gebrauchte elektrische und elektronische Produkte nicht in den allgemeinen Hausmüll gegeben werden dürfen.

Bitte führen Sie alte Produkte zur Behandlung, Aufarbeitung bzw. zum Recycling gemäß den gesetzlichen Bestimmungen den zuständigen Sammelpunkten zu.

Indem Sie diese Produkte ordnungsgemäß entsorgen, helfen Sie dabei, wertvolle Ressourcen zu schützen und eventuelle negative Auswirkungen auf die menschliche Gesundheit und die Umwelt zu vermeiden.

Für mehr Informationen zu Sammlung und Recycling, wenden Sie sich bitte an Ihren örtlichen Abfallentsorgungsdienstleister, Händler oder Zulieferer.

Gemäß Landesvorschriften können wegen nicht ordnungsgemäßer Entsorgung dieses Abfalls Strafgeelder verhängt werden.

Hergestellt von: Panasonic Corporation, Osaka, Japan  
Name und Adresse des Importeurs gemäß EU-Bestimmungen:  
Panasonic Marketing Europe GmbH  
Panasonic Testing Centre  
Winsbergring 15, 22525 Hamburg, Deutschland

## Leggere prima quanto segue! (Per AW-HR140EJ)

### AVVISO:

- Per ridurre il rischio d'incendio o di scosse, non esporre questo prodotto alla pioggia o all'umidità.
- Per ridurre il rischio d'incendio o di scosse elettriche, tenere questo prodotto lontano da tutti i liquidi. Usarlo e conservarlo soltanto in luoghi che non siano esposti a gocciolamenti o spruzzi di liquidi, e non mettervi sopra recipienti di liquidi.

### AVVISO:

Tenere sempre la vite di montaggio, la rondella, la molla e il cavo anticaduta lontano dalla portata dei bambini.

### AVVISO:

Questa apparecchiatura è conforme alla Classe A della CISPR 32. In un ambiente di tipo residenziale questa apparecchiatura potrebbe provocare interferenze radio.

### PRECAUZIONE:

Non togliere il coperchio svitandolo.  
Per ridurre i pericoli di scosse elettriche, non togliere il coperchio. All'interno non ci sono parti riparabili dall'utente.  
Per le riparazioni, rivolgersi a personale tecnico qualificato.

### PRECAUZIONE:

Per assicurare una buona ventilazione, non installare o sistemare questo apparecchio in uno scaffale, mobile incorporato od altro spazio chiuso. Per evitare i pericoli di scosse elettriche o d'incendio a causa di un surriscaldamento, accertarsi che tende od altro materiale non ostacolino la ventilazione.

### PRECAUZIONE:

Per ridurre i pericoli d'incendio o di scosse elettriche e di fastidiose interferenze, usare soltanto gli accessori raccomandati.

### PRECAUZIONE:

Controllare l'installazione almeno una volta all'anno. Un'installazione incorretta può risultare nella caduta dell'apparecchio con conseguenti danni alle persone.

 sono le informazioni sulla sicurezza.



#### Smaltimento di vecchie apparecchiature

##### Solo per Unione Europea e Nazioni con sistemi di raccolta e smaltimento

Questo simbolo sui prodotti, sull'imballaggio e/o sulle documentazioni o manuali accompagnanti i prodotti indica che i prodotti elettrici, elettronici non devono essere buttati nei rifiuti domestici generici.

Per un trattamento adeguato, recupero e riciclaggio di vecchi prodotti vi invitiamo a portarli negli appositi punti di raccolta secondo la legislazione vigente nel vostro paese.

Con uno smaltimento corretto, contribuirete a salvare importanti risorse e ad evitare i potenziali effetti negativi sulla salute umana e sull'ambiente.

Per ulteriori informazioni su raccolta e riciclaggio, vi invitiamo a contattare il vostro comune, rivenditore o fornitore.

Lo smaltimento non corretto di questi rifiuti potrebbe comportare sanzioni in accordo con la legislazione nazionale.

Fabbricato da: Panasonic Corporation, Osaka, Giappone  
Nome e indirizzo dell'importatore in conformità con le normative UE:  
Panasonic Marketing Europe GmbH  
Panasonic Testing Centre  
Winsbergring 15, 22525 Hamburg, Germania

**ОСТОРОЖНО:**

- Для снижения риска возникновения пожара или удара электрическим током не подвержайте данное оборудование воздействию дождя или влаги.
- Для снижения риска возникновения пожара или удара электрическим током держите данное оборудование подальше от любых жидкостей. Используйте и храните его только в местах, где оно не будет подвергаться риску попадания капель или брызг жидкости и не помещайте емкостей с жидкостью на оборудование.

**ОСТОРОЖНО:**

Храните крепежный болт, шайбу, пружинную шайбу и крепежный винт троса для защиты от падения только вне доступа младенцев и маленьких детей.

**ОСТОРОЖНО:**

Это оборудование совместимо с классом А стандарта CISPR 32. В жилых районах это оборудование может стать причиной радиопомех.

**ВНИМАНИЕ:**

Не отвинчивайте крышки панелей.  
Для снижения риска удара электрическим током не снимайте панели. Внутри устройства нет деталей, подлежащих обслуживанию пользователем.  
Обратитесь за сервисным обслуживанием к квалифицированному персоналу.

**ВНИМАНИЕ:**

Для обеспечения надлежащей вентиляции не устанавливайте и не размещайте данное устройство на книжном стеллаже, во встроенном шкафу или в другом закрытом пространстве. Для предотвращения риска поражения электрическим током или опасности возгорания вследствие перегрева убедитесь, что занавески или другие материалы не препятствуют вентиляции.

**ВНИМАНИЕ:**

Для снижения риска возникновения пожара или удара электрическим током и возникновения помех используйте только рекомендуемые дополнительные принадлежности.

**ВНИМАНИЕ:**

Проверяйте установку по крайней мере раз в год. Ненадлежащая установка может привести к падению устройства и получению травмы.

 Данный знак обозначает информацию, относящуюся к технике безопасности.

**Информация по обращению с отходами для стран, не входящих в Европейский Союз**

Действие этого символа распространяется только на Европейский Союз.

Если Вы собираетесь выбросить данный продукт, узнайте в местных органах власти или у дилера, как следует поступать с отходами такого типа.

**Декларация про Відповідність**

Вимогам Технічного Регламенту Обмеження Використання деяких Небезпечних Речовин в електричному та електронному обладнанні (затвердженого Постановою №1057 Кабінету Міністрів України)

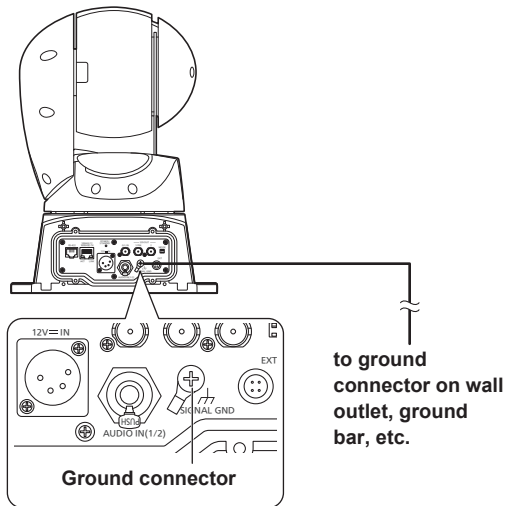
Виріб відповідає вимогам Технічного Регламенту Обмеження Використання деяких Небезпечних Речовин в електричному та електронному обладнанні (ТР ОБНР).

Вміст небезпечних речовин у випадках, не обумовлених в Додатку №2 ТР ОБНР, :

1. свинець (Pb) – не перевищує 0,1 % ваги речовини або в концентрації до 1000 частин на мільйон;
2. кадмій (Cd) – не перевищує 0,01 % ваги речовини або в концентрації до 100 частин на мільйон;
3. ртуть (Hg) – не перевищує 0,1 % ваги речовини або в концентрації до 1000 частин на мільйон;
4. шестивалентний хром (Cr6+) – не перевищує 0,1 % ваги речовини або в концентрації до 1000 частин на мільйон;
5. полібромбіфеноли (PBB) – не перевищує 0,1% ваги речовини або в концентрації до 1000 частин на мільйон;
6. полібромдефенілові ефіри (PBDE) – не перевищує 0,1 % ваги речовини або в концентрації до 1000 частин на мільйон.

**Read this first! (continued)****Note on grounding**

- Ground the unit via the <SIGNAL GND> ground connector.



# Before use

## Overview

- This unit is an outdoor compatible full HD camera with an integrated pan-tilt head that features the newly developed 1/2.86-type full HD 3MOS sensor and digital signal processor (DSP).
- In addition to its optical 20× zoom lens, the unit is equipped with 10× digital zoom to achieve vibrant high-quality images that have a horizontal resolution of 1000 lines. With its high sensitivity and built-in image-shake correction and night-mode functions, the unit can record in a wide range of environments.
- When a controller is connected, camera operations can be performed smoothly via IP control or serial control.
- The unit features a night mode that exposes subjects to infrared rays, making it possible to shoot even under low-light conditions.
- When the unit is connected to a personal computer via an IP network, it can be operated via a web browser.
- Equipped with a newly developed codec engine, the unit can output Full HD images at up to 60 fps via a network.
- The unit supports standard serial communication formats, allowing connection to commercially available controllers.
- Connection with a Panasonic camera controller is also possible via Panasonic's proprietary serial communication format.
- The unit comes standard with various functions essential for an outdoor shooting environment.

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>• Intelligent functions (auto adjustment)</li> <li>• Wiper</li> <li>• Heater</li> </ul> | <ul style="list-style-type: none"> <li>• Defroster</li> <li>• Vibration correction function</li> <li>• Haze reduction function</li> <li>• Washer control</li> </ul> |
|--|---|

## Computer requirements

<b>CPU</b>	Intel® Core™ 2 DUO 2.4 GHz or more recommended
<b>Memory</b>	<b>For Windows:</b> 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) <b>For Mac:</b> 2 GB or more
<b>Network function</b>	10BASE-T or 100BASE-TX port × 1
<b>Image display</b>	Resolution: 1024 × 768 pixels or more Color generation: True Color 24-bit or more
<b>Supported operating systems and web browsers</b>	<b>For Windows:</b> Microsoft® Windows® 10 Pro 64-bit / 32-bit *1 Windows® Internet Explorer® 11.0*1 *3 Microsoft® Windows® 8.1 Pro 64-bit / 32-bit *1 Windows® Internet Explorer® 11.0*1 *3 Microsoft® Windows® 8 Pro 64-bit / 32-bit *1 Windows® Internet Explorer® 10.0*1 *3 Microsoft® Windows® 7 Professional SP1 64-bit / 32-bit *2 Windows® Internet Explorer® 11.0 / 10.0 / 9.0 / 8.0 *3 <b>For Mac:</b> OS X 10.11 Safari 9.0 OS X 10.10 Safari 8.0.4 OS X 10.9 Safari 7.0.2 OS X 10.8 Safari 6.1.2 <b>For iPhone, iPad, iPod touch:</b> iOS Standard web browsers <b>For Android:</b> Android OS Standard web browsers
<b>Other</b>	Adobe® Reader® (for viewing the operating instructions available on the website)

\*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.

## Before use (continued)

### IMPORTANT

- Failure to provide the required personal computer environment may slow down the delineation of the images on the screen, make it impossible for the web browser to work and cause other kinds of problems.

### <NOTE>

- Depending on the software version of the unit, an update may be necessary.
- Use the desktop version of Internet Explorer. (Internet Explorer for Modern UI is not supported.)
- For the latest information on compatible operating systems and web browsers, visit the support desk at the following website.

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

### Disclaimer of warranty

IN NO EVENT SHALL Panasonic Corporation BE LIABLE TO ANY PARTY OR ANY PERSON, EXCEPT FOR REPLACEMENT OR REASONABLE MAINTENANCE OF THE PRODUCT, FOR THE CASES, INCLUDING BUT NOT LIMITED TO BELOW:

- ① ANY DAMAGE AND LOSS, INCLUDING WITHOUT LIMITATION, DIRECT OR INDIRECT, SPECIAL, CONSEQUENTIAL OR EXEMPLARY, ARISING OUT OF OR RELATING TO THE PRODUCT;
- ② PERSONAL INJURY OR ANY DAMAGE CAUSED BY INAPPROPRIATE USE OR NEGLIGENT OPERATION OF THE USER;
- ③ UNAUTHORIZED DISASSEMBLE, REPAIR OR MODIFICATION OF THE PRODUCT BY THE USER;
- ④ INCONVENIENCE OR ANY LOSS ARISING WHEN IMAGES ARE NOT DISPLAYED, DUE TO ANY REASON OR CAUSE INCLUDING ANY FAILURE OR PROBLEM OF THE PRODUCT;
- ⑤ ANY PROBLEM, CONSEQUENTIAL INCONVENIENCE, OR LOSS OR DAMAGE, ARISING OUT OF THE SYSTEM COMBINED BY THE DEVICES OF THIRD PARTY;
- ⑥ ANY DEMANDS FOR COMPENSATION, CLAIMS, ETC. OCCASIONED BY THE INFRINGEMENT OF PRIVACY BY INDIVIDUALS OR ORGANIZATIONS WHOSE IMAGES WERE SHOT BY THE USER BECAUSE THESE IMAGES (INCLUDING THE RECORDINGS MADE) WERE MADE AVAILABLE BY THE USER BECAUSE IN THE PUBLIC DOMAIN FOR SOME REASON OR OTHER OR BECAUSE THE IMAGES ENDED UP BEING USED FOR PURPOSES OTHER THAN THE ONE DESCRIBED ABOVE;
- ⑦ LOSS OF REGISTERED DATA CAUSED BY ANY FAILURE.

### Network security

As the unit intended to be used while connected to a network, the following security risks exist.

- ① Leakage or theft of information through the unit
- ② Unauthorized operation of the unit by persons with malicious intent
- ③ Interference with or stoppage of the unit by persons with malicious intent

It is your responsibility to take precautions, such as those described below, to protect yourself against the above network security risks.

- Use the unit in a network secured by a firewall, etc.
- If the unit is connected to a network that includes personal computers, make sure that the system is not infected by computer viruses or other malicious programs (using a regularly updated antivirus program, anti-spyware program, etc.).
- Protect your network against unauthorized access by restricting users to those who log in with an authorized user name and password.
- After accessing the unit as an administrator, be sure to close all web browsers.
- Change the administrator password periodically.
- Restrict access to the unit by authenticating the users, for example, to prevent setting information stored on the unit from leaking over the network.
- Do not install the unit in locations where the unit, cables, and other parts can be easily damaged or destroyed by persons with malicious intent.
- Avoid connections that use public lines.

### <NOTE>

#### Notes on user authentication

- User authentication on the unit can be performed via digest authentication or basic authentication. If basic authentication is used without the use of a dedicated authentication device, password leaks may occur. We recommend using digest authentication or host authentication.

#### Usage restrictions

- We recommend connecting the unit, controller, and any computers to the same network segment. Events based on settings inherent to the network devices, for example, may occur in connections that include different segments, so be sure to perform checks prior to operation.



## Features

### Multi-format support

- You can switch between the following formats via the camera menus or a web browser.

#### Supported formats:

1080/59.94p, 1080/29.97p\*<sup>1</sup>, 1080/23.98p\*<sup>2</sup>, 1080/59.94i, 1080/29.97PsF\*<sup>3</sup>, 1080/23.98PsF\*<sup>3</sup>, 720/59.94p, 1080/50p, 1080/25p\*<sup>1</sup>, 1080/50i, 1080/25PsF\*<sup>3</sup>, 720/50p

\*<sup>1</sup> Native output

\*<sup>2</sup> Over 59.94i output

\*<sup>3</sup> 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.

### 1/2.86-type MOS sensor and high-performance 20x zoom lens featured

- A newly developed 1/2.86-type full HD 3MOS sensor and DSP (digital signal processor) are incorporated. High-quality pictures are obtained by video processing in many different kinds of ways.
- In addition to its optical 20x zoom lens, the unit comes with a 10x digital zoom to achieve high-quality images that overflow with ambiance.
- A dynamic range stretcher (DRS) function that compensates for overexposure and loss of dark detail and a digital noise reduction (DNR) function for minimizing image lag even in dark locations and shooting scenes clearly are incorporated to reproduce clean and clear images in a wide range of applications.

### Easy operation of unit enabled by its integration with a high-performance pan-tilt head unit

- Operations at the high speed of 60°/s
- Wide rotational angles with a panning range of  $\pm 175^\circ$  and a tilting range from  $-30^\circ$  to  $210^\circ$
- Storage of up to 100 positions in the preset memory (The number of preset memories that can be used varies from one controller to another.)

### Built-in night mode

- The unit supports infrared shooting. By exposing subjects to infrared rays, shooting under ordinarily difficult low-light conditions is possible. (Image output will be in black and white.)
- The iris will be fixed at open.

### IP image output functions

- The unit is equipped with image compression and IP transmission LSI capabilities. Output in Full HD quality at up to 60 fps.
- Operation with IP control allows for a wide range of applications, such as controlling the camera from remote locations.

### Standard serial communication support

- Connect to a commercially available controller via RS-422 interface.

#### <NOTE>

- With the standard serial communication formats, control related to outdoor functions cannot be performed directly with the controller. Perform the control by setting the camera menu.

### High degree of compatibility with Panasonic's currently available controllers, enabling a flexible system to be put together

- A maximum of five units can be operated by serial control from one of Panasonic's currently available controllers (AW-RP50, AW-RP120 and AK-HRP200). The unit can also be used together with the cameras and pan-tilt head unit systems currently available from Panasonic Corporation so that an existing system can be used to advantage to put together a system that is even more flexible.

#### <NOTE>

- 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/>  
The maximum distances between the units and controller is 1000 meters (3280 ft). (when serial control is exercised) Use of an external device or some other means must be provided separately in order to extend the video signal connections.

### Easy construction of systems thanks to integrated design used for outdoor housing, pan-tilt head, camera, and lens

- The construction of systems has been made easier by integrating the outdoor compatible housing, camera, lens, and pan-tilt head into a single unit.

### Flexible camera layout enabled by simple connection

- IP control allows outstanding connectivity.

#### <NOTE>

- This unit is a stand-alone (desktop) device with support for outdoor use.  
Please note that it cannot be used in a vehicle.

### More functionality than the indoor-only model

- The functions required for shooting outdoors have been included in addition to the functions of the indoor-only model (AW-HE130) which have a proven track record.

### Easy connections and settings courtesy of IP control

- Up to a hundred units can be operated by IP connection from a Panasonic controller (AW-RP50, AW-RP120, AK-HRP200). (The maximum length of the LAN cables is 100 meters (328 ft).)

### PoE++ \*<sup>4</sup> eliminates need for camera power configurations

- Configurations for camera's power supply are not necessary when the unit is connected to a network device that supports the PoE++ standard (IEEE802.3bt Draft ver.2.0 compliant)\*<sup>5</sup>.

#### <NOTE>

- When using a PoE++ device that requires software authentication, it may take a few minutes after power supply starts before the unit is operational.
- If the external DC power supply and a PoE++ power supply are connected simultaneously, the external DC power supply will have priority. If the external DC power supply is disconnected while both power supplies are connected, the unit will restart automatically, and the image will be interrupted.
- Use a Category 5e cable or higher when using a PoE++ power supply. The maximum length of the cable between the power supply unit and the unit is 100 meters (328 ft). Using a cable that is lower than Category 5 may result in reduced power supply capabilities.
- When a PoE++ injector is connected to a personal computer that supports Gigabit Ethernet using a straight LAN cable, the personal computer may not recognize the injector in rare cases. In such cases, connect the personal computer to the unit using a cross LAN cable (via cross connection).

\*<sup>4</sup> Power over Ethernet Plus Plus. Referred to as "PoE++" in this manual.

\*<sup>5</sup> For details on PoE++ devices for which operation has been verified, consult your local dealer or Panasonic representative.

## Controller supported

- AW-RP50
- AW-RP120
- AK-HRP200

- 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/>

### <NOTE>

- The following operations can not be performed via the following controllers.

Item	AW-RP555	AW-RP655
Camera OSD menu operation	Supported	Supported
Scene	Supported *1 (1/2/3/USER)	Supported (HALOGEN/FLUORESCENT/OUTDOOR/USER)
Iris Mode	Supported	Supported
Shutter Mode	Supported with some restrictions *2 (Step only)	Not supported
Gain	Supported *1	Supported with some restrictions *3
ND Filter	Not supported	Not supported
Day/Night	Supported with some restrictions *4	Supported with some restrictions *4
White Balance Mode	Supported *1 (AWB A/AWB B/ATW only)	Supported (AWB A/AWB B/ATW only)
AWB/ABB	Supported	Supported
Color Temperature	Not supported	Not supported
R Gain / B Gain	Not supported	Supported
Pedestal	Not supported	Supported
R Pedestal / B Pedestal	Not supported	Supported with some restrictions *5
Detail	Not supported	Not supported
V Detail Level	Not supported	Not supported
CAM/BAR	Supported *1	Supported
Pan	Supported	Supported
Tilt	Supported	Supported
Preset	Supported	Supported
Preset Speed	Not supported	Not supported
Preset Speed Table	Not supported	Not supported
Preset Scope	Not supported	Not supported
Freeze During Preset	Not supported	Not supported
Focus Mode	Supported with some restrictions *4	Supported with some restrictions *4
Zoom	Supported	Supported
Digital Extender	Not supported	Not supported
OIS/D.I.S.S.	Not supported	Not supported
Tally	Supported with some restrictions *6	Supported with some restrictions *6

\*1 If the setting value is changed on another device, it may take some time for the setting value to be applied.

\*2 If the Shutter Mode is not turned off/on after configuration, the value will not be changed.

\*3 Improper operation will occur when Gain is set to 19 dB or higher.

\*4 If the setting value is changed on another device, the setting value will not be applied. (If the value is configured locally on the device, the value will be applied.)

\*5 The value range display will be incorrect (–150 to +150).

\*6 Although the unit is not equipped with a tally lamp, the “OSD Off With Tally” function can be used.

### ■ Functions that cannot be controlled with the standard protocol

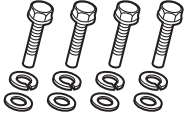
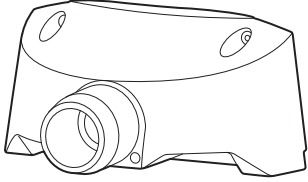
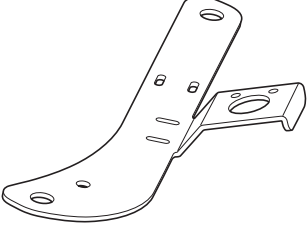
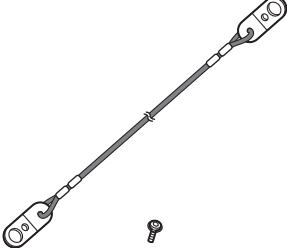
Operations for the following items cannot be controlled with the standard protocol.

Item	Standard protocol incompatibility
Heater	Control not possible
Wiper	Control not possible
Defroster	Control not possible
Washer	Control not possible
OIS/D.I.S.S.	Setting not possible
Audio	Setting not possible
DC Out	Control not possible
Tally	Display function not available on unit

## Accessories

Check that the following accessories are present and accounted for.

- After removing the product from its container, dispose of the packing materials in an appropriate manner.

<p><b>Hexagonal bolt</b>  <b>M8 × 30 mm (4)</b>  <b>M8 washer (4)</b>  <b>M8 spring washer (4)</b></p> 	<p><b>Cable cover (1)</b></p> 	<p><b>Washer nozzle mount bracket</b>  <b>(1)</b></p> 	<p><b>Drop-prevention wire (1)</b>  <b>Drop-prevention wire</b>  <b>mounting screw (with</b>  <b>hexagonal socket, for unit)</b>  <b>M4 × 10 mm (1)</b></p> 
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## Operating precautions

### ■ Shoot under the proper lighting conditions.

To produce pictures with eye-pleasing colors, shoot under the proper lighting conditions.

The pictures may not appear with their proper colors when shooting under fluorescent lights. Select the proper lighting as required.

### ■ To ensure a stable performance in the long term

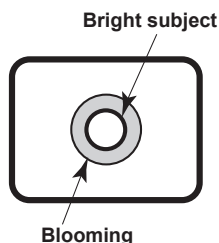
Using the unit for prolonged periods in locations where the temperature and humidity levels are high will cause its parts to deteriorate, resulting in a reduction of its service life.

(Recommended temperature: Max. 35 °C (95 °F))

Ensure that a cooling unit or heating unit will not blow any air directly toward the installation location.

### ■ Do not point the camera at strong lights.

When parts of the MOS sensor are exposed to spotlights or other strong lights, blooming (a phenomenon where the edges of strong lights become blurred) may occur.



### ■ What happens with high-brightness subjects

Flare may occur if an extremely bright light source is pointed at the lens. In a case like this, change the angle or take some other remedial action.

### ■ When using the automatic functions

- The initial settings have been set to auto for some of the items of the scenes on the camera menus and other menus, making it impossible for these items to be operated manually. To operate them manually, switch from the auto settings to the manual settings as required.
- In some situations, it may be hard to focus at the auto setting. In cases like this, select the manual setting, and focus manually.

### ■ Zooming and focusing

When the focus is set manually, out-of-focusing may occur during zooming.

After zooming, if necessary, either adjust the focus or set the focus to auto.

When using the focus at the manual setting, proceed with zooming after setting the focus position at the Tele end where the focusing accuracy is higher. (However, if the distance from the unit to the subject is less than 1.5 meters (4.92 ft), the subject may shift out of focus at the Wide end.)

If zooming is performed to the Tele end after having adjusted the focus at the Wide end, out-of-focusing may occur.

### ■ About the pan/tilt operation and lens operation when the power is turned on

When the unit's power is turned on, the pan/tilt mechanism and the zoom, focus, and iris of the lens are adjusted automatically.

### ■ The unit comes with the safe mode.

The safe mode is function designed to protect the unit from damage. For further details, refer to "Concerning the safe mode" (→ PDF page 108).

### ■ Operating temperature range

Avoid using the unit in cold locations where the temperature drops below -15 °C (5 °F) or hot locations where the temperature rises above 45 °C (113 °F) since these temperatures downgrade the picture quality and adversely affect the internal parts.

### ■ Color bars

Color bars are used to adjust the color phase, and the widths and positions of these bars may differ from other models.

### ■ Concerning the IP video frame rates

The IP video frame rate may be slower depending on the network environment, performance of your personal computer or mobile terminal, subject of the video, and access volume.

### ■ H.264 patent pool licensing

This product is licensed based on the AVC Patent Portfolio License, and the license does not extend beyond uses by users, who engage in the acts described below, for their own personal and non-profit applications.

- Recording of image information in compliance with the AVC standard (hereafter, "AVC videos")
- Playing of AVC videos recorded by consumers engaging in personal activities or AVC videos acquired from licensed providers

For details, visit MPEG LA, LLC website (<http://www.mpegla.com>).

### ■ Concerning PoE++ power supply

The unit complies with the IEEE802.3bt Draft ver.2.0 standard.

Use a compatible Ethernet hub and PoE++ injector to use a PoE++ power supply.

For details on Ethernet hubs and PoE++ injectors for which operations have been verified, consult your local dealer.

### ■ Turn off the power before connecting or disconnecting the cables.

This unit is not equipped with a power switch.

Turn off the DC power supply or PoE++ power supply device before connecting or disconnecting cables.

### ■ Handle the unit carefully.

Do not drop the unit or subject it to strong impact or vibration.

Failure to obey may cause the unit to malfunction.

### ■ When the unit is not in use

Turn off the unit's power when it is not in use.

When the unit is no longer going to be used, do not leave it lying around, but be absolutely sure to dispose of it properly.

## Operating precautions (continued)

### ■ Do not touch the optical system parts.

The optical system parts are vital to the operation of the camera. Under no circumstances must they be touched. In the unlikely event that they have become dusty, remove the dust by using a camera blower or by wiping them gently with a lens cleaning paper. Do not touch the glass surface or its screws when using the defroster. As the defroster heats the glass surface, it can become very hot.

### ■ Do not point the camera directly at the sun or a laser beam no matter whether it is turned on or not.

Taking images of the sun, laser beams, or other brightly lit subjects for prolonged periods of time may damage the CCD.

### ■ Personal computer used

If the same image is displayed for a prolonged period on a personal computer's monitor, the monitor may be damaged. Use of a screen saver is recommended.

### ■ Concerning the IP address setting

Do not run the Easy IP Setup Software on a multiple number of personal computers for a single camera and set the IP address at the same time. Otherwise, you will be unable to complete the proper procedure and set the IP address correctly.

### ■ Do not allow foreign matter to make contact with the rotating parts.

Failure to obey may cause the unit to malfunction.

### ■ Do not get close to the moving parts of the camera head.

Do not put your fingers or body close to the unit while it is in operation. Doing so may result in injury or cause the unit to malfunction. Furthermore, if the unit hits a person or obstacle, during the panning or tilting operation, the unit will enter into the safe mode. For further details, refer to the PDF page 108.

### ■ About the camera head

Snow, water, dust, etc. may accumulate on the hood of the lens. Move the camera head regularly so that snow, water, dust, etc. do not accumulate on the hood.

### ■ Maintenance

Turn off the unit's power before proceeding with maintenance. Failure to obey may result in injuries. Wipe the surfaces using a soft dry cloth. Avoid all contact with benzine, paint thinners and other volatile substances, and avoid using these substances. Otherwise, the body may become discolored.

### ■ Do not turn the camera head by hand.

Turning the camera head by hand may cause the unit to malfunction.

### ■ Use the unit in an environment with minimal moisture and dust.

Avoid using the unit in an environment with high concentration of moisture or dust since these conditions will damage the internal parts.

### ■ About the dehumidifying element

The unit incorporates a dehumidifying element to maintain a low humidity level inside the camera. Condensation may form and dehumidification may take a while depending on conditions such as the temperature, humidity, and weather.

### ■ About cleaning the front glass

If the front glass becomes dirty, remove the dirt with lens cleaning paper (paper used to clean cameras and glasses) or the like. The front glass may be scratched if sand, etc. is adhered to it during cleaning. If the lens is very dirty, we recommend washing it with water. Do not touch the glass surface or its screws when using the defroster. As the defroster heats the glass surface, it can become very hot.

### ■ About the lens/pan-tilt head

If the lens, pan-tilt head, and other parts are not operated for a long period of time, the viscosity of the grease applied inside them may increase and operation may become no longer possible. Move the lens and pan/tilt head regularly.

### ■ About consumables

The following parts are consumables. Replace them using the lifespans as a guide. The lifespans may vary depending on the operating environment and operating conditions. The lifespans are a guide for when the unit is used at 35 °C (95 °F).

- Cooling fan: Approx. 20000 hours
- Wiper: Operated approx. 120000 times; guide for replacement: Approx. 2 years
- Wiper rubber: Average of 5000 hours operation; guide for replacement: Approx. 2 years

Contact your dealer regarding replacements.

### ■ Disposal of the unit

When the unit has reached the end of its service life and is to be disposed of, ask a qualified contractor to dispose of the unit properly in order to protect the environment.

### ■ Information on software used with this product

This product includes GNU General Public License (GPL) and GNU Lesser General Public License (LGPL) licensed software, and the customer is entitled to obtain, modify, or redistribute the source code for the software.

This product includes MIT Licensed software.

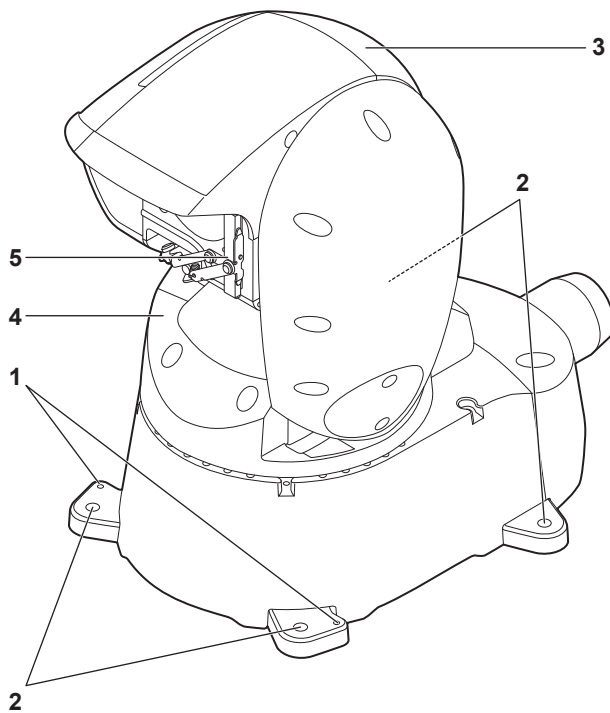
This product includes BSD Licensed software.

For details on obtaining the source codes, visit the following website.

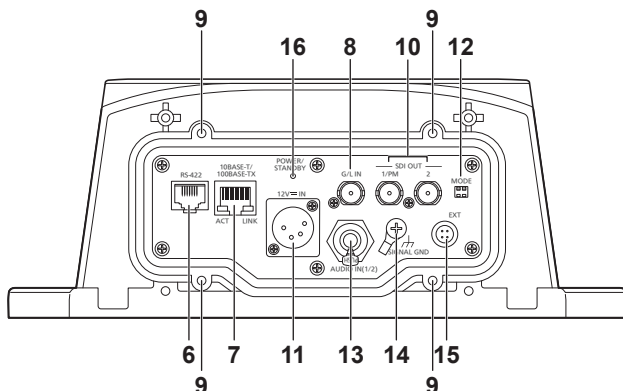
<http://pro-av.panasonic.net/>

However, do not contact Panasonic for questions regarding obtained source codes.

## Parts and their functions



Rear panel



### 1. Drop-prevention wire attachment hole

Use the screw provided to fix the drop-prevention wire.

### 2. Hole for securing the camera pedestal

Four places in the camera pedestal.

### 3. Camera head

This rotates in the up and down direction.

### 4. Pan head

This rotates in the right and left direction.

### 5. Wiper

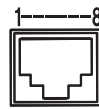
Moves left and right to clear the lens.

## 6. RS-422 connector <RS-422>

This RS-422 connector (RJ45) is connected when exercising serial control over the unit from an external device. Use a cable with the following specifications for the connection to this connector.

LAN cable\*1 (category 5 or above, straight cable), max. 1000 m (3280 ft)

\*1 Use of an STP (shielded twisted pair) cable is recommended.



Pin No.	Signal	Pin No.	Signal
1	GND	5	TXD+
2	TALLY	6	RXD+
3	RXD-	7	—
4	TXD-	8	—

### <NOTE>

- Although the unit is not equipped with a tally lamp, “OSD Off With Tally” function can be used when pin 1 (GND) and pin 2 (TALLY signal) are shorted.
- Do not apply voltage to pin 2 (TALLY signal), as it is a contact input.

## 7. LAN connector for IP control <LINK/ACT>

This LAN connector (RJ45) is connected when exercising IP control over the unit from an external device. Use a cable with the following specifications for the connection to this connector.

### When using a PoE++ Ethernet hub

LAN cable\*1 (category 5e or above, straight cable), max. 100 m (328 ft)

### When not using a PoE++ Ethernet hub

LAN cable\*1 (category 5 or above, straight cable), max. 100 m (328 ft)

\*1 Use of an STP (shielded twisted pair) cable is recommended.

### <NOTE>

- When connecting directly to a controller without an Ethernet hub, use a cross cable.

## 8. G/L IN connector <G/L IN>

This is the external sync signal input connector.

Supply to this connector the signals that correspond to the video signal format which has been set.

Format	External sync signal input format	
	BBS	Tri-level sync
1080/59.94p	480/59.94i	1080/59.94i
1080/29.97p	480/59.94i	—
1080/23.98p	480/59.94i	1080/59.94i
1080/59.94i	480/59.94i	1080/59.94i
1080/29.97PsF	480/59.94i	1080/59.94i
1080/23.98PsF	—	1080/23.98PsF
720/59.94p	480/59.94i	720/59.94p
1080/50p	576/50i	1080/50i
1080/25p	576/50i	—
1080/50i	576/50i	1080/50i
1080/25PsF	576/50i	1080/50i
720/50p	576/50i	720/50p

### <NOTE>

- Locking to a subcarrier is not possible with BBS.

## 9. Hole used to secure cable cover

Use screws to secure the cable cover.

## 10. SDI OUT connector <SDI OUT 1/PM, SDI OUT 2>

This is the SDI video signal output connector.

- OSD output from the SDI OUT 1/PM connector is possible, so you can display the camera menu and status on the monitor.



## Parts and their functions (continued)

### 11.DC IN connector <12V=IN> (XLR connector)

Input 10.8 V (12 V-10%) to 24 V (21.8 V+10%) DC.

**<NOTE>**

- Use a DC cable with the following lengths.  
For 12 V input: Max. 3 m (9.84 ft) (when using an AWG16 cable)  
For 21.8 V input: Max. 20 m (65.62 ft) (when using an AWG16 cable)

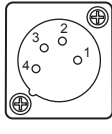
**External DC power supply**

Connect after making sure that the output voltage of the external DC power supply is compatible with the rated voltage of the camera. Select an output amperage for the external DC power supply with a margin above the total amperage of the connected devices. The total amperage of connected devices can be calculated with the following formula.





**Total power consumption ÷ voltage**

When the power of the camera is turned on, inrush current is generated. Insufficient power supply when turning on the power may cause a malfunction. We recommend that you use an external DC power supply that can assure double the capacity of the total power consumption of the camera and connected devices that are turned on by interlock when the power of the camera is turned on (such as lenses, wireless microphone receivers).

- Make sure of the pin alignment of the DC output terminal of the external DC power supply and the camera DC IN connector, and connect the polarity correctly.  
If the +12 V power supply is mistakenly connected to the GND terminal, it may cause fire or malfunction.

12V=IN	
	1 GND
	2 —
	3 —
	4 +12V
HA16RA-4P (77) Hirose Electric Co.	

### 12.MODE switches <MODE>

Switch positions	Function
1 	AW series protocol setting (Factory settings)
2 	Standard protocol setting (baud rate 38400 bps)
3 	Standard protocol setting (baud rate 9600 bps)
4 	These are the positions for maintenance. Do not use the unit while the switches are in these positions.

### 13.AUDIO IN connector <AUDIO IN(1/2)>

Inputs external audio (line).

When connecting a microphone or other devices with different levels, match the level using an amp, for example.

### 14.Ground connector <SIGNAL GND>

Connects to the ground connector on a wall outlet, ground bar, etc. for grounding. (→ page 27)

### 15.EXT connector <EXT>

This is the washer control and 12 V DC output connector.

**<NOTE>**

- Keep outputs for pin number 4 [12V-OUT] within 12 V/0.5 A DC.
- The maximum cable length for connections to pin number 4 [12V-OUT] is 0.5 m (1.64 ft) when using an AWG24 cable. Use a thicker cable when a greater length is required.

Pin No.	Signal	Pin No.	Signal
1	DC GND	3	COLD
2	HOT	4	12V-OUT

### 16.Status display lamp <POWER/STANDBY>

This lights in the following way depending on the status of the unit.

- Orange:** When the standby status is established
- Green:** When the power is on
- Red:** When trouble has occurred in the unit

## Output conditions for each video format

### SDI output

	Format	SDI output
HD/SDI	1080/59.94p	✓
	1080/50p	✓
	1080/59.94i	✓
	1080/50i	✓
	1080/29.97PsF*3	✓
	1080/25PsF*3	✓
	1080/23.98PsF*3	✓
	1080/29.97p*1	✓
	1080/25p*1	✓
	1080/23.98p*2	✓
	720/59.94p	✓
	720/50p	✓

\*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.

### IP video transmission output (1-/multi-channel display)

1-channel display	
<b>Resolution</b>	1920×1080/1280×720/640×360/320×180/160×90 (non-dependent on SYS format)
<b>Frame rate</b>	<b>59.94 Hz</b> 1 fps/2 fps/3 fps/5 fps/6 fps/10 fps/15 fps/30 fps/60 fps*1
	<b>50 Hz</b> 1 fps/2 fps/5 fps/10 fps/12.5 fps/25 fps/50 fps*2

\*1 60 fps only during H.264 transmission and 1920×1080 or 1280×720 resolution

\*2 50 fps only during H.264 transmission and 1920×1080 or 1280×720 resolution

Multi-channel display				
Setting	H.264 CH1	H.264 CH2	H.264 CH3/CH4	JPEG CH1/CH2/CH3*3
<b>Resolution</b>	1920×1080 1280×720	1920×1080 1280×720 640×360 320×180 160×90	1280×720 640×360 320×180 160×90	1920×1080 1280×720 640×360 320×180 160×90
<b>Frame rate</b>	<b>59.94 Hz</b>	60 fps	5 fps 15 fps 30 fps	5 fps 15 fps 30 fps
	<b>50 Hz</b>	50 fps	5 fps 12.5 fps 25 fps	5 fps 12.5 fps 25 fps
				1 fps 2 fps 3 fps 5 fps 6 fps 10 fps 15 fps 30 fps
				1 fps 2 fps 5 fps 10 fps 12.5 fps 25 fps

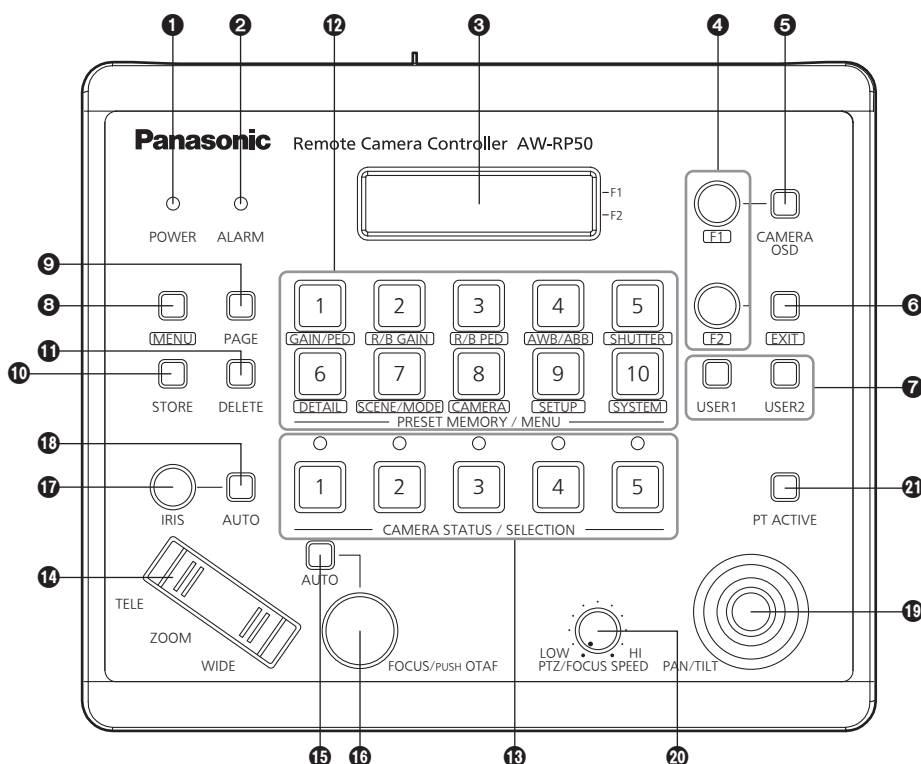
\*3 Different resolutions must be specified for JPEG CH1/CH2/CH3.



# AW-RP50 (not supplied)

For detailed operations, refer to the Operating Instructions of the AW-RP50 — <Operations and Settings>.

## Control panel



### 1 POWER indicator [POWER]

This indicator lights when the POWER switch (2) on the rear panel is set to ON while power is supplied to the DC IN socket.

### 2 ALARM indicator [ALARM]

This indicator lights when there is a problem with the power supply (voltage drop).  
It also lights when an alarm (a cooling fan alarm or pan/tilt error) has been received from a remote camera.

When the alarm indicator has lighted, stop using the unit immediately, and be absolutely sure to contact your dealer.

Continuing to use the AW-RP50 even after an alarm has occurred may cause the AW-RP50 to malfunction.

The alarm information can be output to an external device from the unit's TALLY/GPI connector (25).

### 3 LCD panel

The current setting statuses are displayed on this panel.

### 4 F1 dial, F2 dial [F1, F2]

These dials are turned to change the menu values, and they are pressed to enter the changes that have been made.

The F1 dial is used to operate the items displayed at the top of the LCD panel, and the F2 dial is used to operate the items displayed underneath.

What appears on the on-screen displays of the remote cameras and how operations are performed differ depending on the camera type.

### 5 CAMERA OSD button [CAMERA OSD]

When the CAMERA OSD button is held down, its indicator lights, and the on-screen menu of the selected remote camera is displayed as the output image of the remote camera.

When the button is held down again while its indicator is lighted, the menu is cleared, and the indicator goes off.

### 6 EXIT button [EXIT]

Press this during menu operations to return to the previous hierarchical level.

### 7 USER buttons [USER1, USER2]

The functions of some of the setting items on the menus can be assigned to [USER1] and [USER2] to be recalled later.

- Assignable functions:  
Super Gain, Haze Reduction, Fan, Heater, Defroster, Wiper, Washer
- For the [Wiper] function, press PRESET MEMORY/MENU buttons 1 to 3 (1: Off, 2: Slow, 3: Fast) after pressing the USER button.

### 8 MENU button [MENU]

Press this to recall the menus using the PRESET MEMORY/MENU buttons (12).

When it is pressed again while its indicator is lighted, the menu is cleared, and the indicator goes off.

#### Button indicator ON:

The menu operations take effect.

#### Button indicator OFF:

The menu operations have no effect.

Refer to "Basic operations for the menus".

### 9 PAGE button [PAGE]

Press this to specify the preset memory of the remote camera.

When the button is pressed, its indicator lights, and the mode for selecting the page of the preset memory is established.

In this mode, press one of the PRESET MEMORY/MENU buttons (12), and specify the page number.

Next, specify the number on the page using one of the PRESET MEMORY/MENU buttons.

### 10 STORE button [STORE]

Press this to register the preset memory data of the currently selected remote camera.

When it is pressed again while its indicator is lighted, the menu is cleared, and the indicator goes off.

#### Button indicator ON:

The preset memory data registration mode is established.

#### Button indicator OFF:

The preset memory data registration mode is released.

## AW-RP50 (not supplied) (continued)

**11 DELETE button [DELETE]**

Press this to delete the preset memory data for the currently selected remote camera.

When it is pressed again while its indicator is lighted, the menu is cleared, and the indicator goes off.

**Button indicator ON:**

The preset memory data deletion mode is established.

**Button indicator OFF:**

The preset memory data deletion mode is released.

**12 PRESET MEMORY/MENU buttons  
[PRESET MEMORY/MENU]**

Use these buttons to recall the preset memory data and recall menus.

**13 CAMERA STATUS/SELECTION buttons  
[CAMERA STATUS/SELECTION]**

Use these buttons to select up to five remote cameras.

**Button indicator ON:**

The corresponding remote camera is selected.

**Button indicator OFF:**

The selection of the corresponding remote camera is released.

Using the menu, up to 100 remote cameras can be divided into 1 to 20 groups, and then registered and controlled.

The statuses of the remote cameras assigned to buttons 1 to 5 can be identified using the indicators positioned above the buttons.

**14 ZOOM button [ZOOM]**

Use this to adjust the lens zoom.

**When the TELE end is pressed:**

Telephoto setting

**When the WIDE end is pressed:**

Wide-angle setting

The zooming speed changes depending on the extent to which the button is pressed.

**15 Auto focus button [AUTO]**

Press this to control the focus automatically.

**Button indicator ON:**

Auto focusing

**Button indicator OFF:**

Manual focusing

During auto focusing, operating the FOCUS/PUSH OTAF dial (16) will have no effect.

- This function works when an auto focus function is provided in the remote cameras.

If the auto focus function is not provided, operate the focus manually (in which case the button indicator will be OFF).

- When using a lens equipped with an extender function for the remote camera, the extender function can also be switched between ON and OFF by pressing the auto focus button.

**Button indicator ON:**

The extender function is enabled.

**Button indicator OFF:**

The extender function is disabled.

(For details on how to connect the lens control cables to the pan-tilt head, refer to the Operating Instructions of the pan-tilt head.)

**16 FOCUS/PUSH OTAF dial [FOCUS/PUSH OTAF]**

Use this to control the focus manually.

**When it is turned clockwise:**

The focusing moves to the far end.

**When it is turned counterclockwise:**

The focusing moves to the near end.

When the dial is pressed, auto focusing is initiated temporarily, and the subject being shot is brought into focus. (OTAF)

During auto focusing (while the indicator of the auto focus button (15) is lighted), operating this dial will have no effect.

OTAF: one-touch auto focus
----------------------------

**17 IRIS dial [IRIS]**

Use this dial to control the lens iris manually.

**When it is turned clockwise:**

The lens iris opens more and more.

**When it is turned counterclockwise:**

The lens iris closes more and more.

**When it is held down:**

The lens iris closes.

**18 Auto iris button [AUTO]**

Press this to control the lens iris automatically.

**Button indicator ON:**

Auto iris

**Button indicator OFF:**

Manual iris

**19 PAN/TILT lever [PAN/TILT]**

Use this lever to control the direction of the remote cameras.

**When it is leaned toward the left or right:**

The cameras move to the left or right.

**When it is leaned toward you or away from you:**

The cameras move up or down.

The movement speed differs depending on the angle to which the lever is moved.

**20 PTZ/FOCUS SPEED dial  
[PTZ/FOCUS SPEED]**

Use this dial to adjust the speed at which the operations (pan, tilt, zoom, focus) of the remote cameras are controlled.

**When it is turned clockwise:**

Operation at a higher speed

**When it is turned counterclockwise:**

Operation at a lower speed

**21 PT ACTIVE button [PT ACTIVE]**

Hold down this to switch between enabling and disabling the PAN/TILT lever operations.

**Button indicator ON or blinking:**

The PAN/TILT lever operations take effect.

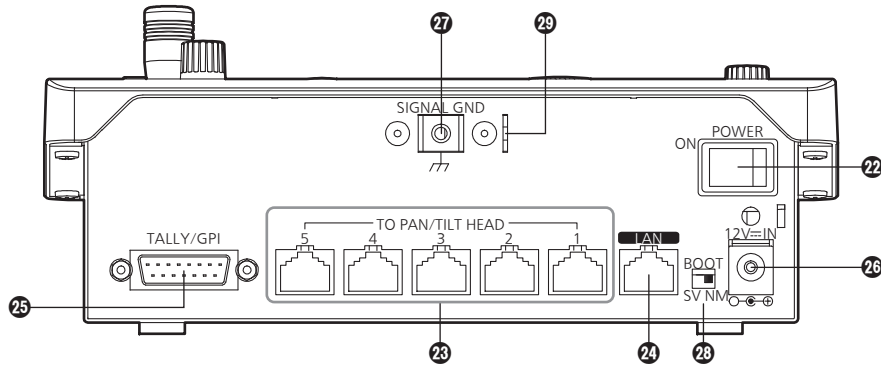
**Button indicator OFF:**

The PAN/TILT lever operations have no effect.

- When [P/T/Z/F] has been set by menu operations ([SETUP] menu → [OPERATE] → [PT ACTIVE] item), operation enabling and disabling are switched not only for the PAN/TILT lever but for the ZOOM button, auto focus button and FOCUS/PUSH OTAF dial as well.
- When the PT ACTIVE button indicator is blinking, the PAN/TILT lever and ZOOM button can be used to control the parameters of the switcher.
- When "Button Select" has been selected by menu operations ([SETUP] menu → [SW LINK] → [P/T LEVER] item), the control applications of the PAN/TILT lever and ZOOM button can be switched.

## AW-RP50 (not supplied) (continued)

## ■ Rear panel

**22 POWER switch [POWER]**

When the POWER switch is set to the ON position, the POWER indicator (1) lights, and the unit can be operated.

**23 TO PAN/TILT HEAD 1 to 5 connectors  
[TO PAN/TILT HEAD 1 to 5] (RJ-45)**

Connect the remote cameras to these connectors using straight cables (category 5 or above).

**24 LAN connector [LAN] (RJ-45)  
(10BASE-T/100BASE-TX)**

Connect the remote camera, switcher or host computer that supports IP connections to this connector using a LAN cable.

When directly connecting a device to the AW-RP50, use a crossover cable (category 5 or above).

When making the connection through a hub (switching hub) or other device, use a straight cable (category 5 or above).

**25 TALLY/GPI input/output connector [TALLY/GPI]  
(D-sub 15-pin, female, inch thread)****26 DC IN socket [12V  $\equiv$  IN] (DC 12 V)**

The AC adaptor provided with the unit is connected to this socket.

**27 Ground terminal [SIGNAL GND]**

Connect this to the system's ground.

**28 SERVICE switch [SV/NM]**

This switch is used for maintenance purposes.

Normally, it is set at the "NM" position.

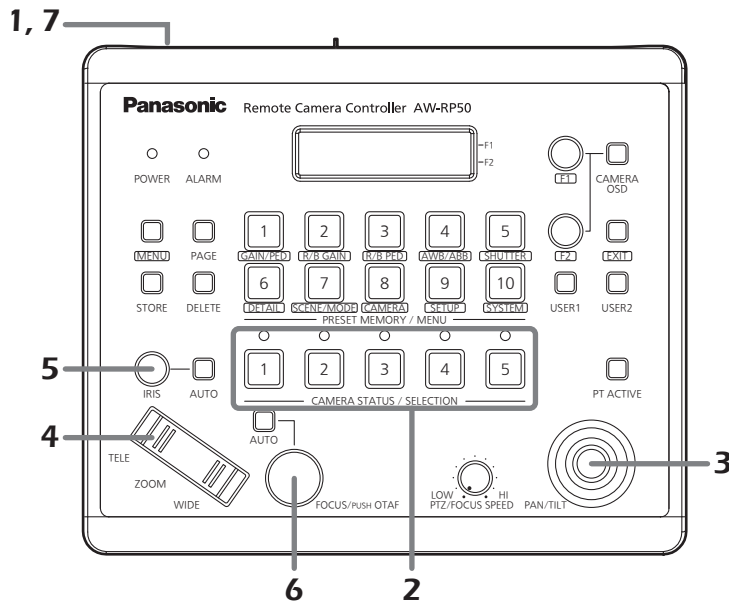
**29 Wire fastening fitting**

An anti-theft wire available on the market can be fastened to this fitting to prevent theft.

## AW-RP50 (not supplied) (continued)

### Basic operations of the AW-RP50

For detailed operations, refer to the Operating Instructions of the AW-RP50 — <Operations and Settings>.



#### 1. Turn on the AW-RP50's power.

Set the POWER switch to the ON position. Power is now supplied to the AW-RP50, and the POWER indicator lights.

- However, when [CAMERA] → [POWER] → AUTO ON item have been selected and "On" is selected as the AUTO ON item setting, power-on is automatically instructed for the remote cameras controlled by the [SYSTEM] → CAM IP ADR item.

#### 2. Select the remote cameras.

Select the remote cameras to be controlled using the CAMERA STATUS/SELECTION buttons.

#### 3. Adjust the direction in which the remote cameras are to be pointed.

Use the PAN/TILT lever to adjust the direction in which the remote cameras are to be pointed.

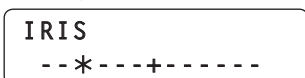
#### 4. Adjust the zoom.

Use the ZOOM button to adjust the lens zoom. When the TELE side is pressed, the zoom is set to the telephoto mode; when the WIDE side is pressed, it is set to the wide-angle mode.

#### 5. Adjust the lens iris.

Use the IRIS dial to adjust the lens iris.

- While the lens iris is being adjusted, a level meter is displayed on the LCD panel. (What is displayed by the level meter is an approximate value.)



#### <NOTE>

When performing adjustments for one remote camera from a multiple number of AW-RP50 remote camera controllers, the level meter may not show the correct displays.

#### 6. Adjust the focus.

Turn the FOCUS/PUSH OTAF dial, and adjust the lens focus. When the dial is pressed during manual focusing, the auto focus mode is established temporarily, and the subject is brought into focus automatically.

- The OTAF (one-touch auto focus) takes effect for remote cameras which are equipped with the OTAF function.

#### 7. Turn off the AW-RP50's power.

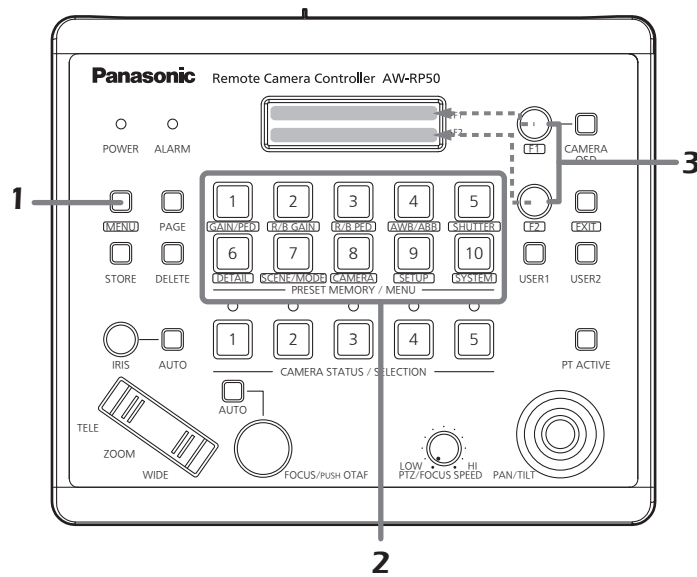
Set the POWER switch to the OFF position. The AW-RP50's power is turned off, and the POWER indicator goes off.

- Even when the AW-RP50's power is turned off, the power of the connected remote cameras does not go off.

## AW-RP50 (not supplied) (continued)

### Basic operations for the menus

For detailed operations, refer to the Operating Instructions of the AW-RP50 — <Operations and Settings>.



#### 1. Set the MENU button to ON.

Press the MENU button and light its indicator.

#### 2. Select the target menu.

Press the corresponding PRESET MEMORY/MENU button, and light its indicator.

The selected menu is displayed on the LCD panel.

#### 3. Change the settings using the F1 dial and F2 dial.

Use the F1 dial and F2 dial to select the menus and change the settings.

Use the F1 dial for operations involving the items displayed on the top line of the LCD panel.

Use the F2 dial for operations involving the items displayed on the bottom line of the LCD panel.

- Press the EXIT button to return the menu to its previous hierarchical level.
- When the down arrow “↓” is displayed for a setting item, it means that the value shown will be entered and the setting reflected when the F1 dial or F2 dial is pressed.
 

**1. GROUP SELECT**

1 ↓
- When the down arrow “↓” is not displayed for a setting item, it means that the value shown will be entered and the setting reflected when the F1 dial or F2 dial is turned.
 

R GAIN : ±0 ← F1 dial

B GAIN : ±0 ← F2 dial

# Network settings

## Use the Easy IP Setup Software to establish the unit's settings

The settings related to the unit's network can be established using the Easy IP Setup Software.

You can obtain Easy IP Setup Software (EasyIPSetup.exe) by downloading it from the following website.

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

To establish the settings for a multiple number of units, the settings must be selected for each camera involved.

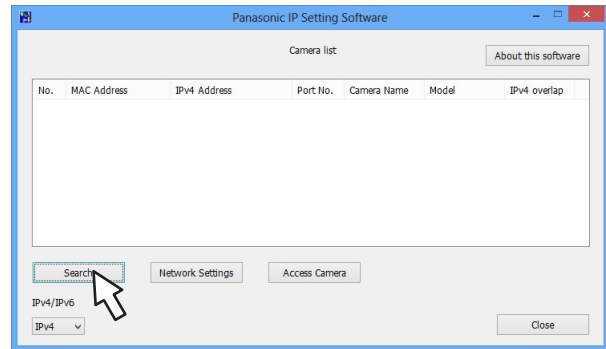
If the settings cannot be established using the Easy IP Setup Software, select the settings separately for the unit and personal computer on the Network setup screen [Network] of the setting menu. (→ PDF page 86)

### <NOTE>

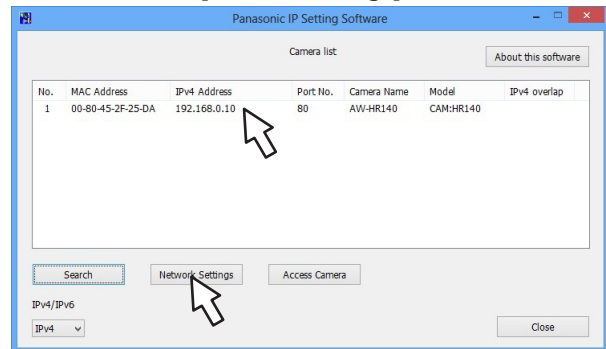
- If, after the network settings have been established, another device in the same network has the same IP address, the network operations will not be performed properly.  
Set the IP address in such a way that it does not duplicate an existing IP address.
- Do not establish network settings from a multiple number of Easy IP Setup Software programs at the same time for a single camera. Similarly, do not perform the "Auto IP setting" operation of the AW-RP50 remote camera controller at the same time.  
The IP address settings may no longer be recognized as a result.
- The Easy IP Setup Software cannot be used from a different subnet via a router.
- The unit cannot be displayed or its settings established using an older version of the Easy IP Setup Software (version older than Ver 4.25R00).

### 1. Start the Easy IP Setup Software.

### 2. Click the [Search] button.



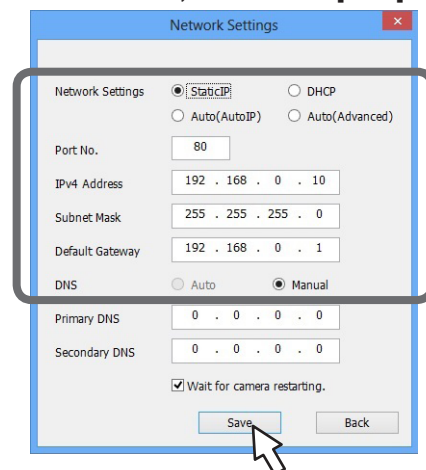
### 3. Click the MAC address/IPv4 address of the camera to be set, and click the [Network Settings] button.



### <NOTE>

- When a DHCP server is being used, the IP address allocated to the unit can be checked by clicking the [Search] button of the Easy IP Setup Software.
- If the same IP address is used for any additional cameras, the numbers of the additional cameras will be displayed in the [IPv4 overlap] column of the cameras concerned.
- When the [Access Camera] button is clicked, the Live screen of the selected camera is displayed.
- This unit does not support an IPv4/IPv6 switching function.

### 4. Input the network items, and click the [Save] button.



### <NOTE>

- When a DHCP server is being used, [DNS] of the Easy IP Setup Software can be set to [Auto].
- After the [Save] button is clicked, it takes about 2 minutes for the settings in the unit to be completed. If the external DC power supply or LAN cable is disconnected before the settings are completed, the settings will be canceled. In this case, repeat the steps to establish the settings.
- When a firewall (including software) has been introduced, enable access to all the UDP ports.

## Network settings (continued)

### Installing the plug-in viewer software

To view IP images from the unit on a web browser, the “Network Camera View 4S” plug-in viewer software (ActiveX®) must be installed. The plug-in viewer software can be installed directly from the unit.



#### <NOTE>

- [Automatic installation of viewer software] is set to [On] at the time of purchase, allowing you to install directly from the unit. If a message appears in the web browser's information bar, see page 52.
- When you display the Live screen [Live] on the personal computer for the first time, the installation screen for the plug-in viewer software (ActiveX) appears. Follow the instructions on the screen to perform installation.
- If the plug-in viewer software (ActiveX) installation screen continues to appear when switching screens, even after it is installed, restart the personal computer.
- A license is required for the plug-in viewer software for each personal computer on which it is installed. You can view the number of times the plug-in viewer software was automatically installed in the [Product info.] tab of the Maintenance screen [Maintenance] (→ PDF page 99). For details on licenses, consult your local dealer.
- To uninstall the plug-in viewer software, select [Control Panel] - [Programs] - [Uninstall a program] in Windows, and remove “Network Camera View 4S”.

### To prevent unauthorized access to cameras Enable the user authentication function (Not available when the AW-RP50 is connected)

Remote cameras can be configured to allow access from the Internet. To prevent infringement of privacy and personality rights, information leaks, and other issues concerning unauthorized access by third parties, we recommend enabling the user authentication function upon installation.

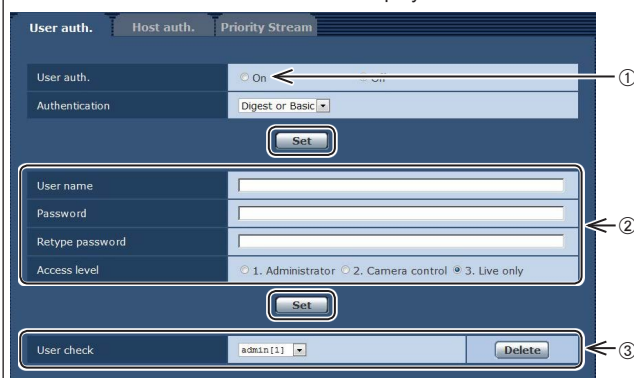
**Configuration example** (refer to the operating instructions provided with your camera for further information about the settings used for your camera)

- ① Turn on user authentication
- ② Set a new user name and password
- ③ Delete the default user name

Preparation:

1. Startup the web browser and display the “Live” page on a PC.
2. Click “Setup” button and then click “User mng.” button.

The user authentication window will be displayed.



#### ① Select “On” for “User auth.”

- \* Set to “Off” by default.
- ⇒ Then click “Set” button.

#### ② Register a new user name and password

- \* Select “1. Administrator” for the access level.
- ⇒ Then click “Set” button.

#### ③ Delete the default user name.

- ⇒ Click the “Delete” button after selecting the user name to be deleted (“admin[1]”).

\* Depending on the model used, the screens shown in the explanations may differ to the actual camera screens.

### User name and password management

- Use a combination of characters and numbers that is difficult to guess.

Avoid using a string of the same characters, such as “11111”, birth dates, or telephone numbers.

For details on valid characters and lengths, refer to “User authentication screen” (→ PDF page 84).

- Change user names and passwords periodically.
- Make sure to manage the configured user names and passwords.
- Delete all user names that do not have an assigned user.

### After changing the user name/password

Also change the user names and passwords registered to the following. Refer to the operating instructions provided with your camera for further information about the settings used for your camera.

- Remote camera controller (AW-RP50, AW-RP120)
- Remote operation panel (AK-HRP200)
- Browsers and applications on computers, tablets, and smartphones.



# Troubleshooting

## ■ Operation

Symptom	Cause and solution	Reference pages
No power	<ul style="list-style-type: none"> <li>Is the power plug connected properly?</li> </ul>	---
	<ul style="list-style-type: none"> <li>Is the LAN cable connected securely to the LAN connector for IP control &lt;LINK/ACT&gt; ?</li> </ul>	page 35
	<ul style="list-style-type: none"> <li>Is the network cable for the PoE++ (IEEE802.3bt Draft ver.2.0 standard) compatible power supply device and the unit connected properly?</li> </ul>	page 15
	<ul style="list-style-type: none"> <li>Power may not be supplied if the total power limit is exceeded on power supply devices that allow connections to multiple PoE++ terminals. → Refer to the operating instructions for the PoE++ power supply device.</li> </ul>	---
	<ul style="list-style-type: none"> <li>If the unit is connected to the controller, has it been connected properly? → Refer to the operating instructions for the controller.</li> </ul>	page 12
Cannot operate	<ul style="list-style-type: none"> <li>Is the power on? → The pan, tilt, zoom, and focus test operations are performed immediately after the power turns on. If these operations are not performed, power is not being supplied to the unit properly.</li> </ul>	PDF page 23
	<ul style="list-style-type: none"> <li>The safe mode function may have been activated.</li> </ul>	PDF page 108
	<ul style="list-style-type: none"> <li>Have the limiter functions been set?</li> </ul>	PDF page 107
	<ul style="list-style-type: none"> <li>Has the unit you want to operate been selected properly?</li> </ul>	PDF page 23
Cannot operate using the controller	<ul style="list-style-type: none"> <li>Is the unit connected to the controller properly? → Refer to the operating instructions for the controller.</li> </ul>	page 12
	<ul style="list-style-type: none"> <li>The user authentication and host authentication must be set to OFF when the AW-RP50, AW-RP120 and AK-HRP200 remote camera controllers are connected in a network.</li> </ul>	PDF page 84 PDF page 85
	<ul style="list-style-type: none"> <li>It may be necessary to upgrade the version of the controller so that the controller will support the unit. → For details on upgrading, visit the support page on the following website. <a href="http://pro-av.panasonic.net/">http://pro-av.panasonic.net/</a></li> </ul>	---
	<ul style="list-style-type: none"> <li>When using an HTTPS connection, network connection with the AW-RP50, AW-RP120, and AK-HRP200 will be disabled.</li> </ul>	PDF page 91 PDF page 96
The unit turns in the opposite direction to the one operated	<ul style="list-style-type: none"> <li>Has the stand-alone (Desktop) installation setting been selected correctly?</li> </ul>	PDF page 48 PDF page 80
	<ul style="list-style-type: none"> <li>The reversal setting may have been established at the controller if the unit is connected to the controller. → Refer to the operating instructions for the controller.</li> </ul>	---



## Troubleshooting (continued)

Symptom	Cause and solution	Reference pages
Cannot access from a web browser	<ul style="list-style-type: none"> <li>• <b>Has a LAN cable of category 5 or above been connected to the LAN connector for IP control &lt;LINK/ACT&gt;?</b></li> </ul>	pages 13 to 15
	<ul style="list-style-type: none"> <li>• <b>Is the &lt;LINK&gt; LED of the LAN connector for IP control &lt;LINK/ACT&gt; lit?</b> → If it is not lit, it means that something is wrong with the connection to the LAN or that the network at the connection destination is not working properly. Check the LAN cable for defective contacts, and check the wiring.</li> </ul>	pages 13 to 15
	<ul style="list-style-type: none"> <li>• <b>Is the power on?</b> → The pan, tilt, zoom, and focus test operations are performed immediately after the power turns on. If these operations are not performed, power is not being supplied to the unit properly.</li> </ul>	PDF page 23
	<ul style="list-style-type: none"> <li>• <b>Has a valid IP address been set in the unit?</b></li> </ul>	PDF page 85
	<ul style="list-style-type: none"> <li>• <b>Has the wrong IP address been accessed?</b> → Check the connections by following the steps below. <b>For Windows:</b> Using the Windows command prompt, execute &gt; ping [IP address which has been set in the camera] A reply returned from the unit signifies that there are no problems in operation. If a reply is not received, try following operation: • Reboot the unit, and within 20 minutes change the IP address using the Easy IP Setup Software.  <b>For Mac:</b> Using the OS X terminal, execute &gt; ping -c 10 [IP address which has been set in the camera] A reply returned from the unit signifies that there are no problems in operation. If a reply is not received, try following operation: • Reboot the unit, and within 20 minutes change the IP address using the Easy IP Setup Software.</li> </ul>	---
	<ul style="list-style-type: none"> <li>• <b>Are you accessing via “http://” while the HTTPS function is enabled?</b> → Perform access via “https://” when using the HTTPS function. Entry of the port number is also required.</li> </ul>	PDF page 96
	<ul style="list-style-type: none"> <li>• <b>Is the same IP address setting being used by another unit?</b> → Check out the IP addresses of the unit, access devices (personal computer, mobile terminal, controller, etc.) and any other cameras.</li> </ul>	PDF page 52
	<ul style="list-style-type: none"> <li>• <b>Does the subnet mask setting match the network subnet of the connection destination?</b> → Check out the subnet mask settings of the unit and access devices, and then consult with the network administrator.</li> </ul>	PDF page 52
	<ul style="list-style-type: none"> <li>• <b>Has the “Use a proxy server” setting been selected by the web browser? (When the unit and the personal computer are connected to the same subnet)</b> → If a proxy server has been set using the [proxy setting] of the web browser, it is recommended that a “Don’t use proxy” address be selected as the unit’s IP address setting.</li> </ul>	---
<ul style="list-style-type: none"> <li>• <b>Has the wrong default gateway been set for the unit? (When the unit and personal computer are connected to different subnets)</b> → Check out the default gateway that has been set for the unit, and then consult with the network administrator.</li> </ul>	PDF page 52	

Troubleshooting (continued)

Symptom	Cause and solution	Reference pages
<p>The settings on the web setup screen [Setup] are not updated or displayed properly</p>	<p><b>For Windows:</b></p> <ul style="list-style-type: none"> <li>• Press the [F5] key on the keyboard of the personal computer to request that the settings be acquired.</li> </ul> <p><b>For Mac:</b></p> <ul style="list-style-type: none"> <li>• Press the [Command] + [R] key on the personal computer's keyboard to request that the settings be acquired.</li> </ul>	<p>---</p>
	<ul style="list-style-type: none"> <li>• Perform the following to delete the temporary Internet files.</li> </ul> <p><b>For Windows:</b></p> <ol style="list-style-type: none"> <li>① Select [Tools] - [Internet Options] in Internet Explorer.</li> <li>② Click the [General] tab, and click the [Delete] button under [Browsing history].</li> <li>③ In the [Delete Browsing History] dialog box, select the [Temporary Internet Files] checkbox, and then click [Delete].</li> <li>④ Click the [OK] button.</li> </ol> <p><b>For Mac:</b></p> <ol style="list-style-type: none"> <li>① Select [Safari] - [Empty Cache] in Safari.</li> <li>② Click [Empty] in the [Are you sure you want to empty the cache?] pop-up screen.</li> </ol>	<p>---</p>
	<p><b>For Windows:</b></p> <ul style="list-style-type: none"> <li>• If [Check for newer versions of stored pages] is not set to [Every time I visit the webpage] in the temporary Internet file settings, the web setup screen may not appear.</li> </ul> <p>→ Perform the following.</p> <ol style="list-style-type: none"> <li>① Select [Tools] - [Internet Options] in Internet Explorer.</li> <li>② Click the [General] tab, and click the [Settings] button under [Browsing history].</li> <li>③ In the [Temporary Internet Files and History Settings] dialog box, select the [Every time I visit the webpage] option under [Check for newer versions of stored pages].</li> <li>④ Click the [OK] button.</li> </ol>	<p>---</p>
	<ul style="list-style-type: none"> <li>• The unit's ports may be filtered by the firewall or other function of the anti-virus software.</li> </ul> <p>→ Change the HTTP port number of the unit to a port number that will not be filtered.</p>	<p>---</p>
<p>It is not possible to download the setting files</p>	<p><b>For Windows:</b></p> <ul style="list-style-type: none"> <li>• Has the file download function been disabled?</li> </ul> <p>→ Perform the following.</p> <ol style="list-style-type: none"> <li>① Select [Tools] - [Internet Options] in Internet Explorer.</li> <li>② Click the [Security] tab, and click the [Custom level] button under [Security level for this zone].</li> <li>③ In the [Security Settings] dialog box, select the [Enable] option for [File download].</li> <li>④ For Internet Explorer 8 only: Select the [Enable] option for [Automatic prompting for the file downloads].</li> <li>⑤ Click the [OK] button.</li> <li>⑥ Click the [OK] button.</li> </ol>	<p>---</p>
<p>Commands from the personal computer and external devices are unstable</p>	<ul style="list-style-type: none"> <li>• Are two or more Android terminals connected?</li> </ul> <p>→ Only one Android terminal can be connected to the unit.</p>	<p>---</p>
<p>The authentication screen appears repeatedly</p>	<ul style="list-style-type: none"> <li>• Has the user name or password been changed?</li> </ul> <p>→ If you change the user name and password of the user currently logged in from a separate web browser while the unit is being accessed, the authentication screen appears each time the screen display is changed. Close the web browser, and initiate access to the unit again.</p>	<p>PDF page 84</p>
	<ul style="list-style-type: none"> <li>• Has the method for user authentication been changed?</li> </ul> <p>→ If you change the [User auth.] - [Authentication] setting, close the web browser and initiate access again.</p>	<p>PDF page 84</p>

## Troubleshooting (continued)

Symptom	Cause and solution	Reference pages
Screens displays take a while to appear	<ul style="list-style-type: none"> <li>• <b>Is access being performed in HTTPS mode?</b> Screen displays may take a while to appear in HTTPS mode due to signal processing.</li> </ul>	---
	<ul style="list-style-type: none"> <li>• <b>Is the unit on the same local network and being accessed via proxy?</b> → Configure the web browser settings so that access is not performed via proxy.</li> </ul>	---
	<ul style="list-style-type: none"> <li>• <b>Are multiple users accessing the unit's IP images at the same time?</b> → When multiple users access the unit's IP images at the same time, images may take some time to appear, and the frame rate of the IP images may drop.</li> </ul>	---
Cannot access the camera from a mobile terminal	<ul style="list-style-type: none"> <li>• <b>Is the URL correct? Has "/mobile" been entered at the end of the URL?</b> → Check whether the URL has been entered correctly. When accessing the unit from a mobile terminal, "/mobile" must be added to the end of the URL used to access the unit from a personal computer.</li> </ul>	PDF page 102
	<ul style="list-style-type: none"> <li>• <b>Is the HTTPS SSL encryption of the mobile terminal different from that of the unit?</b> → Set [HTTPS] - [Connection] for the unit to [HTTP], and initiate access again.</li> </ul>	PDF page 91
	<ul style="list-style-type: none"> <li>• <b>Are you accessing via "http://" while using the HTTPS function?</b> → When using the HTTPS function, access via "https://". Port number entry is also necessary.</li> </ul>	PDF page 105
The shortcut icon of the camera does not appear under [Network] on the personal computer	<ul style="list-style-type: none"> <li>• <b>Has the Windows UPnP component been added?</b> → Add the Windows UPnP component to the personal computer you are using.</li> </ul>	PDF page 90

## Troubleshooting (continued)

### Video

Symptom	Cause and solution	Reference pages
No pictures are displayed or the pictures are disturbed	• Has the unit been connected properly to the other connected devices?	pages 12 to 16
	• If the system is configured in such a way that the picture is also switched when the unit to be operated is selected, has the correct unit been selected?	PDF page 23
	• Has the image signal setting been selected correctly?	PDF page 47 PDF page 80
	• Are external sync signals that are supported by the video signal format which has been set being input?	page 35
The picture is flipped vertically	• Has the stand-alone (Desktop) installation setting been selected correctly?	PDF page 48 PDF page 80
Multiple color bands (color bars) are displayed	• Switch to the camera picture.	PDF page 26
The menu screen is displayed	• Exit the camera menu.	PDF pages 30 to 37
The menu screen is not displayed	• OSD display is not possible for outputs from the SDI OUT 2 connector. Use the SDI OUT 1/PM connector's output.	---
No auto focusing	• Is the focus set to manual? → Auto focusing is initiated as soon as the focus is set to auto.	PDF page 26
	• In some situations, it may be hard to focus at the auto setting. → In cases like this, select the manual setting, and focus manually.	PDF page 27
The subject is not brought into focus during zooming when the manual setting is used for the focus	• Was the focus adjusted at the Tele end? → First adjust the focus at the Tele end where the focusing accuracy is higher, and then proceed with the zooming.	---
	• Under some operating conditions, it may be hard to bring subjects into focus. → In such cases, use the focus at the auto setting.	PDF page 26
Focusing is not possible in night mode	• Are you shooting with visible light? → The focus position is different due to the difference in refractive index between visible light and infrared light. Wavelengths near 900 nm are assumed for infrared light in night mode on this unit. Perform manual adjustment if necessary.	PDF page 27
1080/59.94p images are not output	• Is the format set to 59.94p? → Configure the format setting.	PDF page 47 PDF page 80
1080/50p images are not output	• Is the format set to 50p? → Configure the format setting.	PDF page 47 PDF page 80
1080/29.97PsF images appear jerky	• This is normal operation. → In the PsF (Progressive segmented Frame) format, an identical image is captured to fields 1 and 2 in order to output the same image as progressive. Therefore, the image will appear slightly jerky.	---
1080/25PsF images appear jerky	• This is normal operation. → In the PsF (Progressive segmented Frame) format, an identical image is captured to fields 1 and 2 in order to output the same image as progressive. Therefore, the image will appear slightly jerky.	---

## Troubleshooting (continued)

Symptom	Cause and solution	Reference pages
Something is wrong with the coloring of the pictures	<ul style="list-style-type: none"> <li>• Activate the ATW (Auto tracking white adjustment) function.</li> </ul>	PDF page 28
	<ul style="list-style-type: none"> <li>• In some situations, the proper colors may not be reproduced using the ATW function. → In cases like this, proceed with the white balance adjustment.</li> </ul>	PDF page 28
The pictures are too light or too dark	<ul style="list-style-type: none"> <li>• Either select the auto setting for the iris or select the manual setting and adjust the iris manually.</li> </ul>	PDF page 27
	<ul style="list-style-type: none"> <li>• The pictures may be dark if the analog video signal cables are too long because this will cause signal attenuation.</li> </ul>	---
Images are in black and white	<ul style="list-style-type: none"> <li>• Is the unit in night mode? → In night mode, output will be in black and white.</li> </ul>	PDF page 40 PDF page 73
Auto white balance adjustment (AWB) is not possible	<ul style="list-style-type: none"> <li>• Is the unit in night mode? → Auto white balance adjustment (AWB) is not possible in night mode.</li> </ul>	PDF page 40 PDF page 73
The screen is too bright in night mode	<ul style="list-style-type: none"> <li>• The aperture is set to open in night mode to prevent video voyeurism. Adjust the brightness at the light source.</li> </ul>	PDF page 27
The iris does not operate in night mode		
The subjects appear distorted	<ul style="list-style-type: none"> <li>• Since this camera uses an MOS imaging device, the pickup timing differs slightly at the top left and bottom right of the screen. This means that if a subject moves quickly across the front of the camera, it may appear slightly distorted. This is not a malfunction.</li> </ul>	---
When the flash is fired during shooting, only the top or bottom of the screen becomes lighter	<ul style="list-style-type: none"> <li>• With a MOS imaging sensor, the pickup timing differs slightly at the top left and bottom right of the screen. This means that when the flash is fired, the bottom of the screen will become lighter in the field concerned and the top will become lighter in the next field. This is normal and not indicative of any problem.</li> </ul>	---
The brightness changes cyclically or the colors change, and horizontal stripes can be seen passing across the screen	<ul style="list-style-type: none"> <li>• These phenomena (flicker) may occur under the illumination produced by fluorescent lighting, mercury bulbs or other types of discharge tubes. In such cases, we recommend setting the electronic shutter speed to 1/100 in regions with 50 Hz power supply frequency, and to OFF in regions with 60 Hz power supply frequency.</li> </ul>	---
When fine lines or cyclical patterns are shot, flickering is seen or coloring is added to them	<ul style="list-style-type: none"> <li>• This phenomenon occurs because the pixels are arranged systematically on each image sensor. It is noticeable when the spatial frequency of a subject and the pixel pitch are brought into proximity so change the camera angle or take other action.</li> </ul>	---
Noise occurs in the audio input	<ul style="list-style-type: none"> <li>• The following causes are possible. <ul style="list-style-type: none"> <li>- The camera, switching hub, or peripheral devices are not grounded.</li> <li>- Power lines are running nearby.</li> <li>- Equipment generating strong electric or magnetic fields (e.g., television and radio antennas, air conditioning motors, power transformers) are located nearby.</li> </ul> </li> </ul> <p>If the problem cannot be resolved via movement of surrounding devices, use a microphone equipped with an amplifier, or connect an audio output with low output impedance.</p>	page 27

Troubleshooting (continued)

■ IP images

Symptom	Cause and solution	Reference pages
Images are not displayed	<b>For Windows:</b> <ul style="list-style-type: none"> <li>• <b>Is the plug-in viewer software installed?</b> → Install the plug-in viewer software.</li> </ul>	page 43
	<b>For Windows:</b> <ul style="list-style-type: none"> <li>• <b>If [Check for newer versions of stored pages] is not set to [Every time I visit the webpage] in the temporary Internet file settings, IP images may not appear in the live screen [Live].</b> → Perform the following.                             <ol style="list-style-type: none"> <li>① Select [Tools] - [Internet Options] in Internet Explorer.</li> <li>② Click the [General] tab, and click the [Settings] button under [Browsing history].</li> <li>③ In the [Temporary Internet Files and History Settings] dialog box, select the [Every time I visit the webpage] option under [Check for newer versions of stored pages].</li> <li>④ Click the [OK] button.</li> </ol> </li> </ul>	---
The images are blurry	<ul style="list-style-type: none"> <li>• <b>Is the focus properly adjusted?</b> → Check the focus adjustment.</li> </ul>	---
Images are not updated	<ul style="list-style-type: none"> <li>• <b>The images may not be updated and other problems may occur depending on your web browser and its version.</b></li> <li>• <b>The images may stop depending on the network congestion, the level of access to the unit, etc.</b></li> <li>• <b>If the IP video settings of the unit were changed, the image display may stop temporarily.</b> → Check the level of access to the unit, including the multi screen display, and stop any unnecessary access. Afterward, check the following.                             <ul style="list-style-type: none"> <li><b>For Windows:</b> Press the [F5] key on the personal computer's keyboard to request that the settings be acquired.</li> <li><b>For Mac:</b> Press the [Command] + [R] key on the personal computer's keyboard to request that the settings be acquired.</li> <li><b>For mobile terminals:</b> Refresh the screen by pressing the [Refresh] button on the web browser, for example, to request that the settings be acquired.</li> </ul> </li> </ul>	---
The images do not update or display properly	<ul style="list-style-type: none"> <li>• <b>Perform the following to delete the temporary Internet files.</b> <ul style="list-style-type: none"> <li><b>For Windows:</b> <ol style="list-style-type: none"> <li>① Select [Tools] - [Internet Options] in Internet Explorer.</li> <li>② Click the [General] tab, and click the [Delete] button under [Browsing history].</li> <li>③ In the [Delete Browsing History] dialog box, select the [Temporary Internet Files] checkbox, and then click [Delete].</li> <li>④ Click the [OK] button.</li> </ol> </li> <li><b>For Mac:</b> <ol style="list-style-type: none"> <li>① Select [Safari] - [Empty Cache] in Safari.</li> <li>② Click [Empty] in the [Are you sure you want to empty the cache?] pop-up screen.</li> </ol> </li> </ul> </li> </ul>	---
	<ul style="list-style-type: none"> <li>• <b>Reconfigure Wi-Fi settings as follows.</b> <ul style="list-style-type: none"> <li><b>For mobile terminals (iOS):</b> Execute [Reset Network Settings] in [Settings] icon - [General] - [Reset], and configure new Wi-Fi settings.</li> </ul> </li> </ul>	---
	<ul style="list-style-type: none"> <li>• <b>The unit's ports may be filtered by the firewall or other function of the anti-virus software.</b> → Change the HTTP port number of the unit to a port number that will not be filtered.</li> </ul>	---
H.264 images are not displayed	<ul style="list-style-type: none"> <li>• <b>If the "Network Camera View 4S" plug-in viewer software is deleted in an environment where the "Network Camera View 3" plug-in viewer software is installed, display of H.264 images will become impossible. In such cases, delete "Network Camera View 3" before installing "Network Camera View 4S".</b></li> </ul>	---
	<ul style="list-style-type: none"> <li>• <b>Is the camera connected to the personal computer via the Internet?</b> → Set [Internet mode (over HTTP)] to [On].</li> </ul>	PDF page 68

## Troubleshooting (continued)

Symptom	Cause and solution	Reference pages
The images are distorted	<ul style="list-style-type: none"> <li>• <b>The images may be distorted if the transmission path is congested and proper transmission is not possible.</b> → Consult your network administrator.</li> </ul>	---
	<ul style="list-style-type: none"> <li>• <b>The images may be distorted if video packet shuffling occurs on the transmission path.</b> → Switching to an identical Internet service provider for both the camera and the personal computer may prevent this problem. Consult your network administrator.</li> </ul>	---
The images darken when the mobile terminal is not operated for a certain period	<ul style="list-style-type: none"> <li>• <b>Is the power-saving mode of the mobile terminal enabled?</b> → Disable the power-saving mode of the mobile terminal to allow the images to be displayed indefinitely.</li> </ul>	---
When multiple web browsers are running to display H.264 images, images from multiple cameras appear sequentially in a single web browser	<p><b>For Windows:</b></p> <ul style="list-style-type: none"> <li>• <b>This may occur depending on the combination of the personal computer's display adaptor and the driver.</b> → If this occurs, update the first display adaptor to the latest version. If this does not resolve the problem, adjust the hardware accelerator function as follows. This section describes the procedure for Windows 7 as an example. Changing the settings may not be possible, depending on your environment.</li> </ul> <ol style="list-style-type: none"> <li>① Right-click on the desktop, and select [Screen Resolution] from the menu.</li> <li>② Click [Advanced settings].</li> <li>③ Select the [Troubleshoot] tab, and click [Change setting].</li> <li>④ If the [User Account Control] dialog box appears, click [Yes]. (When logged on with an account other than an administrator account, enter the password (and user name if necessary), and click [Yes].)</li> <li>⑤ Change to [Hardware acceleration] setting to [None] at the far left, and click [OK].</li> </ol>	---

## Troubleshooting (continued)

### Web screen

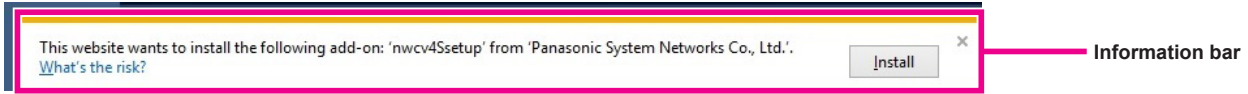
Depending on the OS installed on the personal computer, the following may occur. Follow the instructions below when the following has occurred. Performing the following solutions will not affect the operation of other applications.

#### For Windows:

The "information bar" described in the following explanations refers to the message bars that appear in Internet Explorer.

#### For Internet Explorer 9.0, 10.0, and 11.0:

The information bar appears at the bottom of Internet Explorer.




Symptom	Cause and solution	Reference pages
For Internet Explorer 9.0, 10.0, and 11.0: The following message appears in the information bar. "This website wants to run the following add-on: 'WebVideo Module' from 'Panasonic System Networks Co., Ltd.'."	<ul style="list-style-type: none"> <li>Select [Allow].</li> </ul>	---
For Internet Explorer 9.0, 10.0, and 11.0: The following message appears in the information bar. "Pop-up blocked. To see this pop-up or additional options click here..."	<ul style="list-style-type: none"> <li>Click the information bar, and select [Always Allow Pop-ups from This Site]. When the [Allow pop-ups from this site?] dialog box appears, click the [Yes] button.</li> </ul>	---
For Internet Explorer 9.0, 10.0, and 11.0: The following message appears in the information bar. "This website wants to install the following add-on: 'nwcV4Ssetup' from 'Panasonic System Networks Co., Ltd.'."	<ul style="list-style-type: none"> <li>Select [Install]. When the security warning window appears, click the [Install] button.</li> </ul>	---
For Internet Explorer 9.0, 10.0, and 11.0: The following message appears in the information bar. "This site might require the following ActiveX control: 'nwcV4Ssetup.exe' from 'Panasonic System Networks Co., Ltd.'. Click here to install..."	<ul style="list-style-type: none"> <li>Click the information bar, and select [Install ActiveX control]. When the security warning window appears, click the [Install] button.</li> </ul>	---
An unnecessary status bar or scroll bar is displayed on the pop-up window	<ul style="list-style-type: none"> <li>Open the security settings screen for Internet Explorer, and select [Internet]. Click the [Custom level] button, set [Allow script-initiated windows without size or position constraints] to [Enable] under [Miscellaneous], and click the [OK] button. When the warning window appears, click the [Yes] button.</li> </ul>	---
The IP images do not match the display frames	<ul style="list-style-type: none"> <li>Images may not appear correctly if their DPI settings are 120 DPI or higher.                             <ul style="list-style-type: none"> <li>→ Right-click on the desktop of the personal computer, click [Screen Resolution] - [Make text and other items larger or smaller], and select [Smaller - 100% (default)].</li> </ul> </li> </ul>	---
	<ul style="list-style-type: none"> <li>Images may not appear correctly if the magnification level of Internet Explorer's zoom function is not set to 100%.                             <ul style="list-style-type: none"> <li>→ Select [View] - [Zoom] in the menu bar of Internet Explorer, and click [100%].</li> </ul> </li> </ul>	---
The layout of the screen is distorted, or some buttons on the screen do not operate	<ul style="list-style-type: none"> <li>Select [Tools] - [Compatibility View Settings] in the menu bar of Internet Explorer, disable compatibility view for the unit.</li> </ul>	---



# Specifications

<b>Power requirements:</b>	DC (≡) 12 V – 21.8 V (DC IN connector) DC (≡) 42 V – 57 V (PoE++ power supply)
<b>Current consumption:</b>	5.5 A – 3.1 A (DC IN connector) 1.2 A (PoE++ power supply)

 indicates safety information.

## ■ GENERAL

### Ambient operating temperature:

–15 °C to 45 °C (5 °F to 113 °F) (preheating 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 14-1/16 inches x 15-5/8 inches)  
(including protrusions and cable cover)

### Finish:

Silver, salt resistant coating

### Waterproof and dust proof:

IP65 compliant

### Maximum permissible wind speed:

15 m/sec: Operates normally  
50 m/sec: Operation possible  
60 m/sec: No damage

### Wiper:

Installed as standard

### Heater:

Installed as standard

### Defroster:

Installed as standard

### Controller supported:

AW-RP50, AW-RP120, AK-HRP200  
• 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/>

## ■ INPUT

### Input connector

#### 12V≡IN:

XLR connector  
• Use a DC cable with the following lengths.  
For 12 V input: Max. 3 m (9.84 ft) (when using an AWG16 cable)  
For 21.8 V input: Max. 20 m (65.62 ft) (when using an AWG16 cable)

#### G/L IN:

BNC connector  
• BBS (Black Burst Sync), tri-level sync supported  
• Locking to a subcarrier is not possible with BBS.

#### Audio input:

mini XLR connector (line input)  
#1: INPUT1 COMMON, #2: INPUT1 HOT,  
#3: INPUT1 COLD, #4: INPUT2 COMMON,  
#5: INPUT2 HOT, #6: INPUT2 COLD

## ■ OUTPUT

### Video output

#### HD-SDI OUT:

SMPTE424/SMPTE292 standards  
75 Ω (BNC×2)  
• OSD output is possible from the SDI OUT 1/PM connector but not from the SDI OUT 2 connector.

## ■ INPUT/OUTPUT

### Input/Output connector

#### LAN:

LAN connector for IP control/video output/PoE++ power supply  
PoE++ (IEEE802.3bt Draft ver.2.0 standard)

#### RS-422:

CONTROL IN RS-422A

#### EXT:

12 V/0.5 A DC  
#1: DC GND, #2: HOT, #3: COLD, #4: 12V-OUT  
• The maximum cable length for connections to pin number 4 [12V-OUT] is 0.5 m (1.64 ft) when using an AWG24 cable.  
Use a thicker cable when a greater length is required.

## ■ FUNCTIONS AND PERFORMANCE

### [Camera unit]

**Imaging sensors:** 1/2.86-type Full-HD 3MOS

#### Lens:

Optical 20x zoom/10× digital zoom, F1.6 to F3.4  
(f=4.5 mm to 90 mm; 35 mm equivalent: 32.13 mm to 642.5 mm)

#### Focus:

Switching between auto and manual

#### Focus distance:

Entire zooming range: 800 mm (2.62 ft)  
Wide end: 400 mm (1.31 ft)

#### Color separation optical system:

3MOS

#### Minimum illumination:

2 lx (50 IRE, F1.6, 36 dB, without accumulation)

#### Horizontal resolution:

1000 TV lines Typ (Center area)

#### Gain selection:

Auto, 0 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, 1080/29.97PsF, 1080/23.98PsF, 1080/25p, or 1080/25PsF.  
• 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/59.94i:  
1/100, 1/120, 1/250, 1/500, 1/1000, 1/2000,  
1/4000, 1/10000  
• 29.97p:  
1/30, 1/60, 1/120, 1/250, 1/500, 1/1000, 1/2000,  
1/4000, 1/10000  
• 23.98p:  
1/24, 1/60, 1/120, 1/250, 1/500, 1/1000, 1/2000,  
1/4000, 1/10000  
• 50p/50i:  
1/60, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000,  
1/10000  
• 25p:  
1/25, 1/60, 1/120, 1/250, 1/500, 1/1000, 1/2000,  
1/4000, 1/10000

## Specifications (continued)

**Synchro scan:**

- 59.94 Hz:  
60.15 Hz to 642.21 Hz (255 steps)
- 50 Hz:  
50.15 Hz to 535.71 Hz (255 steps)

**Gamma:** HD, FILMLIKE1, FILMLIKE2, FILMLIKE3  
0.30 to 0.75 (Manual setting)

**White balance:** AWB A, AWB B, ATW, 3200K, 5600K, VAR (2000K to 15000K)

**Chroma amount variability:**  
OFF, -99% to 40%

**Scene file:** Scene1, Scene2, Scene3, Scene4

**Intelligent functions:**  
Auto function for each of accumulation, gain, iris, electronic shutter, ND, and ATW

**Output format:** 1080/59.94p, 1080/29.97p\*<sup>1</sup>, 1080/23.98p\*<sup>2</sup>, 1080/59.94i, 1080/29.97PsF\*<sup>3</sup>, 1080/23.98PsF\*<sup>3</sup>, 720/59.94p, 1080/50p, 1080/25p\*<sup>1</sup>, 1080/50i, 1080/25PsF\*<sup>3</sup>, 720/50p

\*<sup>1</sup> Native output

\*<sup>2</sup> Over 59.94i output

\*<sup>3</sup> 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.

**Synchronization system:**  
Internal/External synchronization (BBS/Tri-level sync)

### Line input <AUDIO IN(1/2)>

**Input impedance:** High impedance

#### Input:

- 2 channels, XLR balanced input
- Input signal level: +4 dBu/0 dBu/-20 dBu (selectable in menu)
- Volume variable range: -40 dB to +12 dB (can be changed in 1 dB steps in the menu)

#### Output:

- 4 channels, superimposed over SDI output
- Embedded audio output level:  
FS-12 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 (LPCM)
- Audio compression format (IP): G.726, AAC-LC (High quality)

### [Pan-tilt head unit]

#### Installation method:

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

#### Camera/pan-tilt head control:

<b>IP connecting cable</b>	<ul style="list-style-type: none"> <li>• When connecting through a PoE++ hub: LAN cable*<sup>4</sup> (category 5e or above, straight cable), max. 100 m (328 ft)</li> <li>• When a PoE++ hub is not used: LAN cable*<sup>4</sup> (category 5 or above, straight cable) max. 100 m (328 ft)</li> </ul>
<b>AW series connecting cable/standard protocol connecting cable</b>	LAN cable* <sup>4</sup> (category 5 or above, straight cable), max. 1000 m (3280 ft)

\*<sup>4</sup> Use of an STP (shielded twisted pair) cable is recommended.

- When connecting directly to a controller without an Ethernet hub, use a cross cable.

#### Pan/tilt operation speed:

Maximum speed 60°/s or higher

#### Panning range:

- ±175°
- For suspended installations, the positions of the pins that determine the movement range must be changed.  
For further details, refer to "Changing the rotation range (suspended installation)" (→ page 10).

#### 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.  
For further details, refer to "Changing the rotation range (suspended installation)" (→ page 10).

**Quietness:** 60°/s (NC45 or less)

#### Vibration correction:

D.I.S.S. (Dynamic Image Stabilizing System)

Specifications (continued)

Connector signal details

12V IN	
1	GND
2	—
3	—
4	+12V
HA16RA-4P (77) Hirose Electric Co.	

- Use a DC cable with the following lengths.  
For 12 V input: Max. 3 m (9.84 ft) (when using an AWG16 cable)  
For 21.8 V input: Max. 20 m (65.62 ft) (when using an AWG16 cable)

LAN	
1	TX+
2	TX-
3	RX+
4	SPARE_RX+
5	SPARE_RX-
6	RX-
7	SPARE_TX+
8	SPARE_TX-
6116173-1 Tyco Electronics Co.	

RS-422	
1	GND
2	TALLY
3	RXD-
4	TXD-
5	TXD+
6	RXD+
7	—
8	—
TM11R-5M2-88 Hirose Electric Co.	

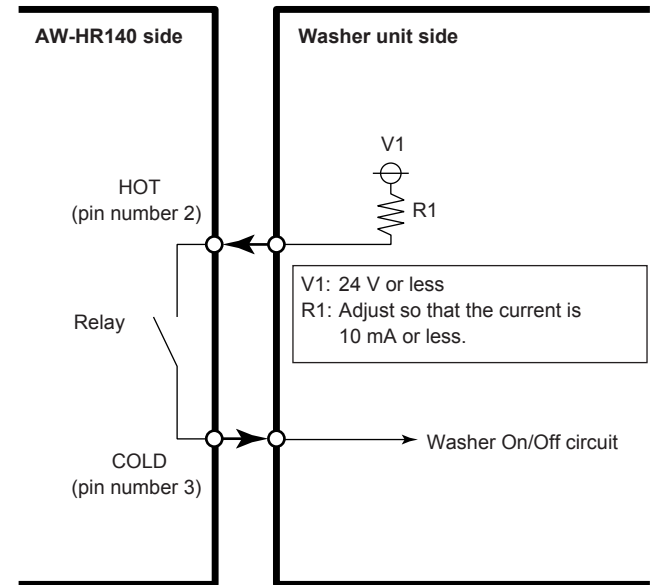
- Although the unit is not equipped with a tally lamp, “OSD Off With Tally” function can be used when pin 1 (GND) and pin 2 (TALLY signal) are shorted.
- Do not apply voltage to pin 2 (TALLY signal), as it is a contact input.

AUDIO IN(1/2)	
1	INPUT1 COMMON
2	INPUT1 HOT
3	INPUT1 COLD
4	INPUT2 COMMON
5	INPUT2 HOT
6	INPUT2 COLD
AG6FCCH Amphenol Co.	

EXT	
1	GND
2	HOT
3	COLD
4	DC 12V OUT
HR10A-7R-4SC (73) Hirose Electric Co.	

- Keep outputs for pin number 4 [12V-OUT] within 12 V/0.5 A DC.
- The maximum cable length for connections to pin number 4 [12V-OUT] is 0.5 m (1.64 ft) when using an AWG24 cable.  
Use a thicker cable when a greater length is required.

Washer input/output connection example for the EXT connector



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